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Food Outlook

BIANNUAL REPORT ON GLOBAL FOOD MARKETS



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HIGHLIGHTS

In view of the soaring input prices, concerns about the weather, and increased market uncertainties stemming from the war in Ukraine, FAO's latest forecasts point to a likely tightening of food markets and food import bills reaching a new record high.

WHEAT

Wheat markets are embarking on the 2022/23 season with a great deal of uncertainty amid the impacts of the ongoing war in Ukraine, trade policy changes, near-record high prices and a forecast fall in global production from the 2021 record level.

COARSE GRAINS

Prospects for a fall in global maize production, foreseen to be concentrated among major exporters, coupled with uncertainty about Ukraine's export prospects and the implications for global availability, point to likely tighter markets in 2022/23.

RICE

Although high input costs and water constraints may prevent world rice production from rising, the 2022 harvest is predicted to remain abundant amid public efforts to help the sector cope with profitability challenges. Thus, world rice utilization and trade may continue rising, while reserves remain ample.

MEAT

World meat production is forecast to expand moderately in 2022, despite a challenging production environment characterized by widespread animal diseases, conflicts and rising input costs. Only a modest expansion in world trade in meat and meat products is anticipated in 2022, reflecting limited export availabilities from leading exporting countries and a likely decline in pig meat imports by China.

SUGAR

World production of sugar in 2021/22 is forecast to rebound and surpass global consumption, which is expected to be below earlier estimations. Global trade in sugar is foreseen to contract slightly because of a slowdown in import demand and reduced shipments from Brazil.

OILCROPS

FAO's 2021/22 forecasts suggest a tightening market outlook for oilseeds and derived products, broadly underpinned by production shortfalls coinciding with a rather resilient demand. Tentative forecasts for 2022/23 point towards increased outputs across the oilcrops complex, although the global supply-demand picture may remain relatively tight.

DAIRY

World milk production in 2022 is forecast to expand, albeit more slowly than in previous years, constrained by falling dairy herd numbers, squeezed profit margins and labour shortages in several major producing regions. World trade in dairy products is predicted to contract moderately from the 2021 elevated level.

FISHERIES

The demand for fisheries and aquaculture products has strengthened rapidly as foodservice businesses return to help revitalize the retail sector, pushing prices steeply upwards. However, the uncertainties stemming from the war in Ukraine and widespread inflation are negatively impacting businesses and preventing a full recovery.

SPECIAL FEATURES

The war in Ukraine and the risks it poses for global food commodity markets

The war in Ukraine is engaging two of the world's most important agricultural market players, at a time of already high and volatile international food and agricultural input prices. This Special Feature highlights the significant risks this war poses to world food markets and global food security, at large.

High input prices protract high food prices, creating a double burden for import-dependent countries

This Special Feature analyses developments in global markets for inputs with reference to FAO's Global Input Price Index (GIPI), as well as the mounting burden of importing them. With the GIPI rising much faster than food prices (both are at all-time highs), farmers are disincentivized to increase production, possibly protracting high prices in food markets.

ACKNOWLEDGEMENTS

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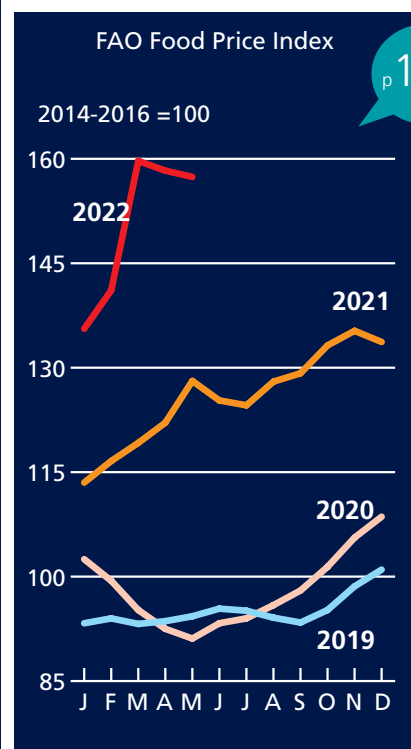
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MARKET SUMMARIES

CEREALS

Early prospects for cereal production in 2022 point to a likely decrease of 16 million tonnes from the record output estimated for 2021, reaching 2 784 million tonnes (including rice in milled equivalent). This would mark the first decline in four years. Among the major cereals, the largest decline is foreseen for maize, followed by wheat and rice. By contrast, global outturns of barley and sorghum will likely increase in 2022.

World cereal utilization is also forecast to decline in 2022/23 by 0.1 percent from the estimated 2021/22 level, to 2 788 million tonnes. The predicted contraction, the first in twenty years, would mainly stem from expected declines in the feed use of wheat, coarse grains and rice, along with a smaller foreseen decrease in industrial uses, mainly of wheat and rice. By contrast, global food consumption of cereals is expected to increase, keeping pace with the continued rise in world population.

Based on FAO's initial forecasts for global cereal production in 2022 and utilization in 2022/23, global cereal stocks are heading for a contraction of 0.4 percent below their opening levels, to 847 million tonnes. At the current levels of utilization and stock forecasts, the world cereal stocks-to-use ratio would drop from 30.5 percent in 2021/22 to 29.6 percent in 2022/23, the lowest level since 2013/14. Among the major cereals, the drawdown in maize inventories is expected to be the largest. Stocks of barley and rice are also forecast to decline, while those of wheat and sorghum will likely increase.

World trade in cereals is expected to fall to a three-year low estimated at 463 million tonnes, 2.6 percent below the 2021/22 level. This anticipated decline reflects a likely contraction in global trade of coarse grains and wheat, while prospects for rice remain positive. The FAO Cereal Price Index averaged 173.4 points in May, reaching a new all-time high and 39.7 points (29.7 percent) above the previous year's value. Tighter supplies and market uncertainty, as well as rising energy and input prices, will likely keep world cereal prices elevated, at least through the first half of the 2022/23 season.

CEREAL GRAIN PRODUCTION, UTILIZATION AND STOCKS



WORLD CEREAL MARKET AT A GLANCE

	2020/21	2021/22 estim.	2022/23 f'cast	Change: 2022/23 over 2021/22
	million tonnes			%
WORLD BALANCE				
Production	2 776.9	2 800.8	2 784.5	-0.6
Trade¹	479.3	475.4	462.8	-2.6
Total utilization	2 760.7	2 791.6	2 788.2	-0.1
Food	1 166.4	1 179.2	1 191.3	1.0
Feed	1 038.6	1 046.3	1 033.7	-1.2
Other uses	555.6	566.2	563.2	-0.5
Ending stocks²	833.2	850.1	846.6	-0.4
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/yr)	149.6	149.7	149.8	0.0
LIFDC (kg/yr)	156.0	155.1	155.3	0.1
World stocks-to-use ratio (%)	29.8	30.5	29.6	
Major exporters stocks-to-disappearance ratio ³ (%)	18.4	19.8	20.4	
FAO CEREAL PRICE INDEX (2014-2016=100)				
	2020	2021	2022 Jan-May	Change: Jan-May 2022 over Jan-May 2021 %
	103	131	160	25.8

¹ Rice in milled equivalent.

² Trade refers to exports based on a July/June marketing season for wheat and coarse grains and on a January/December marketing season for rice.

³ May not equal the difference between supply (defined as production plus opening stocks) and utilization due to differences in individual countries' marketing years.

⁴ Low-Income Food-Deficit countries marketing years.

WHEAT

Global wheat markets are embarking on the 2022/23 season with a great deal of uncertainty. The impacts of the ongoing war in Ukraine, trade policy changes in several countries, and high international prices will shape much of the wheat market outlook. International wheat prices are at levels not reached since 2008, following a season of tight global availability due to reduced harvests in some major exporting countries and export suspensions by others, including Ukraine (a major exporter) and India (an emerging exporter), along with supply concerns for 2022/23 also adding pressure.

Global wheat production in 2022 is predicted to decline from the 2021 record level by 0.8 percent, reaching 771 million tonnes and marking the first drop in four years. Year-on-year falls in production in Australia, India, Morocco and Ukraine will likely outweigh expected increases in Canada, the Islamic Republic of Iran and the Russian Federation.

While world food consumption of wheat is projected to expand, albeit at a below-average pace, a decrease in the feed use, driven by high prices and, to a lesser extent, industrial use of wheat is anticipated to cause a 0.4-percent decline in total wheat utilization in 2022/23 to 769 million tonnes. This would be 1.1 percent below the ten-year trend, marking the first time in three years that global utilization has fallen below the trend.

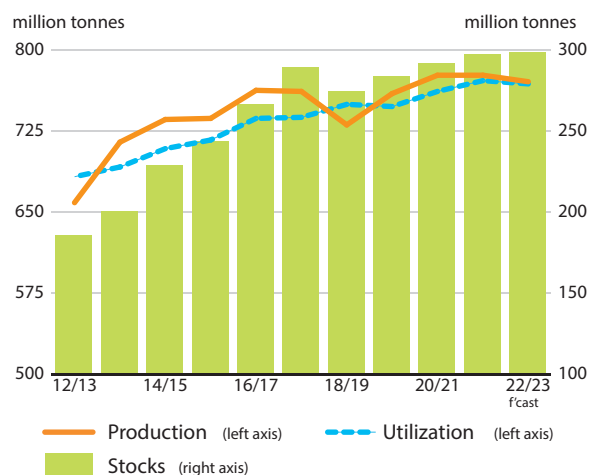
With global production in 2022 preliminarily forecast to exceed utilization in 2022/23, world wheat stocks are set to increase marginally, by 0.4 percent, to 298 million tonnes by the close of the seasons in 2023. However, much of that increase is foreseen to be concentrated in China, the Russian Federation and Ukraine, while stock drawdowns are anticipated in several countries in Africa and Asia.

At 189 million tonnes, the preliminary forecast for world trade in wheat (including wheat flour in wheat equivalent) in 2022/23 (July/June) points to a 1.7-percent decline from the 2021/22 level. The contraction mainly stems from an anticipated significant reduction in exports from Ukraine as a result of the blockade of its ports by the Russian Federation. Smaller shipments are also forecast for Argentina, Australia and India, stemming from lower production on top of an export ban in India. On the import side, smaller purchases by several countries in Asia, especially China and Iran, are seen lowering global import demand.

Contact:

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Jonathan Pound (Production)

WHEAT PRODUCTION, UTILIZATION AND STOCKS



WORLD WHEAT MARKET AT A GLANCE

	2020/21	2021/22 <i>estim.</i>	2022/23 <i>f'cast</i>	Change: 2022/23 over 2021/22
	<i>million tonnes</i>			<i>%</i>
WORLD BALANCE				
Production	776.7	776.8	770.8	-0.8
Trade¹	189.2	192.1	188.9	-1.7
Total utilization	762.4	771.7	768.6	-0.4
Food	525.5	531.3	535.9	0.9
Feed	148.0	149.8	143.7	-4.1
Other uses	88.9	90.6	89.0	-1.8
Ending stocks²	291.4	296.5	297.8	0.4
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/yr)	67.4	67.5	67.4	-0.1
LIFDC (kg/yr)	40.1	39.8	39.3	-1.1
World stocks-to-use ratio (%)	37.8	38.6	37.9	
Major exporters stocks-to-disappearance ratio ³ (%)	15.5	17.6	19.0	
FAO WHEAT PRICE INDEX⁴ (2014-2016=100)	2020	2021	2022 <i>Jan-May</i>	Change: Jan-May 2022 over Jan-May 2021 %
	101	132	173	45.4

¹ Trade refers to exports based on a common July/June marketing season.

² May not equal the difference between supply (defined as production plus carryover stocks) and total utilization due to differences in individual country marketing years.

³ Major exporters include Argentina, Australia, Canada, the European Union, Kazakhstan, the Russian Federation, Ukraine and the United States of America.

⁴ Derived from the International Grains Council (IGC) wheat index.

COARSE GRAINS

World production of coarse grains in 2022 is forecast to fall slightly (0.6 percent) from last year's record level. This is entirely attributed to a predicted drop in maize production, while outputs of all other major coarse grains, including barley and sorghum, are forecast to increase. Making up the bulk of the expected decline in maize production are a smaller harvest foreseen in the United States of America, the largest maize producer in the world, and a considerable decrease expected in Ukraine's output due to war-related disruptions.

Global total utilization of coarse grains in 2022/23 is set to decline marginally from the 2021/22 level, by just 0.1 percent, representing the first decrease in 10 years. At 1 498 million tonnes, utilization would fall 2.0 percent below the 10-year trend. A forecast contraction in the feed use of coarse grains, largely due to an anticipated reduction in Northern America, is expected to outweigh a predicted growth in food consumption, while the total industrial use component is projected to remain nearly unchanged from last season.

With production forecast to fall below utilization in 2022/23, global inventories of coarse grains are projected to decline by 1.1 percent below their opening levels. Among the major coarse grains, maize stocks are predicted to contract the most, with most of the foreseen drawdown concentrated in China (mainland) and the United States. World barley stocks are also forecast to decline below their opening levels. Consequently, the world stocks-to-use ratio of coarse grains would drop from its 2021/22 level, reaching the lowest level since 2012/13.

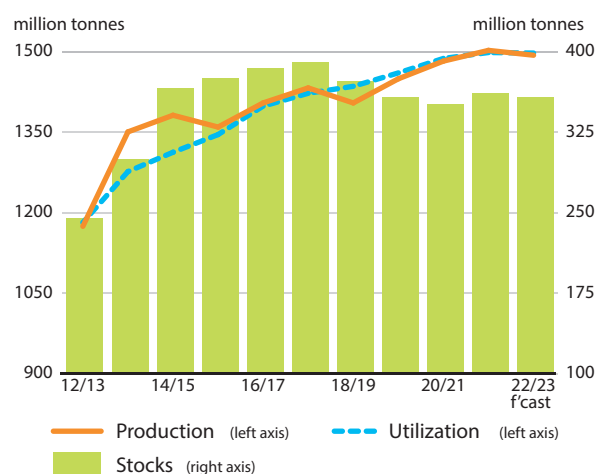
Global trade in coarse grains in 2022/23 (July/June) is forecast to decrease for a second consecutive season, down 3.7 percent from 2021/22 to 220 million tonnes. A steep fall in maize and barley exports from Ukraine, reflecting the impacts of the war, and lower exportable maize supplies in Argentina and the United States are predicted to underpin the lower trade prospects. On the import side, compared with 2021/22, weaker imports are forecast for maize, especially by Canada, China (mainland), Brazil and the European Union (EU), and for barley, almost solely for Asia.

In May, coarse grain prices remained higher for a third consecutive month than the previous record levels reached in 2012. Prospects for tighter markets in 2022/23, due to a predicted fall in global production, concentrated among major maize exporters, combined with uncertainty regarding Ukraine's export prospects, point to likely continued elevated prices.

Contact:

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COARSE GRAIN PRODUCTION, UTILIZATION AND STOCKS



WORLD COARSE GRAIN MARKET AT A GLANCE

	2020/21	2021/22 <i>estim.</i>	2022/23 <i>f'cast</i>	Change: 2022/23 over 2021/22
	<i>million tonnes</i>			<i>%</i>
WORLD BALANCE				
Production	1 483.2	1 503.1	1 494.3	-0.6
Trade¹	238.6	230.1	220.0	-4.4
Total utilization	1 487.8	1 498.9	1 497.7	-0.1
Food	223.0	224.2	227.0	1.3
Feed	871.1	874.3	870.1	-0.5
Other uses	393.6	400.4	400.5	0.0
Ending stocks²	350.4	361.2	357.3	-1.1
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/yr)	28.6	28.5	28.5	0.3
LIFDC (kg/yr)	63.3	62.4	62.7	0.5
World stocks-to-use ratio (%)	23.4	24.1	23.0	
Major exporters stocks-to-disappearance ratio ³ (%)	11.6	13.5	14.0	
FAO COARSE GRAIN PRICE INDEX (2014-2016=100)				
	2020	2021	2022 <i>Jan-May</i>	Change: Jan-May 2022 over Jan-May 2021 %
	102	145	177	22.4

¹ Trade refers to exports based on a common July/June marketing season.

² May not equal the difference between supply (defined as production plus opening stocks) and utilization due to differences in individual countries' marketing

³ Major exporters include Argentina, Australia, Canada, the European Union, Kazakhstan, the Russian Federation, Ukraine and the United States of America.

⁴ Derived from International Grains Council (IGC) wheat index.

RICE

Although much will depend on weather conditions during the critical Northern Hemisphere summer months, FAO's preliminary forecast for world rice production in 2022 is pegged at 519.5 million tonnes, which is only 1.4 million tonnes below the 2021 record high. Another large Asian harvest is expected to sustain this positive production result. Nevertheless, early prospects also point to an upturn in African production, while a good outcome has also been registered in Australia. Expectations are subdued elsewhere, due to water constraints and/or diminishing returns caused by high input costs.

International trade in rice is anticipated to expand for the third successive year in 2022, with volumes exchanged across the world forecast at 53.1 million tonnes, 3 percent higher than the 2021 peak. On the import side, an intensification of demand from all regions, except for Asia, is predicted to sustain this expansion. This may benefit shipments from Brazil, China (mainland), Pakistan, Uruguay and especially Thailand. India is nevertheless predicted to remain the world's largest rice exporter.

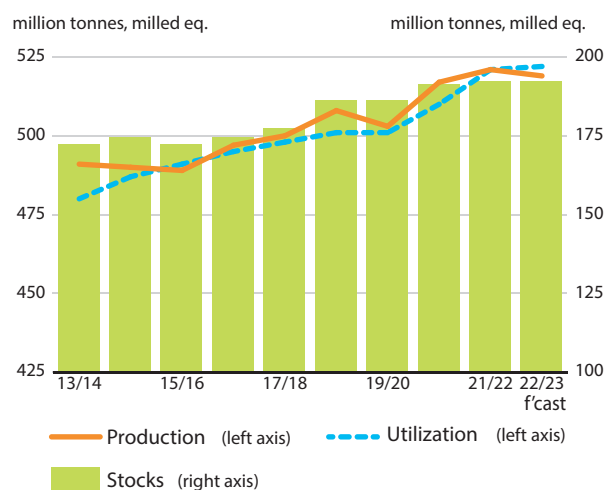
Total rice utilization in 2022/23 is pegged at 522.0 million tonnes, only slightly above the 2021/22 high, as another sturdy expansion in food intake is forecast to be mostly outweighed by declines in non-food uses. To meet this forecast volume of use, global rice inventories would need to be drawn down, albeit by a small volume of 0.8 million tonnes. This would place world rice stocks at 191.6 million tonnes, their second highest level on record, largely due to accumulations in China (mainland) and India.

International rice prices have risen steadily since the beginning of 2022 amid strong import demand and supply constraints in the Japonica and fragrant segments. Nevertheless, as measured by the FAO All Rice Price Index, in May 2022, they remained 1.2 percent below their year-earlier levels, as abundant Asian availabilities of the most-widely traded Indica varieties have capped price increases.

Contact:

Shirley Mustafa

RICE PRODUCTION, UTILIZATION AND STOCKS



WORLD RICE MARKET AT A GLANCE

	2020/21	2021/22	2022/23 f'cast	Change: 2022/23 over 2021/22
	million tonnes, milled equivalent		%	
WORLD BALANCE				
Production	517.0	520.8	519.5	-0.3
Trade¹	51.5	53.1	53.9	1.5
Total utilization	510.5	521.0	522.0	0.2
Food	417.9	423.7	428.4	1.1
Ending stocks²	191.4	192.4	191.6	-0.4
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/yr)	53.6	53.8	53.9	0.1
LIFDC (kg/yr)	52.6	53.0	53.3	0.6
World stocks-to-use ratio (%)	36.7	36.9	36.4	
Major exporters stocks-to-disappearance ratio ³ (%)	28.2	28.3	28.2	
FAO RICE PRICE INDEX (2014-2016=100)				
	2020	2021	2022 Jan-May	Change: Jan-May 2022 over Jan-May 2021 %
	110	106	104	-7.7

¹ Calendar year exports (second year shown).

² May not equal the difference between supply (defined as production plus carryover stocks) and total utilization due to differences in individual country marketing years.

³ Major exporters include India, Pakistan, Thailand, the United States of America and Viet Nam.

OILCROPS

FAO's 2021/22 forecasts point towards a tightening market outlook for oilseeds and derived products, broadly underpinned by production shortfalls coinciding with a rather resilient demand, while the war in Ukraine and restrictive export policy measures are expected to bring additional uncertainty.

Global oilseed production is forecast to contract in 2021/22, primarily driven by expected lower soybean and rapeseed outputs, with reduced yield levels seen more than offsetting a further expansion in harvested areas. While world oilmeal supply is anticipated to decline accordingly, the utilization of meals/cakes is forecast to fall only fractionally, tied to a slowdown in feed consumption in response to poor livestock profit margins. With world oilmeal uptake forecast to exceed global supply, the ending stocks of meals/cakes are expected to drop further to multiyear lows, resulting in a lower global stocks-to-use ratio.

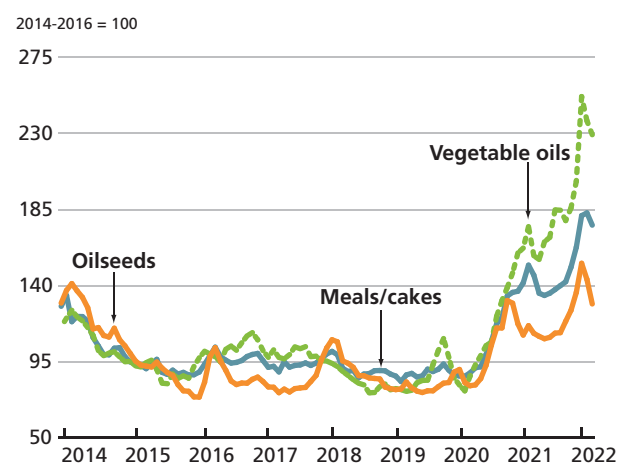
As for oils/fats, global production is expected to increase marginally, with the foreseen growth in palm oil production overshadowing the estimated losses in soy and rapeseed oil outputs. In the meantime, global consumption of vegetable oils is forecast to stagnate at the 2020/21 level, as demand rationing is anticipated for both food and non-food uses owing to elevated prices, supported by a weakening outlook tied to COVID-19-related lockdowns in China. With total oils/fats production poised to fall short of consumption, world carryout inventories of oils/fats should decline for the fourth consecutive season, resulting in a further drop in global stocks-to-use ratio. World trade in vegetable oils is forecast to contract to a four-year low due to lower import demand amid restrictive export measures.

Regarding the upcoming 2022/23 season, highly tentative forecasts suggest a possible sharp rebound in the world production of oilseeds and derived products, while global utilization will likely resume growth at a moderate level. Consequently, a stock replenishment seems possible, although world supply-demand balances would remain relatively tight, as suggested by below average global stocks-to-use ratios for both oilmeals and vegetable oils.

Contact:

Di Yang

FAO MONTHLY INTERNATIONAL PRICE INDICES FOR OILSEEDS, VEGETABLE OILS AND MEALS/CAKES (2014-2016=100)



WORLD OILCROP AND PRODUCT MARKET AT A GLANCE

	2019/20	2020/21 <i>estim.</i>	2021/22 <i>f'cast</i>	Change: 2021/22 over 2020/21
	<i>million tonnes</i>			<i>%</i>
TOTAL OILCROPS				
Production	588.2	616.4	604.2	-2.0
OILS AND FATS				
Production	235.1	241.3	242.9	0.7
Supply	275.8	276.4	274.5	-0.7
Utilization	242.8	245.3	245.5	0.1
Trade	134.9	132.7	128.2	-3.4
Global stocks-to-use ratio (%)	14.4	12.9	12.4	
Major exporters stocks-to-disappearance ratio (%)	11.1	9.7	10.4	
MEALS AND CAKES				
Production	149.9	159.8	154.9	-3.0
Supply	183.5	190.0	182.3	-4.0
Utilization	157.8	160.3	159.6	-0.4
Trade	105.2	103.1	100.6	-2.4
Global stocks-to-use ratio (%)	19.1	17.1	15.2	
Major exporters stocks-to-disappearance ratio (%)	12.0	9.2	8.8	
FAO PRICE INDICES (Jan-Dec) (2014-2016=100)	2020	2021	2022 Jan-May	Change: Jan-May 2022 over Jan-May 2021 %
Oilseeds	97	139	171	21.9
Meals/cakes	92	116	137	13.6
Vegetable oils	99	165	221	41.3

Note: Kindly refer to footnote 1 on page 31 and to table 2 on page 34 for further explanations regarding definitions and coverage.

SUGAR

FAO's forecast for world sugar production in 2021/22 (October/September) is pegged at 174.6 million tonnes, up 5.1 million tonnes (3 percent) from the reduced level of 2020/21. The anticipated rebound, after three years of decline, reflects expectations of production increases in India, Thailand and the European Union, and will likely more than offset significant declines in Brazil and China.

Global sugar consumption is set to recover for a second successive season in 2021/22, but its growth is anticipated to be slower than previous expectations. The downward revision mainly reflects a significant slowdown in global economic growth forecast for 2022. India, the world's largest sugar consumer, and African countries are expected to drive the foreseen global increase in sugar consumption. In China, the world's second largest sugar consumer, consumption is forecast to grow, albeit to a lesser extent than earlier foreseen. The anticipated expansion in global sugar intake is not seen sufficient to surpass total production, leading to an estimated output surplus of 1.8 million tonnes.

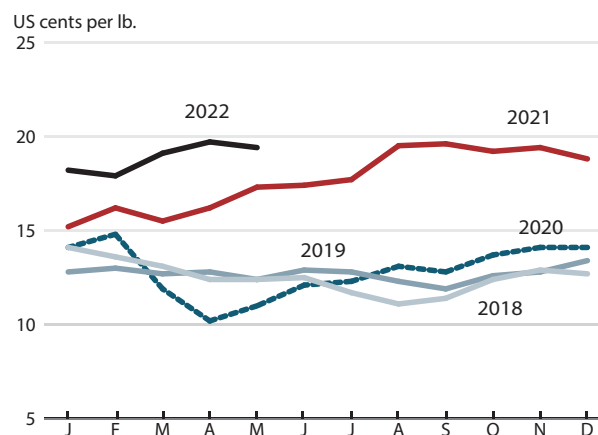
World sugar trade in 2021/22 is forecast at 59.0 million tonnes, slightly down from the estimated volume for 2020/21. Despite expectations of record exports from India and a recovery in shipments from Thailand, lower exports from Brazil are anticipated to curb world sugar trade. On the import side, high import costs, coupled with a slowdown in consumption, are likely to negatively affect import demand from Asia, particularly China, the world's largest sugar importer.

International sugar prices have generally decreased since October 2021, although they have remained at relatively elevated levels. Price declines were mainly triggered by favourable production prospects in major exporting countries, notably India and Thailand. Concerns over the impact of the COVID-19 pandemic on the global demand for sugar, following the resumption of containment measures in many countries, also weighed on prices in late 2021. However, the strengthening of the Brazilian real against the United States dollar and concerns over a higher diversion of sugarcane to ethanol in Brazil, supported by higher international crude oil prices, prevented a more substantial decline in prices.

Contact:

Elmamoun Amrouk
Fabio Palmeri

INTERNATIONAL SUGAR PRICES*



* as measured by the International Sugar Agreement (ISA)

WORLD SUGAR MARKET AT A GLANCE

	2019/20	2020/21 <i>estim.</i>	2021/22 <i>f'cast</i>	Change: 2021/22 over 2020/21
	<i>million tonnes</i>			<i>%</i>
WORLD BALANCE				
Production	171.0	169.5	174.6	3.01
Trade*	62.2	60.1	59.0	-1.75
Total utilization	164.9	170.5	172.8	1.33
Ending stocks	104.5	103.6	105.3	1.69
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/yr)	21.4	21.9	22.0	0.27
LIFDC (kg/yr)	12.2	13.0	13.1	0.38
World stocks-to-use ratio (%)	63.4	60.8	61.0	0.35
ISA DAILY PRICE AVERAGE (US cents/lb)				
	2020	2021	2022 <i>Jan-May</i>	Change: Jan-May 2022 over Jan-May 2021 <i>%</i>
	12.85	17.67	18.84	17.21

* Trade figures refer to exports

MEAT AND MEAT PRODUCTS

Global meat production is forecast to reach 361 million tonnes (carcass weight equivalent) in 2022, expanding by 1.4 percent in 2022, albeit at a slower pace than the 4.5 percent growth realized in 2021. The expansion is driven mainly by a steep growth in meat output foreseen in China and notable increases in Brazil, Australia and Viet Nam, to be partly offset by anticipated declines in the European Union, the United States of America (the United States), Canada, the Islamic Republic of Iran and Argentina.

In China, overall meat production is forecast to rise to 96 million tonnes, growing by 4.4 percent year-on-year. This growth will be principally driven by a projected expansion in pig meat production by 8 percent to 58 million tonnes, exceeding the output level before the dramatic spread of the African swine fever (ASF) virus in 2018. Brazil is anticipated to increase its meat production, benefiting from disease-free status across major meat production systems and a surge in global demand, although escalating production costs and possible margin squeezes could constrain production expansion. Increased availability of competitively priced slaughter cattle following a herd-rebuilding phase and improved labour market conditions are expected to support bovine and ovine meat production expansion in Australia. By contrast, the limited availability of slaughter-ready cattle, lower herd inventories, widespread animal diseases, and smaller profit margins could reduce meat output or slow growth in several leading producers, including the European Union and the United States.

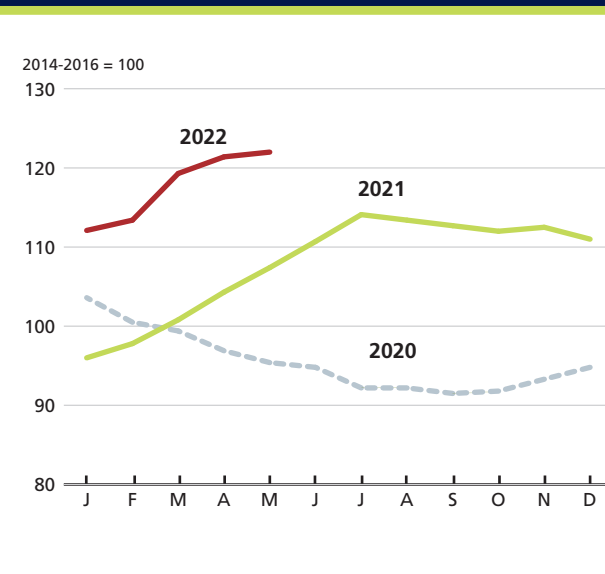
World trade in meat and meat products is forecast to reach 42 million tonnes (carcass weight equivalent) in 2022, marking the slowest growth in the last seven years. Moderate import expansions in several countries, including the United States and the United Kingdom of Great Britain and Northern Ireland, are likely to be partially offset by a steep decline in imports by China, among others.

International meat prices have been on an upward trend since October 2020, reaching an all-time high in May 2022, reflecting tight supplies from leading exporting countries amid robust global import demand, especially from Asia and the Middle East.

Contact:

Upali Galketi Aratchilage

FAO INTERNATIONAL MEAT PRICE INDEX (2014-2016 = 100)



WORLD MEAT MARKET AT A GLANCE

	2020	2021 estim.	2022 f'cast	Change: 2022 over 2021
	<i>million tonnes (carcass weight equivalent)</i>			%
WORLD BALANCE				
Production	340.3	355.5	360.5	1.4
Bovine meat	72.0	72.5	73.2	1.0
Poultry meat	136.0	137.8	138.8	0.8
Pigmeat	109.8	122.5	125.6	2.5
Ovine meat	16.1	16.4	16.6	1.0
Trade	41.7	42.1	42.3	0.5
Bovine meat	11.7	12.1	12.4	2.7
Poultry meat	15.5	15.8	16.2	2.1
Pigmeat	13.0	12.7	12.2	-4.0
Ovine meat	1.1	1.1	1.1	5.1
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/year)	43.4	44.9	45.1	0.4
Trade - share of prod. (%)	12.3	11.8	11.7	-0.9
FAO MEAT PRICE INDEX (2014-2016=100)	2020	2021	2022 Jan-May	Change: Jan-May 2022 over Jan-May 2021 %
	96	108	118	16.2

MILK AND MILK PRODUCTS

World milk production in 2022 is forecast to reach 937 million tonnes, up 1.0 percent from 2021, which, if confirmed, would mark the fifth consecutive annual growth slowdown. Milk production in Asia is likely to be the primary driver of this year's global output expansion, continued to be driven by rising dairy cattle numbers and increasing milk collection efficiency in India and Pakistan, with rising output in large-scale farms in China. Milk output may also increase moderately in North America and Central America and the Caribbean, mostly on improving yields, offset by production disincentives brought by squeezed producer margins in some countries. By contrast, milk production levels are expected to drop in Europe, South America and Oceania due to declining dairy cattle numbers, rising costs of feed, mounting skilled labour shortages, and less-than desirable pasture quality.

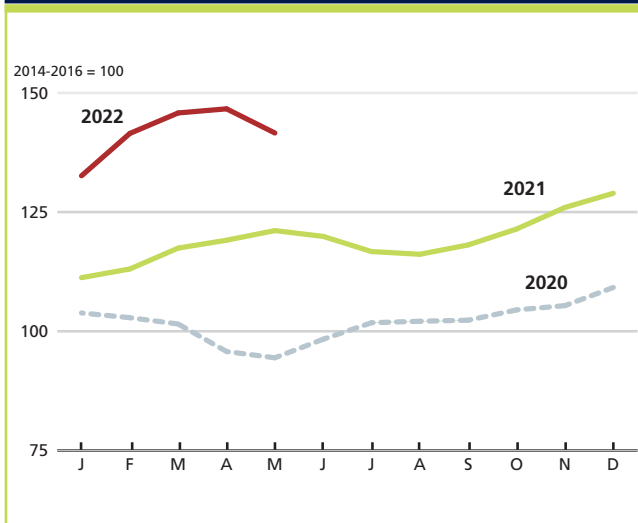
World trade in dairy products is forecast at 88 million tonnes (milk equivalent), down 0.4 percent from the elevated trading volume registered in 2021. The projected decline in 2022 is attributable to anticipated drops in imports by Ukraine, Sri Lanka, the Russian Federation, Nigeria and Brazil, among others, due to conflicts, economic downturns, and low consumer purchasing power. However, these declines are forecast to be counterbalanced by increased purchases by China and, to a lesser extent, Indonesia, Thailand and Mexico, with recoveries anticipated for the United Kingdom of Great Britain and Northern Ireland (the United Kingdom), Algeria, the Philippines and Saudi Arabia. On the export side, New Zealand and Australia are expected to record the most significant declines in sales among the major exporters, reflecting tight export availabilities, mostly stemming from lower milk production. These declines are likely to be compensated by higher shipments from the European Union, the Islamic Republic of Iran, Türkiye, the United Kingdom and the United States of America.

Except for three months from June to August in 2021, international dairy product prices have been trending upward since mid-2020, as global import demand exceeded export supplies from the leading exporting countries. Reflecting this trend, the FAO Dairy Price Index reached an eight-year high in April 2022 but retreated moderately in the following month, underpinned by a decline in global buying interests.

Contact:

Upali Galketi Aratchilage

FAO INTERNATIONAL DAIRY PRICE INDEX (2014-2016 = 100)



WORLD DAIRY MARKET AT A GLANCE

	2020	2021 <i>estim.</i>	2022 <i>f'cast</i>	Change: 2022 over 2021
	<i>million tonnes (milk equivalent)</i>			%
WORLD BALANCE				
Total milk production	915.5	927.8	937.3	1.0
Total trade	86.6	88.1	87.8	-0.4
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/year)	117.4	117.8	117.8	0.0
Trade - share of prod. (%)	9.5	9.5	9.4	-1.4
FAO DAIRY PRICE INDEX (2014-2016=100)	2020	2021	2022 <i>Jan-May</i>	Change: Jan-May 2022 over Jan-May 2021 %
	102	119	142	21.7

FISH AND FISHERY PRODUCTS

As the effects of the pandemic diminish, the dynamics in the global market for fisheries and aquaculture products are shifting. Newly reopened foodservice businesses have revived demand, boosting sales significantly. The recovery of the tourism industry is also contributing to a rapidly strengthening market, particularly for popular restaurant species such as bivalves, lobster, crab, seabass and seabream. Despite its negative impacts, the pandemic has served as a catalyst for various innovations in delivery, sales, marketing and products, which look set to endure in the long term. The revitalization of tourism and retail markets is driving prices steeply upwards for many aquatic products. For some species, such as salmon, prices are now at levels that have not been seen in several decades.

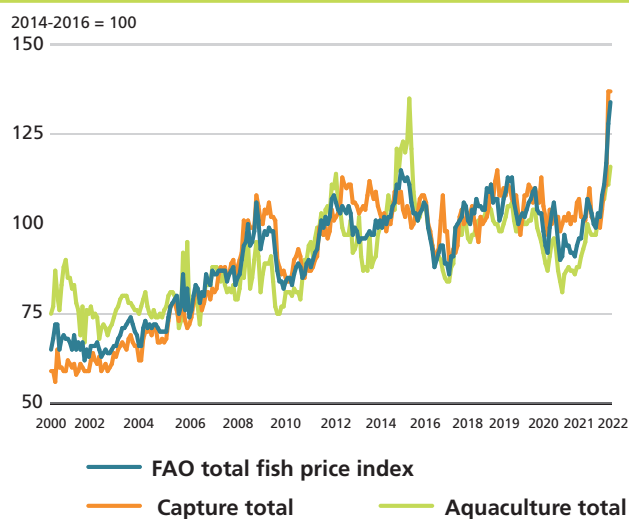
Despite this improved outlook, the war in Ukraine and the Russian Federation has introduced a number of additional concerns and uncertainties that are affecting the market. The extensive trade sanctions and boycotts of Russian products imposed by governments and businesses have prompted a reshuffling of trade routes and a scramble to fill shortfalls with alternative suppliers. In addition, inflation rates are now at extreme levels in many countries, while increasing commodity prices mean more expensive inputs, including feed and fuel. Combined with the continuing high cost of freight, this is squeezing margins all along the supply chain, particularly for processors.

Global fisheries and aquaculture production in 2022 is expected to increase by 1.5 percent, to 184.6 million tonnes. Growth in the aquaculture sector has picked up relative to last year, at 2.9 percent, but continued caution over stocking and input costs keeps the rate below the long-term trend. For capture fisheries, fuel costs and reduced quotas are contributing to a growth slowdown of 0.2 percent year-on-year. Total export revenue is forecast to climb by 2.8 percent to reach USD 178 billion, while volumes are set to drop by 1.9 percent. These figures reflect both the ongoing recovery of the market and the continuing challenges affecting suppliers, which together are causing an increase in fish prices.

Contact:

Felix Dent
Audun Lem
Stefania Vannuccini

FAO FISH PRICE INDEX (2014-2016 = 100)



WORLD FISH MARKET AT A GLANCE

	2020	2021 <i>estim.</i>	2022 <i>f'cast</i>	Change: 2021/22 over 2020/21
	<i>million tonnes (live weight)</i>			<i>%</i>
WORLD BALANCE				
Production	177.8	181.8	184.6	1.5
Capture fisheries	90.3	92.2	92.4	0.2
Aquaculture	87.5	89.6	92.2	2.9
Trade value (exports USD billion)	150.1	173.3	178.1	2.8
Trade volume (live weight)	59.8	61.4	60.2	-1.9
Total utilization	177.8	181.8	184.6	1.5
Food	157.4	161.7	164.2	1.6
Feed	16.4	16.0	16.3	1.6
Other uses	4.0	4.0	4.0	-0.1
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
Food fish (kg/yr)	20.2	20.5	20.6	0.6
From capture fisheries (kg/year)	9.0	9.2	9.1	-1.1
From aquaculture (kg/year)	11.2	11.4	11.6	1.9
FAO FISH PRICE INDEX (2014-2016=100)	2020	2021	2022 <i>Jan-Apr</i>	*Change: Jan-Apr 2022 over Jan-Apr 2021 %
	95.0	102.0	122.6	24.5

Source of the raw data for the FAO Fish Price Index: EUMOFA, INFOFISH, INFOPESCA, INFOYU, Statistics Norway

* Jan-Apr2022 over Jan-Apr 2021, in percent

MARKET ASSESSMENTS

WHEAT



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PRICES

International wheat prices at near-record highs

After starting the 2021/22 season 33 percent higher than their previous year's values, international wheat prices increased further in 2021/22 to levels not reached since 2008. World wheat prices rose by 23 percent in the first half of 2021/22 as global supplies tightened, especially of high-quality wheat, following reduced harvests in several major exporting countries in 2021. With markets already tight, the abrupt suspension of exports from Ukraine – a major wheat exporter – when it was invaded

by the Russian Federation further exacerbated global supply concerns, sending prices sharply upwards in March 2022. Prices surged further in May, when India, which had increased shipments significantly in 2021/22 helping to compensate for lost exports from Ukraine, announced a ban on exports of wheat. By May 2022, world wheat prices were 55 percent above their May 2021 values and only 12 percent below the record high reached in February 2008. The US wheat, No.2 Hard Red Winter, f.o.b. Gulf, which sets the benchmark price for global wheat markets, averaged USD 521 per tonne in May 2022, 76 percent above its May 2021 value.

Figure 1. IGC Wheat Price Index

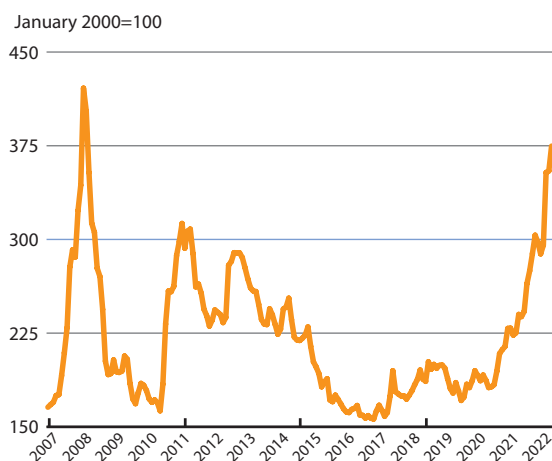
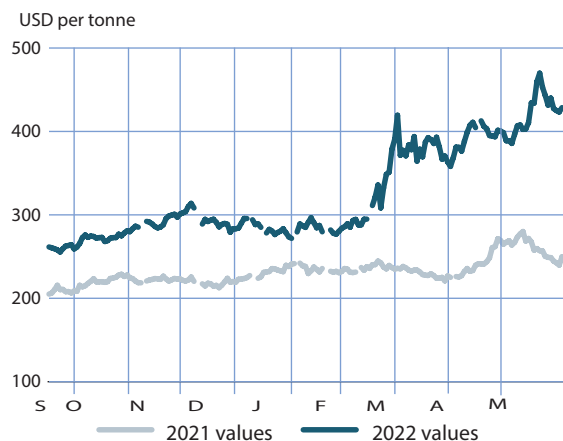


Figure 2. CBOT wheat futures for September



Reflecting these trends, in addition to anticipated production declines in 2022 in some major exporting countries, including Ukraine (due to war-related disruptions), Australia, India and the United States of America (United States), wheat futures at the Chicago Board of Trade (CBOT) for nearby delivery surpassed the 2008 record high in March and again in May, setting a new all-time high. Averaging USD 449.5 per tonne in May, the September CBOT soft red winter futures also increased, up almost 74 percent from the same month last year. A more detailed analysis of the futures market can be found in the Market Indicators section of this report.

PRODUCTION

Production to fall slightly in 2022 for first time in four years

At 770.9 million tonnes, FAO forecasts a 0.8-percent year-on-year decrease in global wheat production in 2022, the first fall after three consecutive years of growth.

In **Northern America**, due to months of dry weather, 70 percent of the winter wheat area in the **United States** was under drought conditions in early May. Consequently, the abandonment rate is foreseen to increase and yields are expected to decline, resulting in a lower winter production (the principal wheat crop) by an estimated 8 percent in 2022. Nevertheless, the country's total wheat production is still foreseen to climb by 5 percent to 47.1 million tonnes this year, underpinned by expectations of a large spring harvest that would more than compensate for the reduced winter harvest. In **Canada**, the main spring wheat crop is being sown, and total acreage is forecast to increase as farmers are expected to capitalize on the prevailing high prices. Factoring in a likely return to trend yields after drought-reduced levels in 2021, total wheat production is pegged at 31.2 million tonnes, 44 percent higher year-on-year.

In **Europe**, the war in **Ukraine** has significantly affected the country's wheat production outlook. Reflecting the disruptions to agricultural operations caused by the war, sharp reductions in the area harvested and yields are seen reducing wheat production by 38 percent year-on-year in 2022. By contrast, beneficial weather conditions in the **Russian Federation** underpin expectations of higher yields and an increase in total output by nearly 10 percent above last year's level, pegging the harvest at 83 million tonnes, despite an estimated contraction in plantings. In the **European Union (EU)**, the forecast for wheat production is set at 138.7 million tonnes, almost unchanged on a yearly basis, with a moderate year-to-year increase in the wheat area expected to counter a likely

Table 1. World wheat market at a glance

	2020/21	2021/21 <i>estim.</i>	2022/23 <i>f'cast</i>	Change: 2022/23 over 2021/22
	<i>million tonnes</i>			<i>%</i>
WORLD BALANCE				
Production	776.7	776.8	770.8	-0.8
Trade¹	189.2	192.1	188.9	-1.7
Total utilization	762.4	771.7	768.6	-0.4
Food	525.5	531.3	535.9	0.9
Feed	148.0	149.8	143.7	-4.1
Other uses	88.9	90.6	89.0	-1.8
Ending stocks²	291.4	296.5	297.8	0.4
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/yr)	67.4	67.5	67.4	-0.1
LIFDC (kg/yr)	40.1	39.8	39.3	-1.1
World stocks-to-use ratio (%)	37.8	38.6	37.9	
Major exporters stocks-to-disappearance ratio ³ (%)	15.5	17.6	19.0	
FAO WHEAT PRICE INDEX⁴ (2014-2016=100)	2020	2021	2022 <i>Jan-May</i>	Change: Jan-May 2022 over Jan-May 2021 %
	101	132	173	45.4

¹ Trade refers to exports based on a common July/June marketing season.

² May not equal the difference between supply (defined as production plus carryover stocks) and total utilization due to differences in individual country marketing years.

³ Major exporters include Argentina, Australia, Canada, the European Union, Kazakhstan, the Russian Federation, Ukraine and the United States of America.

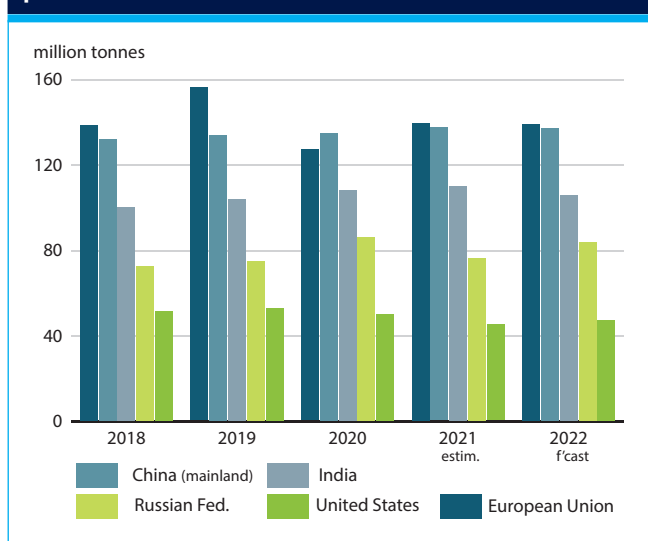
⁴ Derived from the International Grains Council (IGC) wheat index.

Table 2. Wheat production: leading producers*

	2020	2021 <i>estim.</i>	2022 <i>f'cast</i>	Change: 2022 over 2021
	<i>million tonnes</i>			<i>%</i>
European Union	126.7	138.9	138.7	-0.2
China (Mainland)	134.3	137.0	136.9	-0.1
India	107.9	109.6	105.5	-3.7
Russian Federation	85.9	76.1	83.5	9.8
United States of America	49.8	44.8	47.0	4.9
Canada	35.2	21.7	31.2	43.9
Australia	33.3	36.3	28.0	-23.0
Pakistan	25.2	27.3	26.5	-2.9
Argentina	17.6	22.1	21.0	-5.0
Ukraine	24.9	32.2	20.0	-37.8
Türkiye	20.5	17.7	19.0	7.3
United Kingdom	9.7	14.0	13.5	-3.3
Kazakhstan	14.3	11.8	13.5	14.3
Other countries	91.6	87.5	86.6	-1.0
World	776.7	776.8	770.8	-0.8

* Countries listed according to their position in global production (average 2020-2022).

Figure 3. Wheat production in major wheat producers



drop in yields owing to persistent dryness in southern areas. Following a strong rebound in 2021, wheat production in the **United Kingdom of Great Britain and Northern Ireland** is anticipated to remain almost unchanged in 2022 at 13.5 million tonnes.

In *Asia*, wheat production in **India** is forecast at 105.5 million tonnes, down nearly 4 percent from the record crop gathered in 2021. Despite an above-average planted area, motivated by an increase in the government's procurement price and favourable weather early in the season, this year's foreseen decline is precipitated by unseasonably high temperatures in March and April that resulted in lower-than-expected yields and localized crop losses. In **Pakistan**, wheat production is forecast at a near-average level of 26.5 million tonnes. In **China (mainland)**,¹ despite adverse weather in some areas, wheat production is expected to remain near last year's level, and above average, at 137 million tonnes in 2022. In *Near East Asia*, weather conditions have been broadly favourable, with the exception of some eastern areas that suffered from drought. In the leading producer, Türkiye, despite a cutback in sowings partly linked to rising input costs, beneficial weather during the cropping season is expected to lift yields, and production could rise to 19 million tonnes in 2022, up by about 1 million tonnes from the 2021 output.

In *North Africa*, wheat production prospects have been hindered by lingering rainfall deficits in several countries. Below-average rainfall has been particularly pronounced in **Morocco**, where a reduction in total plantings and an expected steep drop in yields underlay a forecast of nearly 67 percent fall in production compared to last year's

output. Dry, but less severe, conditions have also been present in Algeria, where the harvest is expected to remain below average.

Planting of the 2022 wheat crop is underway in the Southern Hemisphere. In **Australia**, based on a small reduction in the area sown and a likely drop in yields from exceptionally high levels in 2021, the 2022 harvest is preliminarily forecast at 28 million tonnes, down 23 percent from last year's record but still above average. In **South America**, rising costs of inputs are seen as countering the high wheat prices and instigating a small decline in sown area in **Argentina**, leading to an expected 5-percent decrease in wheat production in 2022 from the 2021 record high. Early planting intentions in **South Africa** point to a moderate climb in plantings, encouraged by high prices, and production is forecast to remain near last year's level.

TRADE

Wheat trade to contract in 2022/23 from record in 2021/22

FAO's first forecast for world trade in wheat (including wheat flour in wheat equivalent) in 2022/23 (July/June) is pegged at 188.9 million tonnes, down by 3.2 million tonnes (1.7 percent) from the current season's estimated record level.

Driving much of the predicted contraction in world trade in 2022/23, exports by Ukraine, a major wheat exporter, are forecast to fall by nearly 50 percent (down 9 million tonnes) from the previous season based on the assumption of continued war-related export disruptions. Ukraine's major ports have been blocked by the Russian Federation since late February 2022, and internal infrastructure has been damaged. **Ukraine** is likely to continue to export small volumes of wheat via railroad through its European borders, but it is unknown when it will be able to resume exporting from its ports. For other major exporting countries, smaller exportable supplies due to year-on-year falls in production are also seen lowering exports from **Australia**, **India** and, to a lesser extent, **Argentina**. In India, a ban on wheat exports (introduced in May 2022) is also seen limiting shipments in 2022/23 after the country greatly increased its market share in 2021/22, amid lower exports from Ukraine, high domestic supplies following a record production in 2021, and competitive prices that helped to open trade with new markets, including **Egypt** and **Viet Nam**. However, exceptions to the export ban for previous contractual commitments, government-to-government sales, and food security purposes are expected to support an export forecast of 7 million tonnes in 2022/23,

¹ China in this section is restricted to the mainland of China

remaining well above India's export average over the past five-years. Exports from the **United States of America** are forecast to fall slightly below last year's reduced level, as domestic supplies remain tight. Helping to offset those expected declines, larger shipments are forecast for **Canada** and the **Russian Federation** in 2022/23, based on expected production upturns. Given its abundant supply and geographic proximity to several of Ukraine's markets, the **European Union** is also anticipated to increase exports in 2022/23 to 38 million tonnes, which, if realized, would make it the largest wheat exporter in the world.

On the import side, foreseen smaller imports into Asia are mostly behind the projected fall in global wheat demand. At the regional level, aggregate wheat imports by Asia are pegged at 99.3 million tonnes, down nearly 6 percent from 2021/22. Making up the bulk of that decline, wheat purchases by the **Islamic Republic of Iran** are forecast to fall by 57 percent (4.5 million tonnes) in 2022/23 from their 2021/22 record level, owing to a production recovery from last season's reduced level, but are still set to remain well above the five-year average given the importance of wheat. Uncompetitive wheat prices relative to other grains are expected to result in smaller wheat imports by **China (mainland)** in 2022/23, predicted down 15 percent (1.7 million tonnes) from their record level in 2021/22, but also still well above average to meet high feed demand. Partially offsetting those expected declines, larger imports are forecast for **Iraq** in 2022/23 to compensate for a second consecutive year of declining domestic production and to replenish stocks from last season's low level. Imports by **Indonesia** and **Türkiye**, the largest and third largest importers in Asia, will likely remain steady at 10.8 million tonnes and 9 million tonnes, respectively.

By contrast, in Africa, stronger import demand by several countries is expected to lift the continent's wheat purchases in 2022/23 to 54.0 million tonnes, up 5.0 percent (2.6 million tonnes) from the estimated level for 2021/22. The increase is largely attributed to a forecast 32-percent (1.5 million tonnes) increase in **Morocco's** imports to a record level of 6.2 million tonnes, in order to compensate for an expected significant decline in domestic production. In **Egypt**, the world's largest wheat importer, purchases are forecast at 13 million tonnes, up slightly from 2021/22, to replenish stocks from the five-year low opening levels. The Government of Egypt has taken measures in recent months to open import routes from new sources, including Argentina and India. Wheat imports are also forecast to rise slightly for **Algeria**, the second largest wheat importer in Africa and the fifth largest globally, as well as for **Ethiopia, Mauritania, Sudan** and

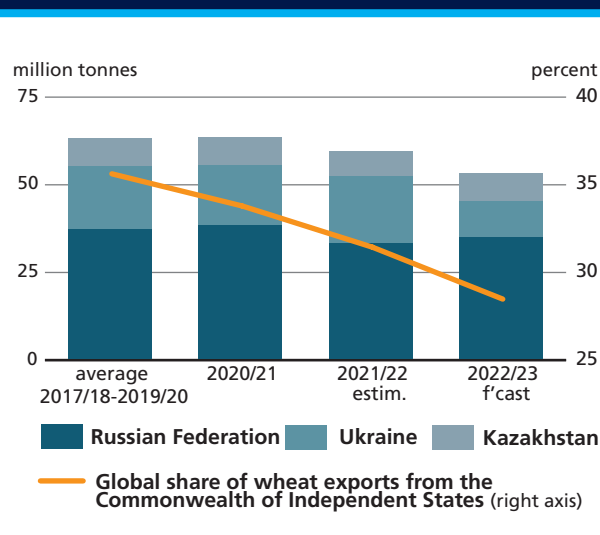
Tunisia, all of which rely on imports to meet domestic wheat needs. **Nigeria**, the most populous country and third largest wheat importer in Africa, is forecast to import 6.2 million tonnes, down marginally from 2021/22. In Latin America and the Caribbean, total wheat imports in 2022/23 are forecast to remain near the 2021/22 level of 23.8 million tonnes. A record production forecast is seen lowering slightly demand from **Brazil**, the region's leading wheat importer, to 6.3 million tonnes, down 3.1 percent from 2021/22. Imports by **Mexico**, the region's second largest wheat importer, will likely remain near last season's level of 3.3 million tonnes.

UTILIZATION

Wheat utilization seen falling in 2022/23

Early forecasts for world wheat utilization in 2022/23 point to a slight decline of 0.4 percent to 769 million tonnes from the record level estimated for 2021/22, with a projected growth in food consumption outweighed by a likely contraction in the use of wheat for animal feed and, to a lesser extent, in industrial use. At the current forecast level, total wheat utilization in 2022/23 would be 1.1 percent below the ten-year trend, marking the first time that total utilization drops below this trend in three years. Behind the bulk of the foreseen overall global decrease, total **feed utilization** of wheat is anticipated to decline by 4.1 percent from the 2021/22 level to 144 million tonnes. High prices are seen dampening feed use of wheat, especially in China and the European Union, the world's second largest and largest markets for feed wheat, respectively. While in China a large price premium for wheat is seen supporting substitution towards maize for feed use, the decline in the

Figure 4. Wheat exports from the Black Sea



European Union is part of an expected overall decrease in feed demand due to the high prices of feed grains, as well as reduced meat demand and the impact of avian influenza.

Other uses of wheat, which include the industrial sector, seeds and post-harvest losses, are also forecast to decline in 2022/23, down 1.8 percent from 2021/22, to 89 million tonnes. This decline mostly reflects lower anticipated industrial use in India on account of tighter domestic supplies following record high exports in 2021/22 and a predicted fall in production in 2022/23.

By contrast to feed and industrial uses, global utilization of wheat for direct **human consumption**, which accounts for 70 percent of total wheat utilization, is set to expand, albeit at a below-average pace, by 0.9 percent in 2022/23, reaching 536 million tonnes. This would yield an average annual per capita consumption of 67.4 kg globally, almost unchanged from the 2021/22 level of 67.5 kg. The largest increase in human consumption of wheat is expected in Asia, where the regional aggregate represents nearly 60 percent of global wheat food consumption, with the region's per capita wheat consumption continuing its steady slight rise to 66.9 kg. In Europe, a cut to Ukraine's food consumption estimate, on account of population displacement resulting from the ongoing war, has been allocated to the EU given the movement of most Ukrainian refugees to the EU.

STOCKS

Wheat inventories seen increasing marginally in 2022/23

Based on the preliminary forecasts for 2022 production and 2022/23 utilization, world wheat stocks are tentatively

predicted to reach 298 million tonnes by the close of the seasons in 2022, up 1.2 million tonnes (0.4 percent) from their opening levels and establishing a new record high. The anticipated increase in stocks will be mostly concentrated in China (up 6.8 million tonnes based on expectations of a fall in utilization amid steady production), the Russian Federation (up 5.1 million tonnes stemming from an expected rise in production) and Ukraine (up 2.0 million tonnes as a result of export disruptions due to the war). These increases exceed anticipated drawdowns in several countries, including India and Morocco due to production downturns.

At the current forecast levels, the **world wheat stocks-to-use ratio** in 2022/23 would stand at 37.9 percent, down from the 38.6-percent expected for the current season, but well above the historic low of 23.3 percent registered in 2007/08. Without China, the ratio is much lower, at 24.4 percent, but still significantly above the respective historic low of 19.2 percent registered in 2007/08. The **ratio of major exporters' closing stocks to their total disappearance** (defined as domestic utilization plus exports), a measure of availability in global markets, is predicted to increase from 17.6 percent in 2021/22 to 19.0 percent in 2022/23. However, it should be noted that this value includes a build-up of stocks in Ukraine, where they are forecast to reach, in 2022/23, roughly three times their past five-year average level and remain largely inaccessible for export due to the blockade of Ukraine's ports by the Russian Federation. It is unknown at this time when Ukraine will be able to resume exporting from its ports, and thus when those stocks will be available to world markets. In other major exporting countries, stocks are forecast to contract in Australia and the United States,

Figure 5. Wheat exports: top 10 wheat exporters

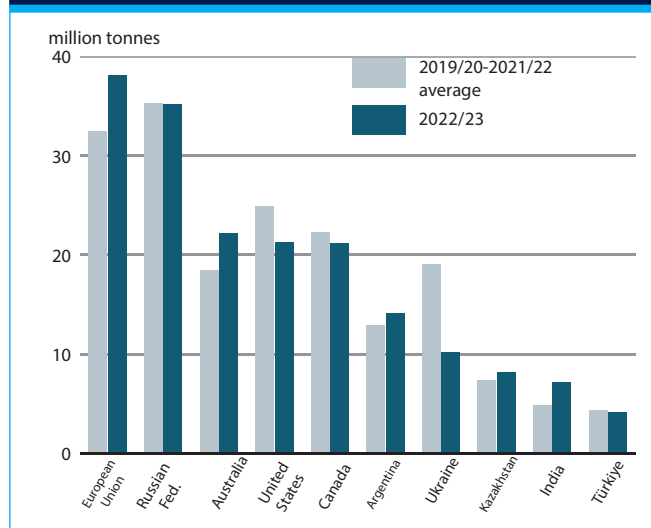
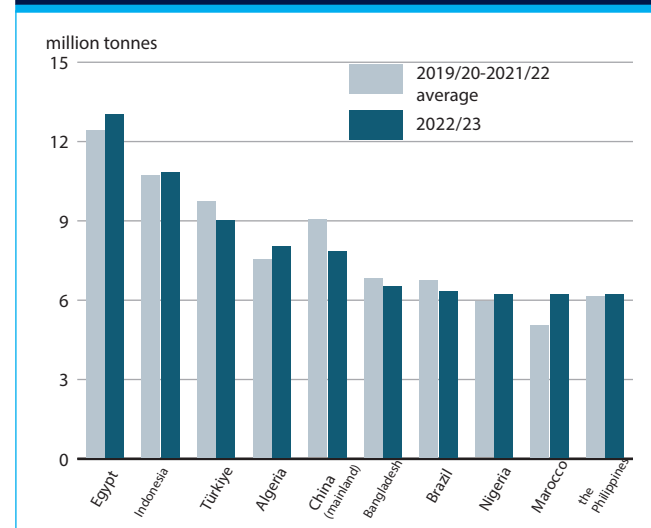
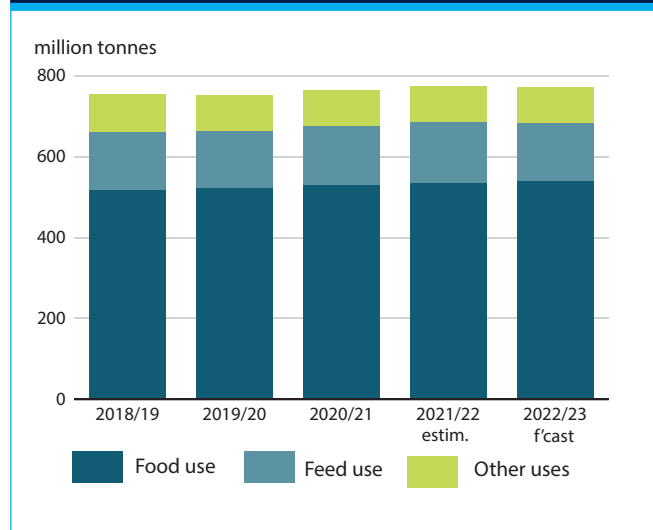


Figure 6. Wheat imports: top 10 wheat importers



where they are expected to decline to their lowest level in nine years, based on a forecast sixth consecutive year of production below the five-year average. While stocks are

Figure 7. Global wheat utilization



forecast to recover slightly in Canada from last season's record low, they will likely remain at their second lowest level since 2007/08.

Figure 10. Wheat stocks and ratios

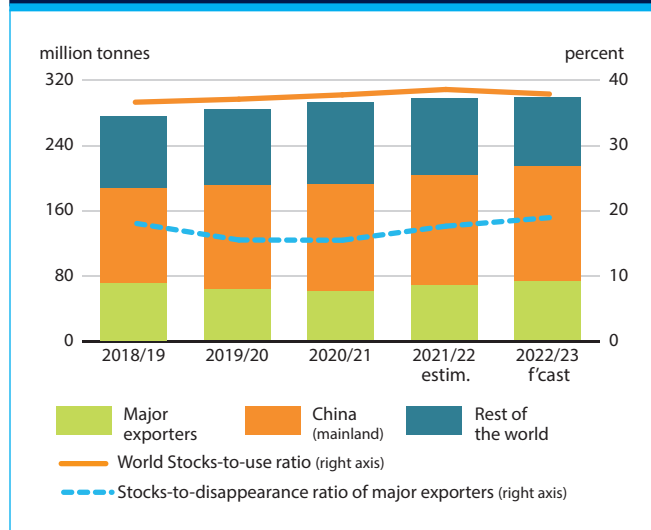


Figure 8. Wheat stocks of major exporters

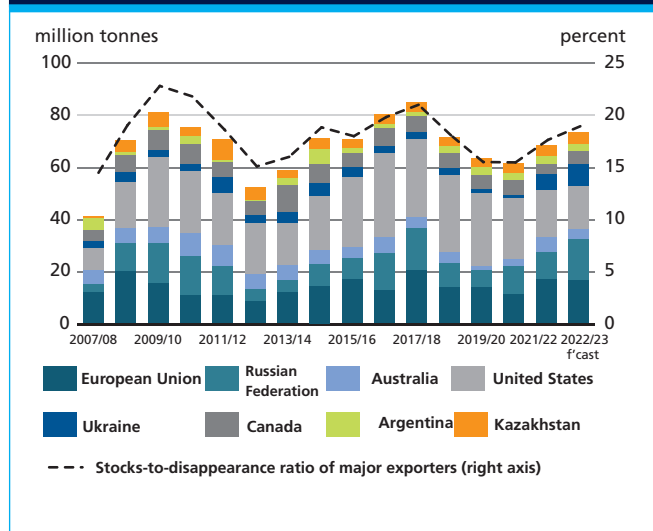
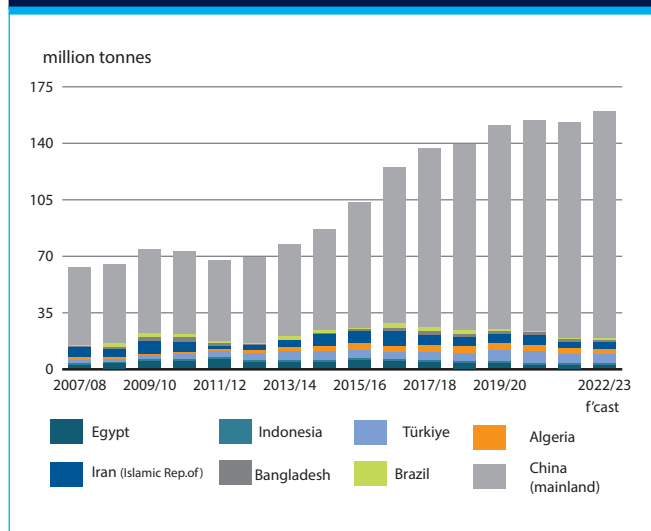


Figure 9. Wheat stocks of top importers



COARSE GRAINS*



* Coarse grains include maize, barley, sorghum, millet, rye, oats and NES (not elsewhere specified)

PRICES

Prices remain at record levels

After rising steadily in the first half of the 2021/22 season, international prices of major coarse grains surged 13 percent above the 2012 record highs reached in March 2022 in reaction to the abrupt disruption of exports from Ukraine – a major maize and barley exporter – caused by the war. Prices of the major coarse grains (maize, barley

and sorghum) registered their highest levels on record (since 1990) in March. Although they subsided slightly in April and May, world prices remained above the previous record levels of 2012. The sudden loss of exports from Ukraine exerted strong pressure on markets given the high concentration of maize exports among four countries (Argentina, Brazil, the United States of America (United States) and Ukraine) and the already tight supply levels of barley. With supplies in Ukraine largely unavailable for

Figure 1. Maize export price (US No. 2 yellow, Gulf)

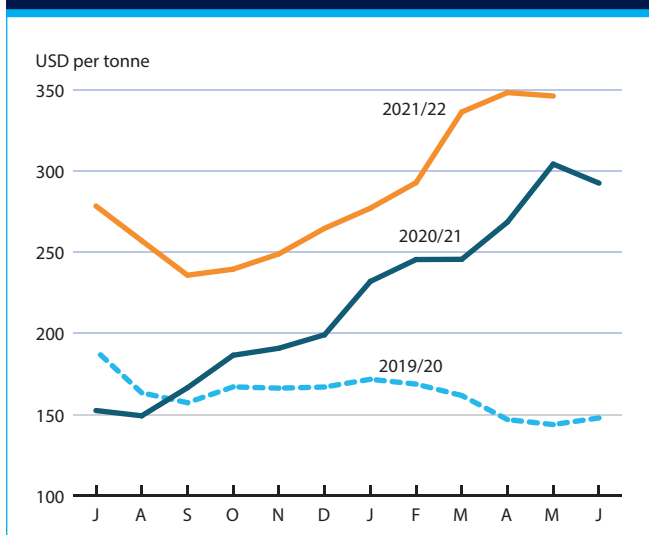


Figure 2. CBOT maize December futures



global markets, as its ports remain blocked due to the war, the prospects of lower maize export availabilities in both Argentina and the United States in 2022/23 added further pressure. High energy and input prices, on top of limited fertilizer availability, also provided support. Reflecting these trends, the benchmark US maize prices (yellow, No. 2, f.o.b.) averaged USD 348 per tonne in May, up 14 percent year-on-year. International prices of barley and sorghum also remained elevated, respectively 59 and 10 percent above their previous year's values in May.

An anticipated decline in global production in 2022, concentrated in major export countries, combined with uncertainty regarding Ukraine's export prospects and the implications for global availability during the 2022/23 season, have also put upward pressure on futures prices. The Chicago Board of Trade (CBOT) maize futures for delivery in December 2022, which is the benchmark delivery month for the new United States crop, averaged USD 451 per tonne in May, up nearly 74 percent from the previous year's level. More detailed analysis of the futures markets can be found in the Market Indicators section of this report.

PRODUCTION

Production to fall below last year's record

FAO's first forecast for global coarse grains production in 2022 points to a year-on-year downturn of 0.6 percent, with the output pegged at 1 494 million tonnes.

The decrease is being driven by expectations of a reduced world maize output, forecast at 1 188 million tonnes in 2022, down 1.6 percent from the previous year's output. A large proportion of the forecast decline is concentrated in **Northern America**, where the pace of sowings in the **United States** has been below average due to detrimental spring weather and survey data from March indicating a likely cutback in maize acreage in 2022. With yields assumed to remain unchanged, production is currently forecast at 367.3 million tonnes, down 4 percent from last year. By contrast, production of maize in **Canada** may increase slightly in 2022, since early prospects point to an increase in sowings that would more than offset an anticipated decline in yields, following historical highs in 2021.

In **Europe**, production of maize in **Ukraine** is forecast to fall by 50 percent to 21 million tonnes in 2022. The war in the country has significantly restricted access to both agricultural inputs and land for planting, contributing to low area and yield prospects. In the **Russian Federation**, maize production is foreseen to decline but remain above the five-year average. In the **European Union (EU)**,

production of maize is pegged at 73.7 million tonnes in 2022, up 1.6 percent on a yearly basis, with an expected 2-percent increase in the area sown, driven by high maize prices, and stable yield prospects.

In **South America**, where harvesting of the 2022 maize crop is underway, production in **Brazil** is forecast to reach a record high of 114.6 million tonnes. A steep increase in plantings underlies this outlook, with robust prices estimated to have instigated a 20-percent expansion in maize area compared to the past five-year average. Although yields are also anticipated to increase in 2022, further shoring up production prospects, rainfall shortages in April and May caused a small downgrade in the yield forecast relative to earlier predictions. Production of maize in **Argentina** is anticipated to fall on a yearly basis, but at 57 million tonnes would still exceed the five-year average by 6 percent, owing to an enlarged sown area, which is expected to partly compensate for lower in yields.

In **Africa**, the 2022 maize crop is being harvested in Southern Africa, while sowing has recently started in East and West Africa. In **South Africa**, the continent's principal maize producer, this year's output is forecast to decline to 15.4 million tonnes, albeit still an above-average level. Despite a cutback in the maize planted area, in part caused by high input costs, remunerative grain prices at planting kept sowings at an above average level, partly countering the effects of a modest decline in yields. Sizeable production decreases are forecast in neighbouring Southern African countries in 2022, where persistent rainfall deficits have lowered yield expectations and resulted in smaller maize sown areas.

In **Asia**, maize production in **China (mainland)** is predicted to reach an above-average level of

Figure 3. Major maize producers

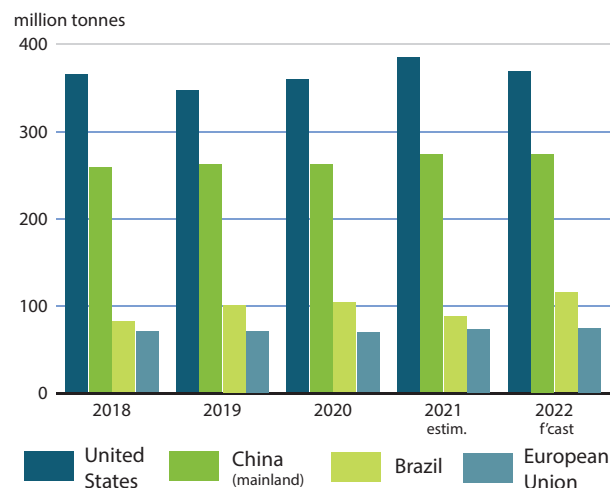


Table 1. World coarse grain market at a glance

	2020/21	2021/22 <i>estim.</i>	2022/23 <i>f'cast</i>	Change: 2022/23 over 2021/22
	<i>million tonnes</i>			<i>%</i>
WORLD BALANCE				
Production	1 483.2	1 503.1	1 494.3	-0.6
Trade¹	238.6	230.1	220.0	-4.4
Total utilization	1 487.8	1 498.9	1 497.7	-0.1
Food	223.0	224.2	227.0	1.3
Feed	871.1	874.3	870.1	-0.5
Other uses	393.6	400.4	400.5	0.0
Ending stocks²	350.4	361.2	357.3	-1.1
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/yr)	28.6	28.5	28.5	0.3
LIFDC ³ (kg/yr)	63.3	62.4	62.7	0.5
World stocks-to-use ratio (%)	23.4	24.1	23.0	
Major exporters stocks-to-disappearance ratio ⁴ (%)	11.6	13.5	14.0	
FAO COARSE GRAIN PRICE INDEX (2014-2016=100)	2020	2021	2022 <i>Jan-May</i>	Change: Jan-May 2022 over Jan-May 2021 %
	102	145	177	22.4

¹ Trade refers to exports based on a common July/June marketing season.

² May not equal the difference between supply (defined as production plus carryover stocks) and total utilization due to differences in individual country marketing years.

³ Low-income Food-Deficit countries.

⁴ Major exporters include Argentina, Australia, Brazil, Canada, the European Union, the Russian Federation, Ukraine and the United States of America.

Table 2. Coarse grain production: leading producers*

	2022	2021 <i>estim.</i>	2022 <i>f'cast</i>	Change: 2022 over 2021
	<i>million tonnes</i>			<i>%</i>
United States of America	373.2	399.1	382.5	-4.2
China (Mainland)	270.0	281.7	282.3	0.2
European Union	157.1	156.9	159.7	1.7
Brazil	106.3	90.8	119.3	31.5
Argentina	65.5	69.9	65.6	-6.1
India	51.4	49.2	50.2	2.1
Russian Federation	43.0	40.4	41.6	2.9
Ukraine	39.7	53.4	28.1	-47.5
Mexico	33.1	32.9	32.7	-0.7
Canada	29.8	24.3	29.4	20.9
Ethiopia	24.2	23.0	23.7	3.3
Indonesia	22.5	22.7	22.7	0.0
Nigeria	21.0	21.1	21.1	0.1
South Africa	16.8	17.6	16.0	-8.9
Australia	15.7	17.5	15.8	-9.4
Other countries	214.2	237.7	235.5	-0.9
World	1483.2	1503.1	1494.3	-0.6

* Countries listed according to their position in global production (average 2020-2022).

273 million tonnes, virtually unchanged on a yearly basis. Similarly, maize outputs in other Asian countries in 2022 are foreseen at comparable levels to the preceding year.

Global barley production is forecast at 147.9 million tonnes in 2022, up 2.6 percent from the previous year's output. The anticipated production upturn is underpinned by good prospects in North America, where yields in **Canada** are expected to rebound from the last year's low levels and high prices are anticipated to prompt a substantial increase in plantings in the **United States**. Favourable outlooks in some Near East Asian countries and the **Russian Federation** further support positive global prospects. These expected increases are foreseen to more than offset a substantial production decline anticipated in **Ukraine** owing to the war.

The forecast for world production of sorghum is pegged at 61.6 million tonnes in 2022, 1.6 percent higher than the 2021 outturn. The increase reflects expected production upturns in **Australia** and **Brazil**, where conducive weather is predicted to lift yields, which would more than offset a reduced harvest expected in the **United States**.

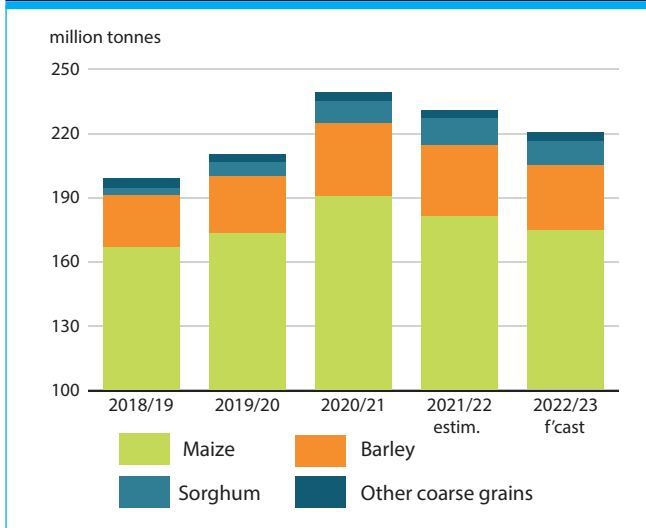
TRADE

World trade in coarse grains to contract in 2022/23 for the second consecutive season

FAO's first forecast for world trade in coarse grains in 2022/23 (July/June) is pegged at 220 million tonnes, which is down 4.4 percent from the estimated level for 2021/22 and represents a second consecutive annual contraction. Global trade in maize, barley, and sorghum are all predicted to decline in 2022/23 from their respective 2021/22 levels.

Pegged at 174 million tonnes, global maize trade in 2022/23 (July/June) is projected to fall by 3.7 percent (6.6 million tonnes) from its 2021/22 level, due largely by a foreseen steep fall in exports from **Ukraine** due to the war. Ukraine's major ports have been blocked by the Russian Federation since late February 2022 and internal infrastructure has been damaged. Ukraine is likely to continue to export small volumes via railroad through its European borders, but it is unknown when grain exports from its seaports will resume. As a result, Ukraine's maize exports are forecast to fall by 7 million tonnes (32 percent) in 2022/23, reaching 15 million tonnes, its lowest level since 2012/13. Elsewhere, reduced domestic production is anticipated to reduce shipments from **Argentina** and the **United States**, down 5.5 million tonnes and 6 million tonnes, respectively, compared to their 2021/22 levels. However, an expected boost in exports from **Brazil**, up 12.5 million tonnes from 2021/22, supported by a record

Figure 4. Global trade of coarse grains by type



harvest, should partially offset those declines.

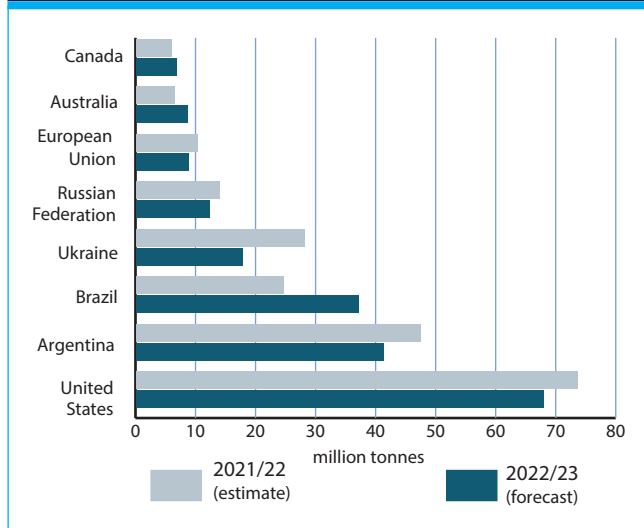
On the import side, the largest decline in imports is expected in Europe. A predicted fall in utilization, largely for feed, amid an expected increase in production is behind the forecast 6 million tonnes (40 percent) decrease in the **EU's** purchases compared to the 2021/22 volume.

In Asia, imports of maize by **China (mainland)** are expected to wane slightly, by 3.5 million, but at 20 million tonnes would still register a third consecutive year of high import volumes relative to historical averages, maintaining the country's position as the world's top maize importer for a third year. Aside from China (mainland), imports of maize by nearly all other countries in Asia are forecast to remain stable or to expand from their 2021/22 levels, with a large increase seen in **Viet Nam** to meet growing feed demand. With higher imports by most countries in the region balancing the decline from China (mainland), the aggregate maize import volume by Asia is forecast near last season's level of 96 million tonnes.

Import demand from Latin America and the Caribbean is predicted to be lower in 2022/23, with the regional maize imports forecast to drop by 5.6 percent. After rising in 2021/22, maize imports by **Brazil**, a net exporter, will likely return closer to average levels in 2022/23. Purchases by **Mexico**, the world's second largest maize importer, are forecast to remain near the 2021/22 level of 17 million tonnes.

By contrast, to other regions, Africa's maize imports are predicted to register a strong rebound of 16.4 percent in 2022/23, reaching 23.7 million tonnes, after falling in 2021/22. Leading that increase, **Algeria, Egypt** and **Morocco** are all forecast to increase purchases in 2022/23, mostly in order to replenish stocks. Lower maize imports

Figure 5. Coarse grain exports: major exporters



by Northern America are also anticipated to weigh down on global trade prospects. In particular, maize purchases by **Canada** are forecast to fall by 3 million tonnes after rising sharply to a record high last year to meet heightened feed demand amid low domestic barley supply.

World trade in barley (excluding malt) is also forecast to contract in 2022/23, down 8.6 percent (2.9 million tonnes) from 2021/22 to 30.3 million tonnes. The anticipated contraction reflects a likely reduction in purchases that are almost entirely from Asia, especially **China (mainland)**, the **Islamic Republic of Iran** and **Türkiye**. Lower barley utilization in China (mainland), the world's leading barley importer, is seen reducing the country's purchases by 1.5 million in 2022/23, but, pegged at 9 million tonnes, they are expected to remain above the past five-year average for a third consecutive year. Barley imports by the Islamic Republic of Iran and Türkiye are also forecast to decrease, by 1 million and 2.3 million tonnes, respectively, due to higher anticipated domestic outputs. Regarding exports, smaller barley exports are projected, primarily from **Ukraine** and, to a lesser extent, **Australia**.

Similar to maize and barley, global trade in sorghum is forecast to fall in 2022/23 to 11.4 million tonnes, down 6.6 percent (0.8 million tonnes) from the 2021/22 record level. The projected decrease is almost entirely attributed to anticipated smaller purchases by **China (mainland)**, mostly due to substitution towards maize for feed. On the export side, sales from Australia and, to a lesser extent, **Argentina** could decline given the prospects of weaker import demand.

Figure 6. Maize exports: top 10 maize exporters

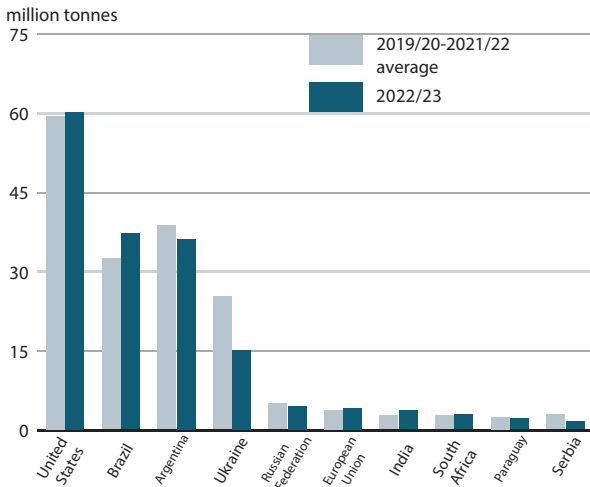


Figure 7. Maize imports: top 10 maize importers

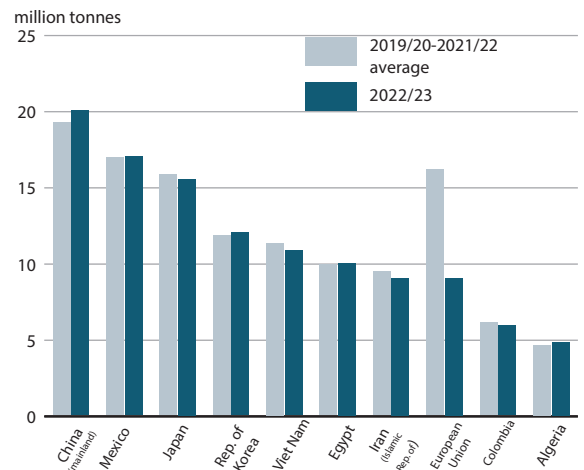


Figure 8. Sorghum exports: top 5 sorghum exporters

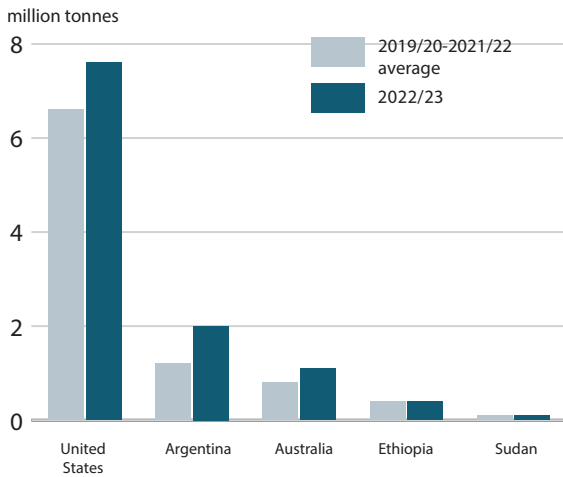


Figure 9. Sorghum imports: top 5 sorghum importers

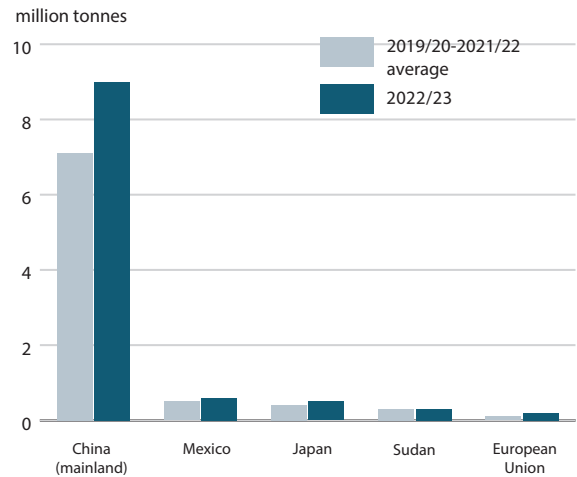


Figure 10. Barley exports: top 10 barley exporters

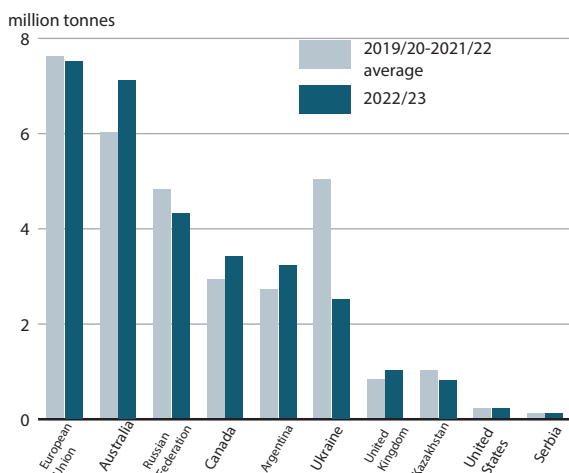
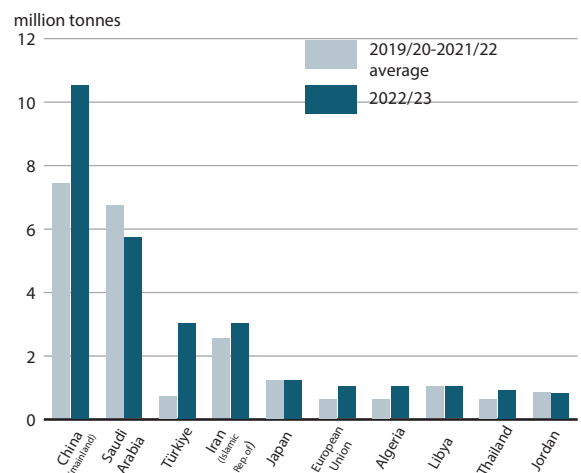


Figure 11. Barley imports: top 10 barley importers



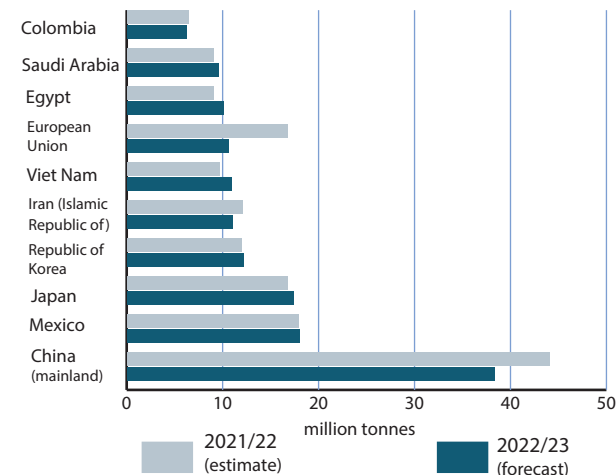
UTILIZATION

Total utilization seen down marginally from the 2021/22 record

World total utilization of coarse grains in 2022/23 is forecast to fall marginally, by 0.1 percent (1.2 million tonnes), from the all-time high estimated for 2021/22 to 1 498 million tonnes, which would be the first decline in eleven years. While industrial use of coarse grains is projected to remain stable year-on-year, an expected decline in the feed use will likely outweigh a forecast growth in the food use.

At around 870 million tonnes, **feed use** of coarse grains, which makes up nearly 60 percent of total coarse grains utilization, is forecast to contract by 4.2 million tonnes (0.5 percent) in 2022/23 from the 2021/22 estimated level. Driving the decline is an expected 5.4 million tonnes (0.8 percent) drop in feed use of maize to 698 million tonnes; this mostly reflects lower feed use of maize in Northern America. In Canada, feed use of maize is predicted to fall by 26 percent and return to five-year average levels after rising sharply to a record level last year to compensate for low barley availability. Anticipated tighter maize supplies, due to reduced harvest prospects, are behind an expected 4-percent fall in the feed use of maize in the United States. The EU is also expected to slightly reduce its use of maize for feed as part of a likely overall decrease in total feed demand driven by high prices, lower demand for meat and the impact of avian influenza. Partially offsetting some of these declines, feed use of maize is expected to continue to rise in China (mainland), up 2.4 percent (4.5 million tonnes) in 2022/23. The increase is supported by greater substitution to maize from other grains for feed, including wheat (down 5 million tonnes year-on-year), barley (down 0.5 million tonnes) and sorghum (down 0.5 million tonnes). China (mainland)'s total feed use of coarse grains is forecast at 208.1 million tonnes, up 1.7 percent (3.5 million tonnes) from 2021/22. Greater feed use of coarse grains also gains support from significant year-to-year anticipated increases

Figure 12. Top 10 Coarse Grains importers



of both maize and sorghum uses for feed in Brazil, up 2.4 percent and 49.5 percent from the 2021/22 levels, respectively, supported by record harvest forecasts.

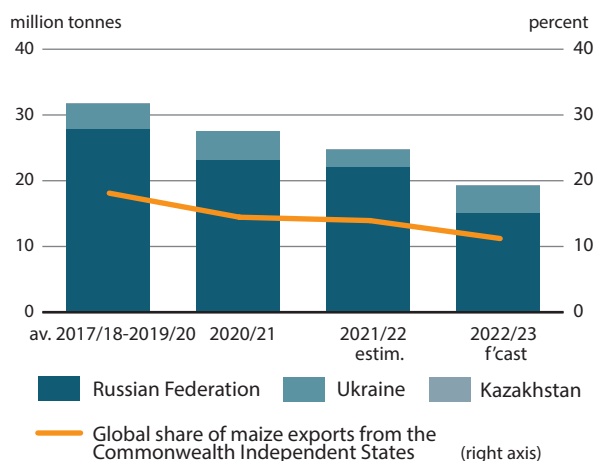
By contrast to feed use, **global food consumption** of coarse grains (which accounts for approximately 15 percent of total utilization) is forecast to increase in 2022/23, up 1.3 percent (2.8 million tonnes) from 2021/22 to reach 227 million tonnes. Higher use for food expected in Africa accounts for most of the forecast increase, pointing to a growth of 2.1 percent (2.1 million tonnes) to 103 million tonnes in 2022/23. Globally, the growth in the use of coarse grains for food is anticipated to match the increase in world population, thus maintaining a stable per capita consumption of 28.5 kg per year.

Industrial use of coarse grains in 2022/23 is forecast to remain near last season's level estimated at 400 million tonnes. A foreseen increase in the industrial use of barley in Canada and the United States in particular, supported by good harvests, is balanced by lower industrial use of maize expected in several countries in Africa and in the EU, as well as an anticipated decline in industrial use of sorghum in China (mainland).

Table 3. Maize use for ethanol (excluding non-fuel) in the United States

	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22 estim.	2022/23 (f'cast)
Maize production	361.136	345.506	384.778	371.096	364.262	345.962	358.447	383.943	367.301
Ethanol use	132.085	132.695	137.978	142.373	136.607	123.373	127.843	136.530	136.530
Yearly change (%)	1.5	0.5	4.0	3.2	-4.0	-9.7	-6.4	10.7	6.8
As of production (%)	36.6	38.4	35.9	38.4	37.5	35.7	35.7	35.6	37.2

Source: WASDE-USDA 12 May 2022 and FAO estimates.

Figure 13. Maize exports from the Black Sea

2022/23. At this level, the ratio would be the lowest since 2012/13, but would remain well above the historical low of 18.2 percent registered in 1983/84. The **ratio of major exporters' stocks-to-disappearance** (defined as domestic consumption plus exports), which reflects global availabilities for trade, will likely increase from 13.5 percent in 2021/22 to 14.0 percent in 2022/23. However, this measure includes stocks of coarse grains held in Ukraine, a major maize and barley exporter; these are predicted to be more than three times higher than their five-year average levels but not available for export to world markets, due to war-related export disruptions. Among other major exporters of maize, stocks in Argentina and United States of America are forecast at well-below the past five-year average levels, while Brazil's stocks could recover from last year's low level on the back of a predicted record harvest.

STOCKS

Stock likely to contract slightly in 2022/23

Based on current forecasts for global production in 2022 and utilization in 2022/23, world inventories of coarse grains should contract slightly by the close of the seasons in 2023, by 3.9 million tonnes (1.1 percent) from their opening level to 357 million tonnes. Most of this decline is due to a forecast 3.4-million tonne (1.1 percent) reduction in global maize stocks, which are forecast at 300 million tonnes. Maize stocks are seen down in several countries, leading to contractions at the regional level in Asia, Northern America, Africa, Central America and Europe (in descending order of magnitude). The largest drawdowns are seen in China (mainland), amid rising consumption and a stagnant production forecast, and the United States, where output is forecast to fall.

World barley stocks are also projected to decline by 3.2 percent, to 26.6 million tonnes, marking the second consecutive annual drop. Most of the drawdown is foreseen to be concentrated in Australia, on account of lower production, in China (mainland), due to lower imports, and in the Syrian Arab Republic, in view of the prospects for a second consecutive below average harvest (2017/18-2021/22). By contrast, to maize and barley, sorghum inventories are forecast to rise by 6.1 percent, to around 8 million tonnes, almost exclusively reflecting a buildup in Australia due to higher domestic production.

Given the predicted contraction in world inventories, which outweighs the forecast decline in global utilization, the **world stocks-to-use ratio** for coarse grains should drop from 24.1 percent in 2021/22 to 23.0 percent in

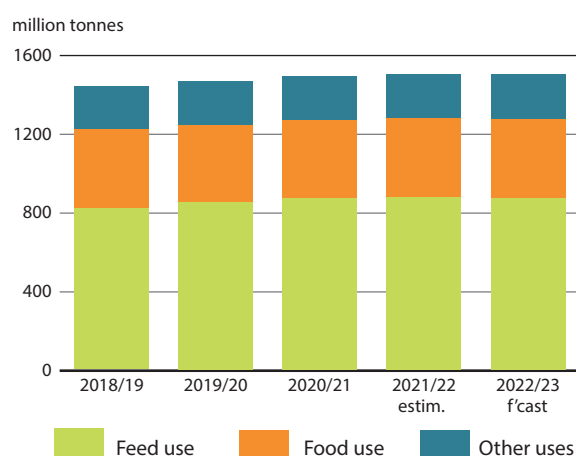
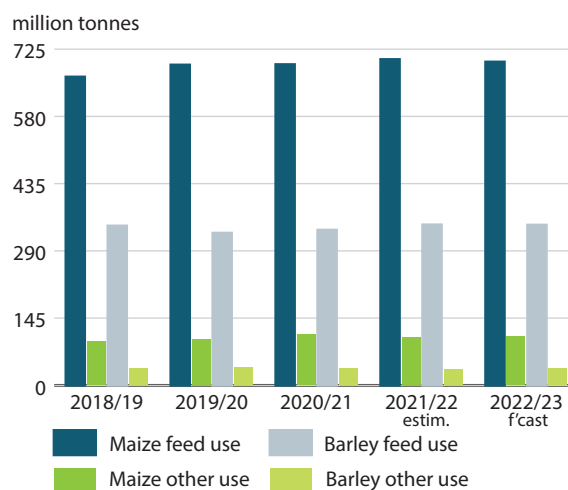
Figure 14. Global coarse grains utilization**Figure 15. Global barley and maize consumption**

Figure 16. Maize stocks for major exporters

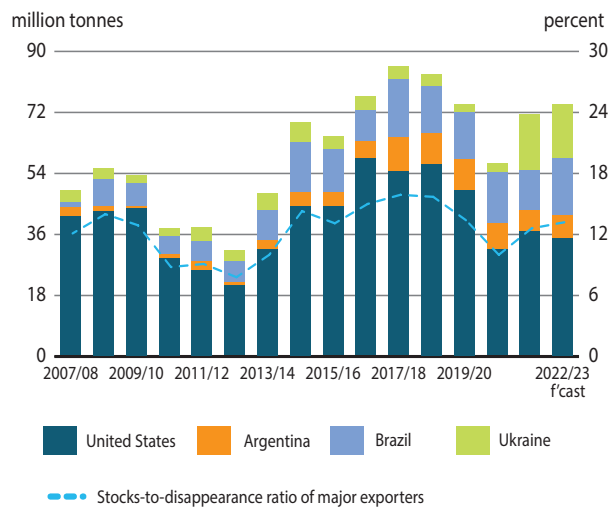


Figure 17. Maize stocks for top importers

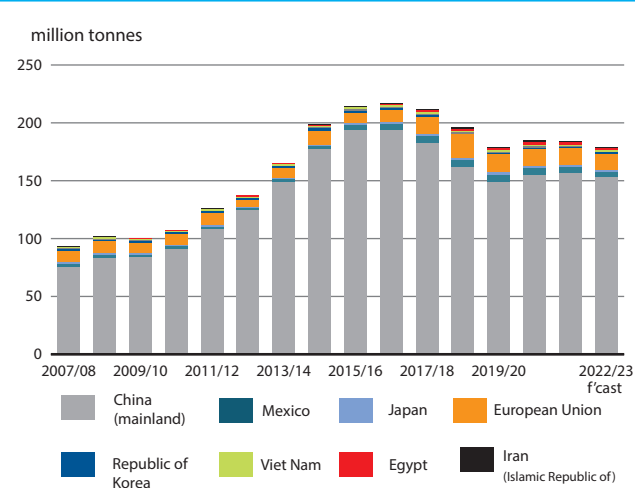
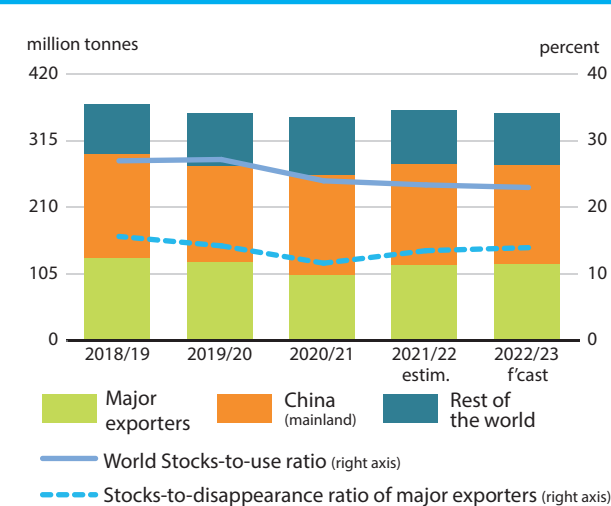


Figure 18. Coarse grain stocks and ratios



RICE



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PRICES

Although still comparatively subdued, international prices have risen steadily since the beginning of 2022

Abundant exportable supplies – ensured by successive bumper harvests – have helped the rice market to defy much of the price increases dominating most other food commodity markets since mid-2020. Yet, international rice prices have been on the rise since the beginning of

2022. As measured by the **FAO All Rice Price Index**, although they remained 1.2 percent below their year-earlier levels in May 2022, they were up 11.1 percent from their levels at the close of 2021. Price increases have been most notable for Japonica and Aromatic rice since December 2021, whose quotation have risen by 14.0 and 20.3 percent. Prospects of protracted drought severely constraining medium-grain plantings in California have been behind the price gains registered in the Japonica segment, while revived Near Eastern demand in the context of output shortfalls in the Basmati origins have instigated

Figure 1. FAO rice price indices

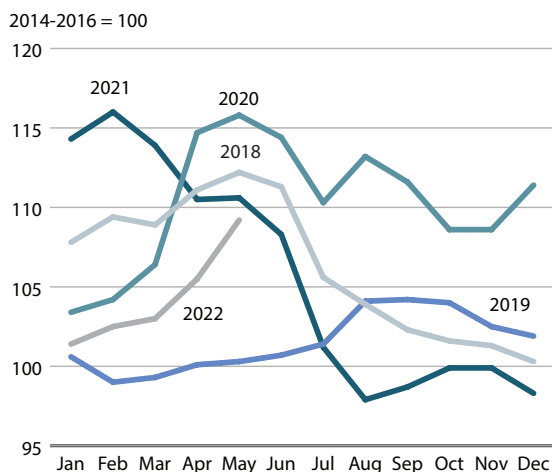
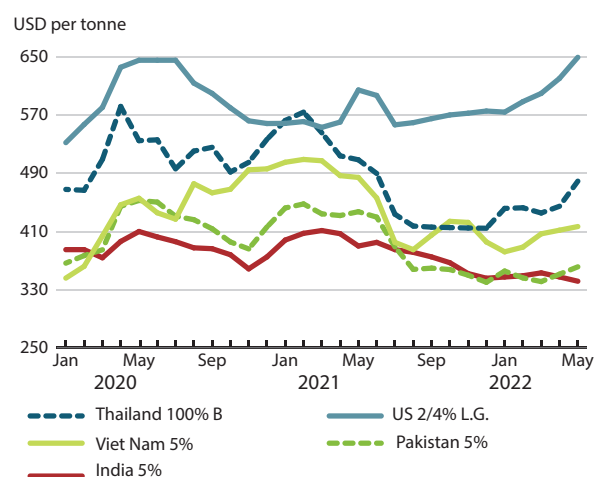


Figure 2. Export prices of higher-quality Indica rice



those of fragrant prices. In the Indica segment, Thai and Vietnamese quotations have likewise risen, drawing support from a demand acceleration and signs of local quotations beginning to adjust to the higher production costs faced during the latest cropping cycle. Expectations of consecutive output contractions in the United States of America (the United States) and of drought-induced declines in competing Argentina and Brazil have also raised prices in the Americas. Yet, this bullishness has not extended to all Indica origins, especially those in Southern Asia. Indeed, a currency depreciation in the wake of a large crop has kept Pakistani offers generally subdued. In India, the world's largest rice exporter, large availabilities have also continued to weigh on whole-grain quotations, despite sizeable government local purchases and strong exports. This has in turn kept prices of the most-widely traded Indica rice somewhat more resilient to upward pressure.

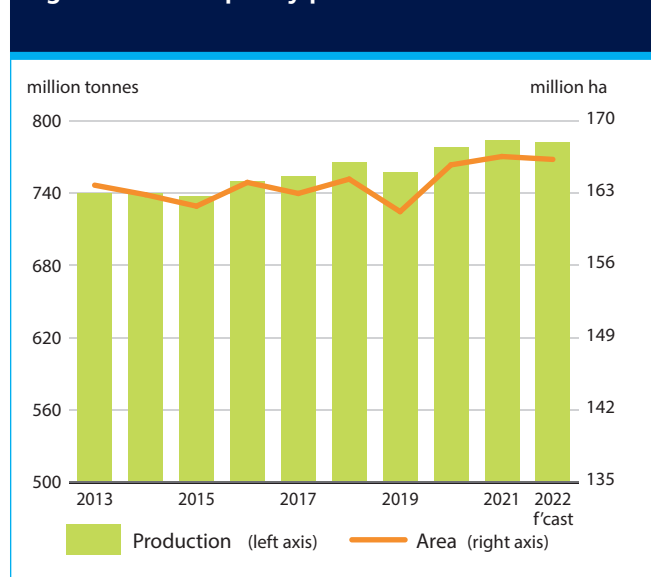
PRODUCTION

World rice production to remain close to the 2021 all-time high

The 2022 season is by now well-advanced south of the equator, where harvests of the first or sole crop of the season have wrapped up, while in the northern hemisphere, sowings of 2022 crops have just begun. Although much will depend on weather patterns, especially in the context of the lingering La Niña conditions, FAO pegs its preliminary forecast for world rice production in 2022 at 519.5 million tonnes (milled basis), implying a minor (1.4 million tonne) fall from the 2021 record-high and the second largest harvest on record.

Asia, the world's rice bowl, is expected to sustain

Figure 3. Global paddy production and area



this generally positive result. Prospects for the region are bolstered by forecasts of generally normal monsoon rains. In addition, although hikes in the prices of alternate crops are exposing the sector to more intense competition for land this season, Asian paddy plantings are seen as remaining largely unscathed as the strategic role of rice in food security provides the sector with strong government assistance. On the output side, such assistance often takes the form of producer price support schemes. Nevertheless, it often also extends to the input side through price controls on fertilizers, such as those in place in Bangladesh, India (most notably for urea) and Indonesia (for small-scale farmers), or through the extension of special outlays compensating producers for increases in production costs, as in China (mainland), the Republic of Korea and Malaysia. Such measures are expected to cushion the sector's profitability losses incurred because of soaring input prices, thus helping aggregate output in Asia to replicate the excellent 2021 outcome of 468.0 million tonnes.

At the country level, **Bangladesh, China (mainland), India, Indonesia, Malaysia** and the **Philippines** are all seen ending the 2022 with positive production results. This should offset potential yield cuts stemming from lower input use and/or changes in the varietal structure of plantings in favour of less input-demanding strains in **Cambodia, Thailand** and **Viet Nam**. Limited availabilities of water for irrigation also cloud the outlook for **Iraq**, the **Islamic Republic of Iran** and **Pakistan**, with output also seen falling in the **Republic of Korea** and **Japan**. Yet, the largest absolute Asian output contractions are forecast to take place in **Sri Lanka** and **Myanmar**, where scarce and/or inaccessible inputs, on the backdrop of broader economic constraints, weigh heavily on production prospects this year.

Africa is predicted to harvest a total of 25.5 million tonnes of rice in 2022, a 1.4 percent expansion over the 2021 outcome. Much of this increase is expected to take place in sub-Saharan Africa, where fertilizer usage is generally considerably more limited than in other regions and where area expansions, often supported by governments under self-sufficiency programmes, have been the key drivers of production growth. Within the region, the outlook is particularly positive for Western African countries, including **Côte d'Ivoire, Guinea, Nigeria, Senegal** and **Sierra Leone**, which, after last season's weather-induced setbacks, could see strong domestic prices and more normal growing conditions foster further area expansions and some yield recoveries. Despite some damage inflicted by passing storms, **Madagascar** is also anticipated to harvest a larger crop in 2022, aided by generally normal growing conditions in non-storm affected

Table 1. World rice market at a glance

	2020/21	2021/22	2022/23 <i>f'cast</i>	Change: 2022/23 over 2021/22
	<i>million tonnes, milled equivalent</i>			<i>%</i>
WORLD BALANCE				
Production	517.0	520.8	519.5	-0.3
Trade ¹	51.5	53.1	53.9	1.5
Total utilization	510.5	521.0	522.0	0.2
Food	417.9	423.7	428.4	1.1
Ending stocks²	191.4	192.4	191.6	-0.4
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/yr)	53.6	53.8	53.9	0.1
LIFDC (kg/yr)	52.6	53.0	53.3	0.6
<i>World stocks-to-use ratio (%)</i>	<i>36.7</i>	<i>36.9</i>	<i>36.4</i>	
<i>Major exporters stocks-to-disappearance ratio³ (%)</i>	<i>28.2</i>	<i>28.3</i>	<i>28.2</i>	
FAO RICE PRICE INDEX (2014-2016=100)	2020	2021	2022 <i>Jan-May</i>	Change: Jan-May 2022 over Jan-May 2021 %
	110	106	104	-7.7

¹ Calendar year exports (second year shown).

² May not equal the difference between supply (defined as production plus carryover stocks) and total utilization due to differences in individual country marketing years.

³ Major exporters include India, Pakistan, Thailand, the United States of America and Viet Nam.

Table 2. Rice Production: leading producers*

	2020	2021	2022 <i>f. cast</i>	Change: 2022 over 2021
	<i>million tonnes, milled equivalent</i>			
China (mainland)	145.1	145.8	146.1	0.2%
India	124.4	126.2	127.4	0.9%
Bangladesh	37.4	37.8	38.4	1.4%
Indonesia	35.0	34.8	35.2	0.9%
Viet Nam	27.8	28.5	28.4	-0.5%
Thailand	21.0	22.0	21.7	-1.1%
Myanmar	15.2	15.0	14.5	-3.3%
Philippines	12.9	13.1	13.2	0.7%
Pakistan	8.4	8.8	8.8	-0.9%
Brazil	7.6	8.0	7.3	-9.1%
Japan	7.4	7.4	7.2	-2.4%
Cambodia	6.7	7.0	6.9	-2.0%
United States of America	7.2	6.1	5.8	-4.7%
Nigeria	4.9	5.0	5.3	5.5%
Egypt	4.4	4.3	4.0	-6.5%
World	517.0	520.8	519.5	-0.3%

* Countries listed according to their position in global production (average of 2020-2022).

areas and state programmes fostering the uptake of hybrid varieties and expanding irrigated output. By contrast, the **United Republic of Tanzania** could see late and irregular rains in the last quarter of 2021 depress output for the second successive season. Forecasts of poor performing early season rains also cloud expectations for production in **Benin, Ghana, Liberia, and Togo**. In the case of Ghana, prospects are further aggravated by reports of reductions in fertilizer subsidy rates and limited fertilizer supplies available for distribution under the Planting for Food and Jobs programme, to which much of the country's recent production gains have been attributed. Production in **Egypt** is likewise expected to remain on a contractionary trend to reach 4.0 million tonnes in 2022, as amid uncertainties regarding access to subsidized fertilizers for producers cultivating rice outside of government-determined limits, hikes in the prices of competing crops, such as maize and, especially, cotton, could accelerate the rate of area conversions away from rice.

The outlook is negative for *Latin America and the Caribbean*, where aggregate output is predicted to fall 7.9 percent below the positive 2021 outcome to 17.5 million tonnes, its lowest level in 12 years. Much of this fall is expected to occur in South America, reflecting the negative impact of water shortages and high temperatures associated with the ongoing La Niña phenomenon in **Argentina, Brazil and Paraguay**. Poor producer margins at planting time in **Colombia, Ecuador and Peru** look set to compound these losses, overshadowing gains expected in the **Plurinational State of Bolivia, Guyana, the Bolivarian Republic of Venezuela** and, especially, **Uruguay**, where output is seen just short of the 1.0 million tonne mark, buoyed by favourable prices and fewer weather disruptions. Elsewhere in the region, assuming normal summer growing conditions, expectations are positive for **Costa Rica, the Dominican Republic, Mexico and Panama**, where government steps to increase producer prices and offer special credit lines or inputs at subsidized rates may help to avert area or yield cuts stemming from the hike in input costs. On the other hand, reduced producer margins are forecast to lower output in **Nicaragua** from the record high achieved the previous season, while heightened shortages of basic inputs may undermine production in **Cuba and Haiti** once again.

In *Northern America*, the **United States** could harvest 4.7 percent less than the already reduced 2021 crop – 5.8 million tonnes – given that hikes in prices of fuel, fertilizer and alternative crops, such as soybeans, are set to curb plantings in southern producing states, where rain-induced sowing delays have further complicated

yield prospects. Consecutive years of drought in California may also severely undermine Japonica plantings in the country. The outlook is also negative for **Europe**, given unseasonable dryness in the leading producers in the **European Union (EU)** – Italy and Spain, but also in Portugal. Infrastructural impairments of a key irrigation dam in its lead producing Krasnodar territory have also compromised the outlook for the **Russian Federation**, which may see production slide to a five-year low of 654 000 tonnes as a result. By contrast, in **Oceania**, attractive prices, combined with sufficient water for irrigation, are estimated to have enabled output in **Australia** to rise by 38 percent year-on-year to a four-year high of 422 000 tonnes.

TRADE

Import demand to remain generally strong, except in the Asian Far East

International trade in rice is predicted to register its third successive annual increase in 2022 (January–December), with volumes exchanged across the world forecast to reach 53.1 million tonnes, up 3.0 percent from the 2021 all-time high. With the exception of the Asian Far East, most regions are anticipated to step up their imports over the course of the year, often aided by state efforts to contain inflationary pressure. Such steps have taken the form of import duty remissions in various African and Latin American countries, or of an acceleration of government-contracted imports, as has been most notably the case of **Iraq** and the **Islamic Republic of Iran**. In the **United States** and the **EU**, import growth is instead expected to be associated with strong demand for aromatic varieties and a partial easing of container freight rates. This is after logistical constraints and soaring container rates put a dent on their purchases last year. Anticipated expansions in imports by South American countries, such as **Brazil**, **Chile**, **Peru** and **Colombia**, are instead linked to poor production outruns, which, in the case of Brazil, may be further reinforced by a rebound in the value of the Brazilian real. Notable exceptions to the near across-the-board demand strengthening in the various regions would be **Ghana** and **Haiti**, where the prevailing weakness of national currencies may constrain purchases, as well as **Guinea** and **Madagascar**, where a spate of purchases last year together with favourable domestic harvests could cut the need for imports.

As for Far Eastern imports, they are predicted to fall by 14.4 percent year-on-year to an aggregate of 15.5 million tonnes. Within this sub-region, the import outlook is especially subdued for **Bangladesh**, which could see its purchases drop from 2.6 million tonnes in 2021 to

Figure 4. Rice imports by region

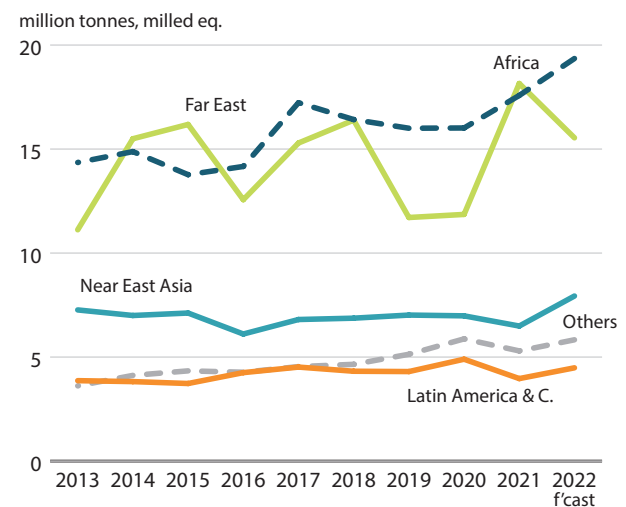


Figure 5. Rice exporters' shares in global trade

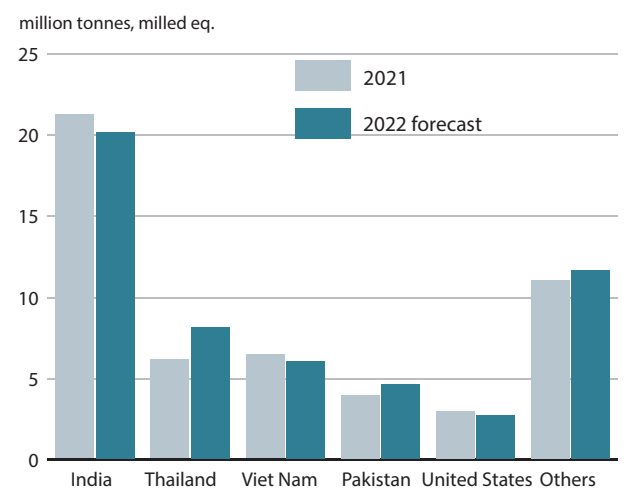
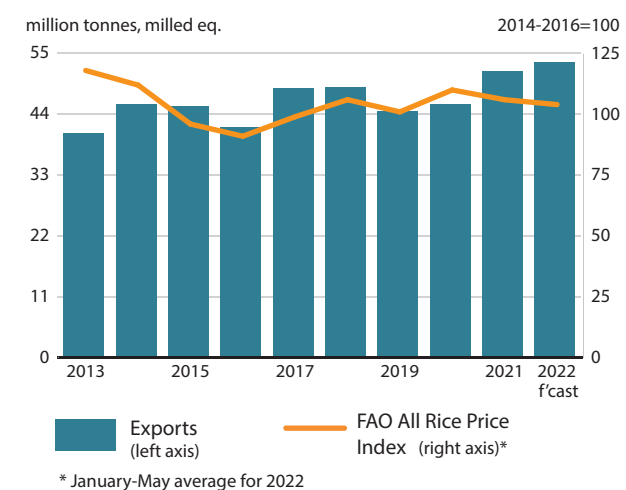


Figure 6. World rice trade and FAO all rice price index



just 200 000 tonnes this year, owing to refurbished state stockpiles and domestic output growth. Nevertheless, purchases by **Viet Nam**, a major rice exporter, could also drop by nearly half in 2022, as its feed and industrial needs may be met by ample inventories of lower-grade rice amassed through record imports last year. Ample glutinous availabilities already at hand are, likewise, behind an anticipated 3.7 percent cut in imports by **China (mainland)** to 4.9 million tonnes, even though at that level they would remain comparatively abundant due to attractive prices of lower grades abroad. Among other Asian buyers, little import change is expected in the **Philippines**, with overall purchases steady at 3.0 million tonnes, while **Malaysia** and **Nepal** may step up purchases amid stagnating or declining domestic output. Singularly, however, the largest Far Eastern import increase is anticipated to take place in **Sri Lanka**, where purchases could reach a five-year high of 600 000 tonnes, supported by state purchases from abroad to compensate for an input-induced slump in local production.

Expectations of demand reductions in key Far Eastern outlets cloud the export outlook for **Cambodia**, **India** and **Viet Nam** the most, which, alongside **Argentina** and the **United States**, could close 2022 with lower exports. Nevertheless, at a forecast 20.1 million tonnes, Indian shipments are still envisaged to remain well above pre-2021 levels, given that its large availabilities at hand should be more than sufficient to meet rising local consumption needs and continue large exports. This should enable India to keep its role as the world's leading global rice exporter, distantly followed by Thailand, which, however, could regain part of the market share it lost since 2018. Indeed, after being undermined by logistical constraints and/or uncompetitive prices last year, Thai rice sales are predicted to reach a four-year high of 8.1 million tonnes. Exports by **Myanmar**, **Pakistan** and **Uruguay** are also anticipated to register strong rebounds in 2022, with tight Japonica availabilities in their main medium-grain competitor, the United States, also behind expectations of rising sales by **Australia** and **China (mainland)**.

UTILIZATION

Growth in food intake to be largely counterbalanced by cutbacks in non-food uses of rice

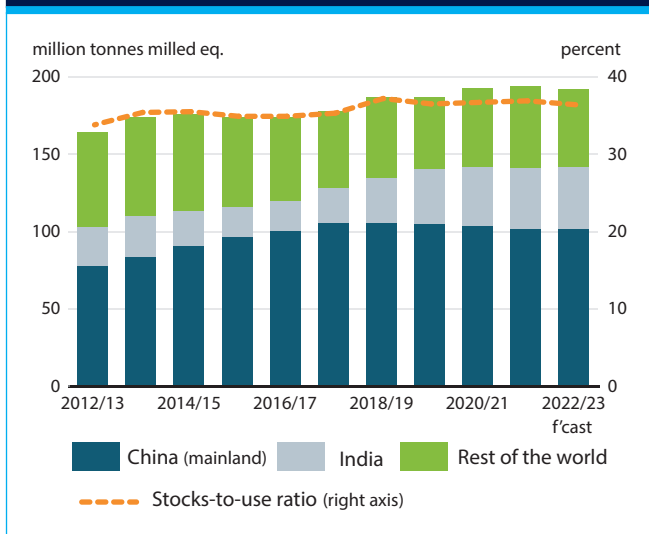
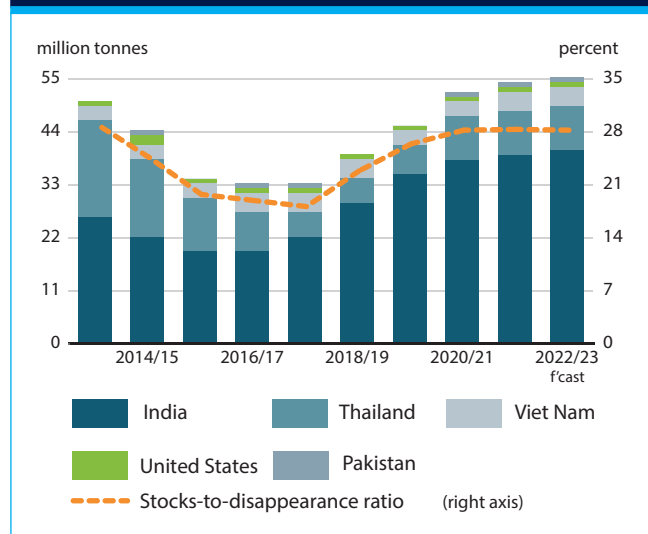
World rice utilization has expanded at an accelerated annual rate of close to 2 percent since 2020/21, as expansions in state assistance programmes helping vulnerable consumers cope with the impact of the pandemic coincided with a revival in the use of rice for

animal feed. Early expectations for the 2022/23 season, however, point to a somewhat altered rice consumption landscape. Total rice utilization is forecast to exceed its 2021/22 record volume by a small margin of 0.2 percent (1.0 million tonnes) to reach 522.0 million tonnes (milled basis), as another sturdy expansion in food intake is predicted to be mostly outweighed by cutbacks in other uses.¹

Food, by far the prime use of rice, is expected to absorb 428.4 million tonnes in 2022/23, up 1.1 percent from 2021/22 and enough to keep global per capita food consumption broadly steady at 53.9 kilos. This relative stability largely reflects expected trends in Asia, where some important market players continue to implement expanded rice distribution schemes. This is particularly the case in Southern Asian countries, such as Bangladesh and, especially, India, which, in the context of tighter wheat availabilities, has already announced an enlargement of rice rations under its public distribution programme for part of 2022/23. Such moves may keep per capita food consumption of rice in Southern Asia, and the region at large, above pre-pandemic levels for the third successive season. This is notwithstanding the longstanding dietary shifts away from rice taking place in Eastern and South-Eastern Asia, which could somewhat counterbalance these gains.

As for non-food uses of rice, put together, they are predicted to decline by 3.8 percent year-on-year to 93.6 million tonnes, mostly due to an anticipated 10-percent cut in animal feed use to 19.9 million tonnes. Much of this reduction is expected to take place in China (mainland), where a good maize harvest and greater domestic availabilities of feed wheat could make domestically produced rice an unprofitable commercial feed alternative once again. This is even if ongoing efforts to diversify animal feed rations and the availability of attractively priced broken rice from abroad may keep use of rice for feed in China (mainland) above pre-2020/21 levels. Feed use of rice is also seen easing in Thailand due to animal disease outbreaks, but should world grain prices remain high, it may continue to grow in most other Asian countries, in particular Japan and Viet Nam.

¹ These include uses of rice as seeds, non-food industrial uses, post-harvest losses and animal feed.

Figure 7. Global closing stocks and stocks-to-use ratio**Figure 8. Stocks held by the five major rice exporters and stocks-to-disappearance ratio**

STOCKS

World stocks to edge down, but accumulations in China (mainland) and India to keep them sizeable

Preliminary prospects for the 2022/23 season point to world rice production falling short of utilization, which would require global closing stocks to be drawn down, albeit by a modest 0.8 million tonnes. This would put world rice inventories at 191.6 million tonnes, their second highest level on record, keeping the global stocks-to-use ratio above the abundant 36-percent mark for the fourth successive season.

Rice exporters are predicted to be behind much of the forecast contraction of global inventories amid expectations of lower production results in **Argentina, Brazil, Myanmar, Pakistan, the Russian Federation, Thailand** and the **United States** and upbeat exports, as in the case of **Guyana** and **Uruguay**. Nevertheless, a few exporting countries are seen ending their marketing seasons with larger rice reserves, including **Australia, Cambodia, Viet Nam** and, especially, **India**. Indeed, early indications from Indian official sources point to public domestic procurement during the 2022/23 fiscal year² potentially remaining close to 60.0 million tonnes, a level that would assist the government to meet planned expansions in public subsidised rice distributions during the ongoing and upcoming season by an abundant margin. This could result in overall Indian rice reserves rising by an additional 2.3 percent to reach 39.9 million tonnes.

² India's April-March fiscal year partly overlaps with the country's October-September rice marketing year.

Combined with expected gains in Viet Nam, this increase could sustain a 0.5-percent expansion in aggregate stocks held by the major rice exporters³ to 54.8 million tonnes. This may keep the group's stock-to-disappearance ratio⁴ at 28.2 percent, almost unchanged from the 28.3 percent anticipated for 2021/22.

The outlook is more buoyant for rice importers, especially for **China (mainland)**, where inventories could edge up to 101.2 million tonnes, up from 100.6 million tonnes in 2021/22. If confirmed, this would mark the first expansion in Chinese rice stocks in four years and would be consistent with expectations of a record crop and reduced demand for non-food uses. Lower domestic demand is also anticipated to result in increased stocks in the **Republic of Korea**, while gains in the **Islamic Republic of Iran** would come in the wake of an import revival. The **EU, Nigeria** and **Cote d'Ivoire** are also seen expanding their reserves. By contrast, output shortfalls may require **Colombia, Peru, Sri Lanka** and the **United Republic of Tanzania** to draw from their reserves, while **Bangladesh, Nepal** and the **Philippines** are also seen reducing their inventories to more normal levels relative to the above-average volumes amassed in the previous season.

³ India, Pakistan, Thailand, the United States of America and Viet Nam.

⁴ This is defined as the sum of domestic utilization and exports.

OILCROPS, OILS AND MEALS¹



PRICES²

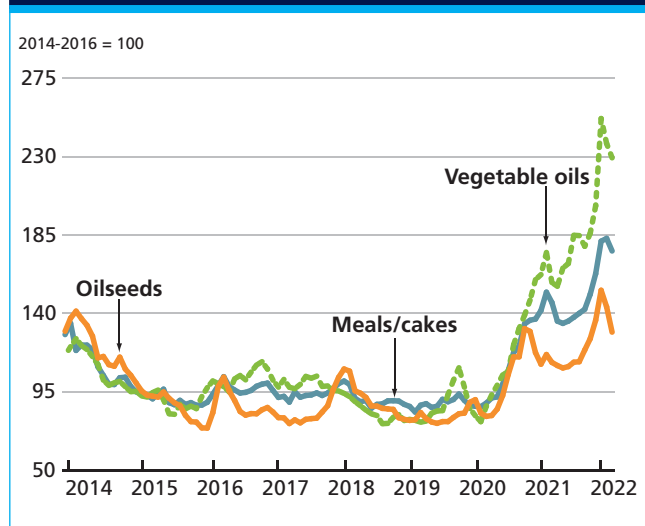
In 2021/22, prices of oilseeds and derived products rallied to record highs

Following the upward trend observed in 2020/21 (October/September), international prices of oilseeds and derived products continued to rise into the 2021/22 season, reaching all-time highs in early 2022, largely due to a tightening supply outlook. In May 2022, FAO's price indices for oilseeds, oilmeals and vegetable oils stood at near-record levels and were markedly above their respective values during the previous year.

The continued strength of FAO's oilseeds price index mainly stemmed from higher soybean, rapeseed and sunflower seed quotations. International soybean prices embarked on an upward trajectory since late 2021 and climbed to historical highs in April 2022. On the supply

side, production prospects in South America weakened considerably, owing to prolonged dry and hot conditions across major growing regions. From the demand perspective, favourable processing margins, particularly in the United States of America, prompted robust uptakes from the crushing industry, while soybean imports by China remained resilient amid rising world prices. International prices of rapeseed were buoyed by protracted global supply tightness, with production in Canada shrinking significantly due to protracted drought conditions. In the meantime, notwithstanding a bumper harvest in the Black Sea region,

Figure 1. FAO monthly international price indices for oilseeds, vegetable oils and meals/cakes (2014-2016=100)



¹ Almost the entire volume of oilcrops harvested worldwide is crushed to obtain oils and fats for human nutrition or industrial purposes, and to obtain cakes and meals that are used as feed ingredients. Therefore, rather than referring to oilseeds, the analysis of the market situation is mainly undertaken in terms of oils/fats and cakes/meals. Production data for oils and meals are derived from domestic production of the relevant oilseeds in a specific year, i.e. they do not reflect the outcome of actual oilseed crushing in a given country and period. Regarding oilseed trade, situations where oilseeds are produced in one country but crushed in another are reflected in national oil/meal consumption figures. It is important to note that data on trade in oils (meals) refer to the sum of trade in oils (meals) plus the oil (meal) equivalent of oilseeds traded. Similarly, stock figures for oils (meals) refer to the sum of oil (meal) stocks plus the oil (meal) equivalent of oilseed inventories.

² For details on prices and corresponding indices see statistical appendix, table 24.

Figure 2. FAO monthly price index for oilseeds (2014-2016=100)

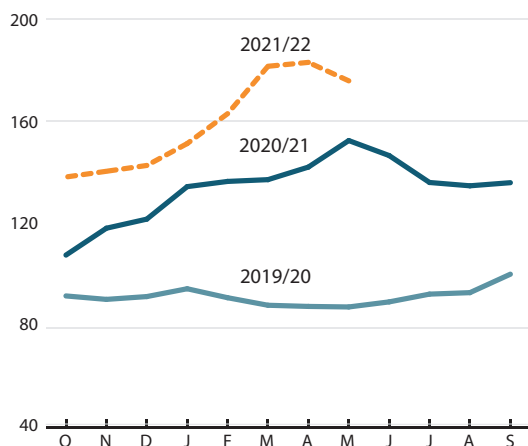


Figure 3. FAO monthly price index for oilmeals/ cakes (2014-2016=100)

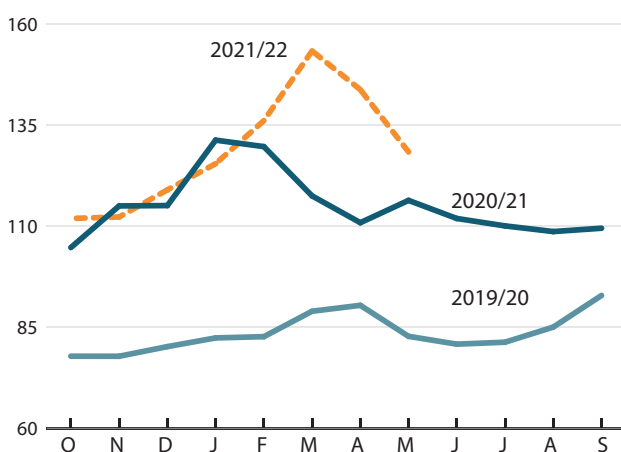
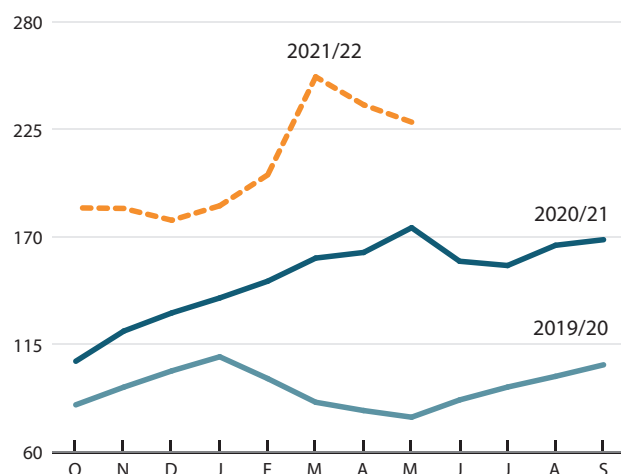


Figure 4. FAO monthly price index for vegetable oils (2014-2016=100)



world sunflower seed prices received support from reserved farmer selling activities at the beginning of 2021/22 and rallied to record highs following the war in Ukraine.

With regard to oilmeals, FAO's price index rose gradually in tandem with the oilseed index. The prospect of lower soybean production in Argentina and Brazil slashed soymeal supply prospects markedly, while the sunflower meal exports from Ukraine have come to a virtual halt since late February 2022, due to the logistical obstacles resulting from the war. Notably, a shortage of lysine supplies, a key ingredient in feed rations, also provided sporadic support to oilmeal prices.

Among the indices trailing the oilcrops complex, the vegetable oil index showed the strongest increase, with the year-to-date average standing more than 40 percent above its corresponding value of last year. While below-potential palm oil outputs in leading producing countries continued to underpin international prices, a series of restrictions on Indonesia's palm oil exports brought additional uncertainty. Although the export ban was lifted on 23 May 2022, palm oil shipments from Indonesia remain subject to export permit requirement. Meanwhile, world sunflower oil quotations surged sharply, as a result of the disruptions to shipments from Ukraine, the world's leading sunflower oil exporter. International prices of soy and rapeseed oils also increased, broadly sustained by firm global import demand and lingering tight global supplies, respectively. Volatile and higher crude oil prices also lent support to international vegetable oil values.

OILSEEDS

Global oilseed production seen contracting in 2021/22

Following a marked rebound in 2020/21, total oilseed production is expected to decline in 2021/22 to 604.2 million tonnes. The contraction is foreseen to be primarily driven by reduced yield outcomes that should more than offset an anticipated expansion in harvested areas. Specifically, reduced soybean and rapeseed outputs due to unfavourable weather conditions in major producing countries are expected to outweigh production gains in other oilseeds.

Global soybean production in 2021/22 is pegged at 348.8 million tonnes, down by more than 5 percent from last season's record crop, largely tied to expectations of a sharply lower harvest in the Southern Hemisphere. Production in **Argentina, Brazil** and **Paraguay** are all anticipated to drop considerably from the previous season, as protracted dryness and high temperatures linked to back-to-back La Niña events dampened yield outcomes significantly. In the Northern Hemisphere, the aggregate production is expected to increase for the second

Table 1. World production of major oilcrops

	2019/20	2020/21 est.	2021/22 f'cast	Change 2021/22 over 2020/21
	million tonnes			%
Soybeans	337.7	368.1	348.8	-5.2
Rapeseed	72.4	76.3	73.0	-4.3
Cottonseed	43.7	40.4	42.0	3.9
Groundnuts (unshelled)	42.5	43.9	45.3	3.3
Sunflower seed	56.7	51.4	58.1	13.0
Palm kernels	17.8	18.1	18.8	3.9
Copra	5.6	6.0	6.4	6.6
Total	576.5	604.1	592.4	-1.9

Note: The split years bring together northern hemisphere annual crops harvested in the latter part of the first year shown, with southern hemisphere annual crops harvested in the early part of the second year shown. For tree crops, which are produced throughout the year, calendar year production for the second year shown is used.

consecutive season, mostly driven by continued growth in the **United States of America**, where the 2021/22 harvest is estimated to reach a record high of 120.7 million tonnes, facilitated by higher plantings and improved yields. Production in **India** is also seen growing year-on-year, underpinned by higher yield expectations despite a smaller harvested area. On the other hand, **China's** soybean crop is set to decline after rising for seven years in a row, as plantings dropped sizeably with farmers switching to maize in response to higher returns.

World production of rapeseed in 2021/22 is also expected to drop from the previous season. The contraction would stem almost entirely from substantial production losses in **Canada**, with official statistics showing the national output falling to a 14-year low due to severe hot and dry weather conditions. By contrast, **Australia** is expected to harvest a bumper crop, thanks to sharply higher plantings and outstanding yields. Production in the **European Union (EU)** is also likely to recover, though marginally, sustained by gains in both harvested areas and productivity.³

Global production of sunflower seed is foreseen to fully recover from the reduced output registered in 2020/21, with the harvests of all leading producers set to increase markedly. While a sizeable area expansion should drive much of the production growth in the **Russian Federation**, higher yields are expected to underpin output increases in the **EU** and **Ukraine**.

³ Please note that from the 2020/21 season onwards, the EU is defined as EU27 rather than EU28, to take account of Brexit.

OIL AND FATS⁴

World oils/fats production set to increase marginally in 2021/22

The foregoing crop forecasts, combined with an expectation of a higher palm oil output, are likely to translate into a world oils/fats production of 242.9 million tonnes, marginally above the 2020/21 level. With regard to individual oils, gains in palm, sunflower and, to a lesser extent, groundnut, palm kernel and copra oils are expected to more than offset an anticipated drop in soy and rapeseed oil outputs. Global production of palm oil is forecast to continue increasing moderately. In Indonesia, despite generally favourable weather conditions, production is expected to grow at a below-average rate, largely due to a slow expansion in mature area. In Malaysia, after declining for two consecutive seasons, palm oil output is forecast to recover in 2021/22, assuming an easing of migrant labour shortages facilitated by government measures. Global sunflower oil production is forecast to rebound, following a recovery of sunflower seed production in the Black Sea region, whereas expected reductions in world soy and rapeseed oil outputs are tied to marked production losses in South America and Canada, respectively.

Global supplies of oils/fats, which comprise 2020/21 carry-out stocks that fell to multiyear lows, are forecast to drop slightly year-on-year. Domestic availability is expected to rise in **Australia, Indonesia, Malaysia, the Russian Federation**

⁴ This section refers to oils of all origins, which – in addition to products derived from the oilcrops discussed under the section on oilseeds – include palm oil, marine oils and animal fats.

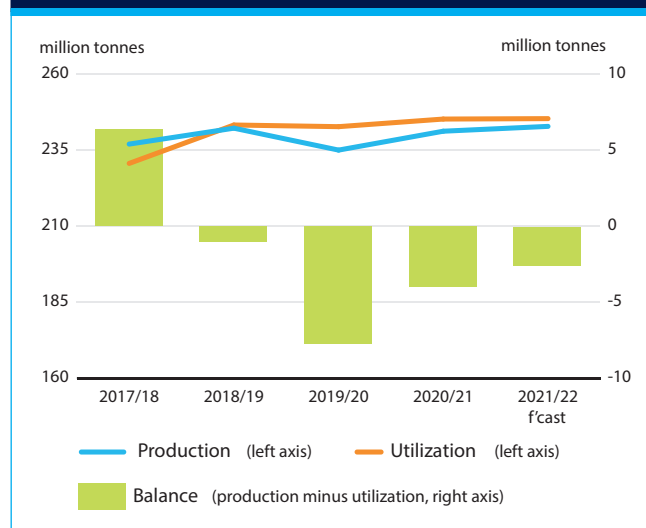
Figure 5. Global production and utilization of oils/fats

Table 2. World oilcrops and product market at a glance

	2019/20	2020/21 <i>estim.</i>	2021/22 <i>f'cast</i>	Change: 2021/22 over 2020/21
	<i>million tonnes</i>			<i>%</i>
TOTAL OILCROPS				
Production	588.2	616.4	604.2	-2.0
OILS AND FATS¹				
Production	235.1	241.3	242.9	0.7
Supply ²	275.8	276.4	274.5	-0.7
Utilization ³	242.8	245.3	245.5	0.1
Trade ⁴	134.9	132.7	128.2	-3.4
Global stocks-to-use ratio (%)	14.4	12.9	12.4	
Major exporters stocks-to-disappearance ratio (%) ⁵	11.1	9.7	10.4	
MEALS AND CAKES⁶				
Production	149.9	159.8	154.9	-3.0
Supply ²	183.5	190.0	182.3	-4.0
Utilization ³	157.8	160.3	159.6	-0.4
Trade ⁴	105.2	103.1	100.6	-2.4
Global stocks-to-use ratio (%)	19.1	17.1	15.2	
Major exporters stocks-to-disappearance ratio (%) ⁷	12.0	9.2	8.8	
FAO PRICE INDICES (Oct-Sept) (2014-2016=100)				
	2020	2021	2022 <i>Oct-May</i>	Change: Oct-May 2022 over Oct-May 2021 %
Oilseeds	90	133	159	21.8
Oilmeals/cakes	84	115	129	9.6
Vegetable oils	93	149	207	44.8

Note: Kindly refer to footnote 1 on page 32 for overall definitions and methodology.

¹ Includes oils and fats of vegetable, animal and marine origin.

² Production plus opening stocks.

³ Residual of the balance.

⁴ Trade data refer to exports based on a common October/September marketing season.

⁵ Major exporters include Argentina, Brazil, Canada, Indonesia, Malaysia, Ukraine and the United States.

⁶ All meal figures are expressed in protein equivalent; meals include all meals and cakes derived from oilcrops as well as meals of marine and animal origin.

⁷ Major exporters include Argentina, Brazil, Canada, India, Indonesia, Malaysia, Paraguay, the Russian Federation, Ukraine, the United States and Uruguay.

and **Ukraine**, mainly thanks to rising production. By contrast, production shortfalls in **Argentina**, **Brazil**, and **Canada** are expected to result in lower supplies, while in the **EU**, domestic availability is expected to decline for the third consecutive season in 2021/22 due to successive contractions in carry-in stocks despite a foreseen marginal recovery in production.

Global oils/fats consumption likely to stagnate in 2021/22

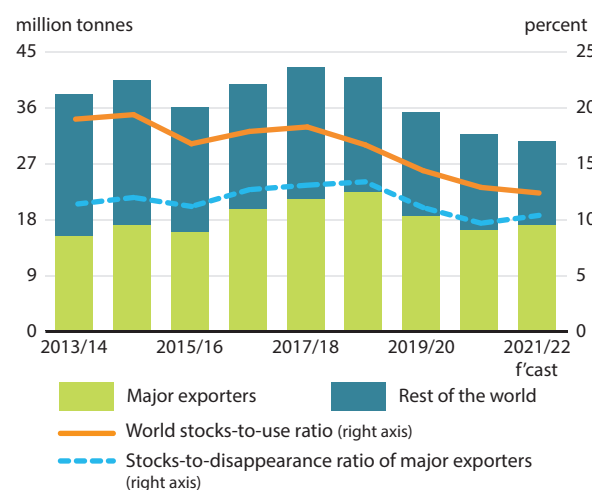
Global oils/fats consumption in 2021/22 is expected to stagnate at the record level reached in the previous season due to rallying international vegetable oil prices amid the economic impacts of the COVID-19 pandemic.

Growth in the consumption of palm, soy, and groundnut oils is expected to be counterbalanced by reduced utilization of sunflower, rape, and other oils. In Asia, **Indonesia** is forecast to drive the large part of consumption growth, mostly offset by a lower uptake foreseen in **India**, due to demand rationing in response to record high prices, as well as in **China**, following regional lockdown measures to contain the spread of COVID-19. Elsewhere, utilization in the **United States** should continue to expand moderately, while consumption in **Brazil** and the **EU** will likely fall marginally in part due to reduced supplies.

While rising prices could take a toll on global consumption of vegetable oils for food uses, uptake from the biodiesel sector is also expected to be affected. In particular, lingering large spreads between mineral oil and vegetable oil prices would dampen the demand for discretionary blending at minimal levels. In the meantime, obligatory blending in several major biodiesel-producing countries would also stagnate. Specifically, in **Indonesia**, the biodiesel admixture mandate remains set at 30 percent as of mid-2022, with a further planned increase to 40 percent still pending, while the implementation of **Malaysia's** biodiesel blending programme also faces delays. Moreover, in **Brazil**, the national blending target was lowered to 10 percent for 2022, instead of increasing gradually as originally planned. These setbacks are expected to be only partially compensated by the continued growth of the biodiesel sector in the **United States**, where production capacity is set to expand in the coming years.

Global inventories of oils/fats to fall to multiyear lows

With world production expected to fall short of utilization, global ending stocks of oils (including the oil contained in

Figure 6. World stocks and ratios of oils/fats (including the oil contained in seeds stored)

stored oilseeds) are forecast to decline further in 2021/22 to 30.5 million tonnes, the lowest level in this past decade. Commodity wise, inventory accumulations of palm and sunflower oils are expected to be more than offset by stock drawdowns in soy and rapeseed oils.

Among the major stockholders, inventories are forecast to drop in **Argentina, Brazil, Canada, China, the EU, and the United States**, whereas they are expected to increase in **Indonesia and Malaysia**. In **Ukraine**, carry-out inventories are anticipated to rise to multiyear highs, as a result of logistical damages and disruptions constraining export flows from the country.

Based on these forecasts, the global stocks-to-use ratio for oils/fats should decline for the fourth consecutive season, while the stocks-to-disappearance ratio for the major exporting countries would linger around multiyear low levels.^{5,6}

Global oils/fats trade could contract for the second consecutive season

Following a modest decline in 2020/21, international trade in oils/fats is forecast to drop by a further 3.4 percent in 2021/22, reaching 128.2 million tonnes (including the oil contained in traded oilseeds). Global transactions in palm, soy, rapeseed and sunflower oils are all expected to contract year-on-year. While subdued global demand amid high costs could affect import purchases, reduced exportable supplies from the major exporting countries would also contribute to a second consecutive year of reduction in world oils/fats trade. Noticeably, the market share of palm oil is expected to remain at around 38 percent, confirming the oil's leading position.

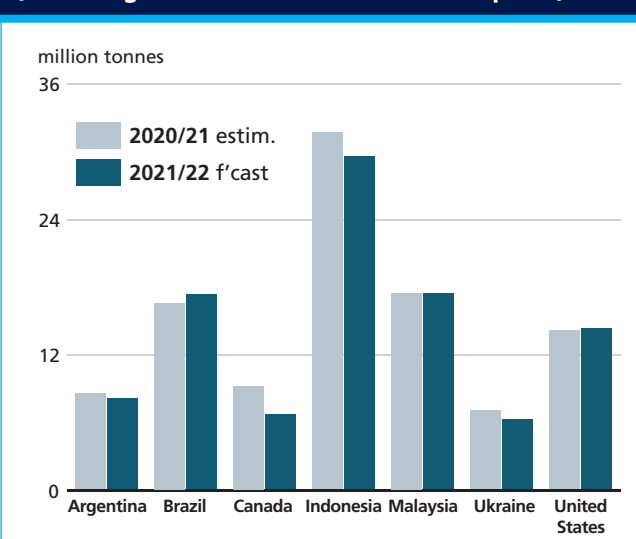
Import contractions are likely to be concentrated in Asia. A significant import decline is expected in **China**, where demand rationing due to higher prices has coincided with a weakening consumption outlook amid COVID-19-related lockdown measures. Meanwhile, notwithstanding lower import tariffs, rising costs weighed on **India's** procurement of vegetable oils. Likewise, imports by the **EU** are also forecast to decline marginally.

On the export side, oils/fats shipments by **Indonesia** are expected to drop markedly, following a series of restrictive export measures by the government that aim to contain soaring domestic prices. In the meantime, exports by **Argentina** and **Canada** will likely be largely limited by lower production, while **Ukraine's** exports are anticipated

Figure 7. Total oils/fats imports by region or major country (including the oil contained in seed imports)



Figure 8. Oils/fats exports by major exporters (including the oil contained in seed exports)



to be negatively affected by protracted logistical disruptions, due to the ongoing war. On the other hand, consignments from **Australia, Brazil, and the United States** are expected to increase.

MEALS AND CAKES⁷

Global meals/cakes production to decline in 2021/22

In line with the forecast modest contraction in world oilseed production, global production of meals/cakes in 2021/22 is expected to decline to 154.9 million tonnes (expressed in protein equivalent). As for individual

⁵ Disappearance is defined as domestic utilization plus exports.

⁶ The group of major exporting countries consists of Argentina, Brazil, Canada, Indonesia, Malaysia, Ukraine and the United States.

⁷ This section refers to meals of all origins. In addition to the products derived from the oilcrops (as discussed under the section on oilseeds), fishmeal and meals of animal origin are included.

meals, an anticipated decrease in soy and rapeseed meal production would only be partially compensated by higher outputs foreseen for sunflower and other meals.

Global meals/cakes supplies are forecast to decline by 4 percent from last season, mainly due to expected production declines, as in the case of **Argentina**, **Brazil**, and **Canada**. Meanwhile, in the **EU** and the **United States**, despite expectations of higher total meal production, reduced domestic supplies appear likely due to lower opening stocks. By contrast, domestic availabilities in **China** and **India** are forecast to expand for the second consecutive season.

Global meals/cakes consumption to decline marginally in 2021/22

After three consecutive seasons of subdued growth, global meals/cakes utilization is forecast to fall slightly in 2021/22, tied to expected declines in world supplies and the prospects of soft demand from the animal feed sector.

The slowdown in global meals/cakes consumption is expected to be largely driven by **China**. Although domestic hog inventories have recovered to their pre-African swine fever (ASF) levels in the country, the meal inclusion ratio in feed rations declined in response to poor hog profit margins. Similarly, the **EU's** total meal consumption will likely decline modestly amid declining supplies, while oilmeal uses in the **United States** and a number of Southeast Asian countries are seen stagnating.

Global meals/cakes inventories to contract for the third successive season

With global utilization of meals/cakes forecast to surpass production, ending stocks (including the meal contained in seed stocks) are expected to contract in 2021/22, possibly declining to a nine-year low of 24.3 million tonnes (expressed in protein equivalent). Inventories of soy and rapeseed meal are anticipated to decline significantly, which would only be partially compensated by expected higher sunflower meal stocks.

Much of the inventory drawdown is expected to take place in **China**, where the release of national soybean stocks was deemed necessary following reduced imports amid poor crushing margins. In **Argentina**, **Brazil** and **Canada**, carry-out inventories are also forecast to fall considerably on sharply lower domestic production. Conversely, closing stocks in **Ukraine** are expected to accumulate to record levels, tied to difficulties in exporting oilmeals from the country.

Based on these forecasts, both the global stocks-to-use ratio and the stocks-to-disappearance ratio for the major

Figure 9. Global production and utilization of meals/cakes (in protein equivalent)

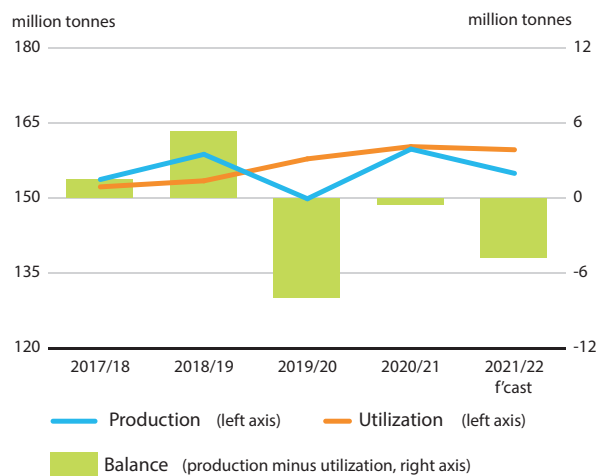
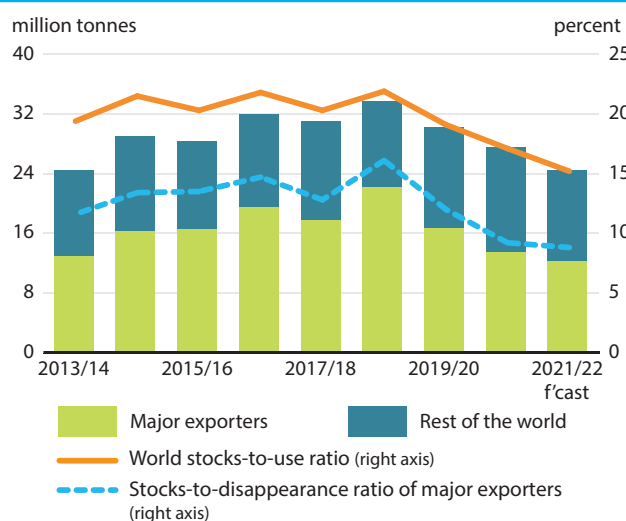


Figure 10. World stocks and ratios of meals/cakes (in protein equivalent and including the meal contained in seeds stored)



exporters would decline for the third consecutive season to multiyear lows.⁸

Global meals/cakes trade likely to drop further in 2021/22

International trade in meals/cakes (including the meal contained in traded oilseeds) is forecast to contract for the second consecutive season in 2021/22, with transactions in soy, rapeseed and sunflower meals all expected to fall.

⁸ The group of major exporting countries consists of Argentina, Brazil, Canada, India, Indonesia, Malaysia, Paraguay, the Russian Federation, Ukraine, the United States and Uruguay.

Figure 11. Total meal/cake imports by region or major country (in protein equivalent and including the meal contained in seed imports)

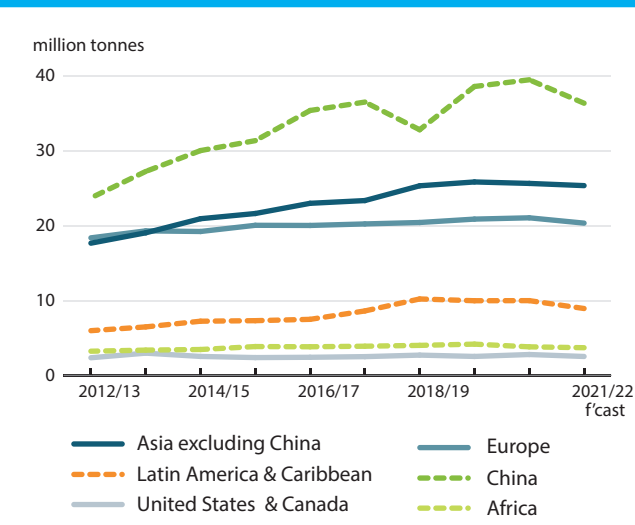
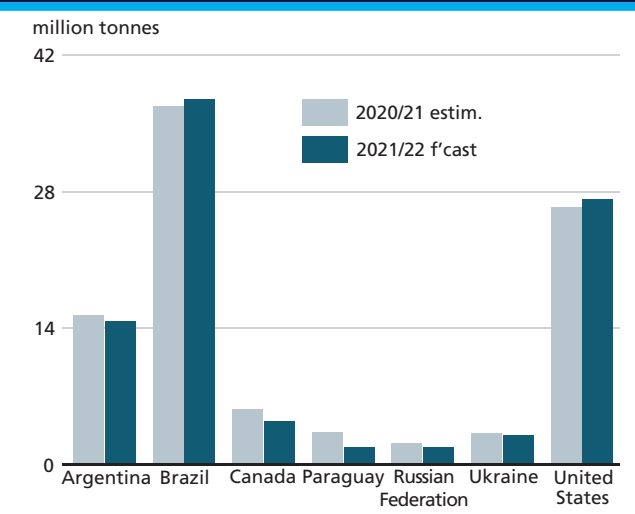


Figure 12. Meal/cake exports by major exporters (in protein equivalent and including the meal contained in seed exports)



On the import side, the anticipated drop in global trade is likely to primarily come from **China**, mainly linked to subdued domestic demand from the hog sector. In addition, purchases by the **EU** and several Southeast Asian importing countries are also expected to contract, as a result of the rising world prices amid tightening global supplies.

As for exports, shipments from **Argentina** and **Canada** are forecast to drop due to lower domestic production, while exports by **Ukraine** and the **Russian Federation** will also likely contract, limited by, respectively, logistical constraints due to the war and the implementation of export quotas. By contrast, **Brazil** and the **United States** are anticipated to increase

their exports year-on-year and, therefore, enlarge their market shares.

EARLY PRODUCTION OUTLOOK FOR 2022/23

With the 2021/22 season still ongoing, it is early to make concrete world supply and demand forecasts for 2022/23. At present, only limited information regarding the new crops is available for selected Northern Hemisphere countries, where sowing is currently under way. In the Southern Hemisphere, planting will only commence in the last quarter of 2022. With international oilseed prices hitting record highs, the total area planted could continue to expand, while yield levels are also expected to recover assuming normal growing conditions. As a result, global oilseed production in 2022/23 could possibly rebound to a new record high.

With regard to individual crops, global production of soybean, rapeseed, groundnut, cottonseed, palm kernel and copra could all increase year-on-year, whereas sunflower seed output could decline from the historical high seen in 2021/22. Global soybean production is forecast to increase to a record level in 2022/23. While area expansions are expected in the **United States**, amid attractive returns, and in **China**, thanks to supportive policy measures, a sharp rebound in productivity levels could underpin production gains in **Argentina**, **Brazil** and **Paraguay**. As for rapeseed, a recovery in global output could result from an anticipated production rebound in **Canada**, following pronounced losses in 2021/22, and larger harvests in **China**, **India** and the **EU**, largely driven by a further growth in plantings. **Australia**'s rapeseed production is likely to decline from an outstanding harvest gathered in the previous season, with yields assumed to revert to average levels. In the case of sunflower seed, global production is forecast to drop markedly year-on-year, primarily tied to expectations of a sharply lower output in **Ukraine**. While planting is anticipated to decline due to the protracted war that is affecting several major growing regions in the country, yields may also drop owing to insufficient inputs.

These highly tentative crop forecasts, together with prospects for a modest growth in palm oil output, could mean sizeable increases in the production of both vegetable oils and oilmeals. In the meantime, the global consumption of oilcrop products is also expected to resume growing moderately. With global oil and meal outputs anticipated to outpace their respective world consumption levels, a partial recovery in stock levels could be expected for both. Should such forecasts materialize, the global stocks-to-use ratios would recover somewhat

from the multiyear lows expected for 2021/22, albeit remaining below the average levels seen in recent years. As usual, this outlook remains subject to a number of uncertainties, including, but not limited to, weather conditions in key growing regions, the war in Ukraine,

developments related to the COVID-19 pandemic, national policy measures affecting global trade flows, developments in the energy markets, and the implementation of biodiesel admixture mandates.

SUGAR



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PRICES

International sugar prices remain high but begin to show signs of easing

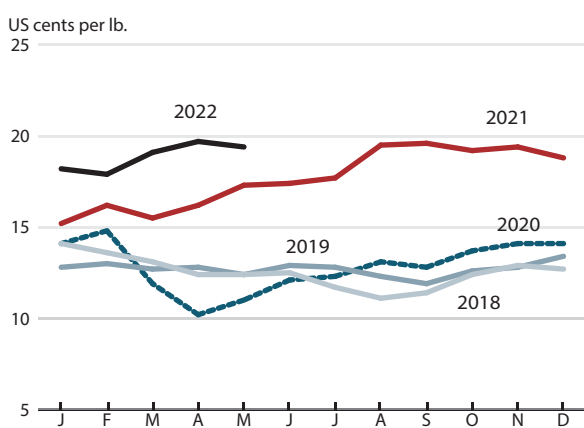
Since the release of the last issue of the Food Outlook report in November 2021, international sugar prices, as measured by the **International Sugar Agreement's daily prices** for raw sugar, have been relatively volatile. Quotations declined from US 19.4 cents per pound (USD 428.1 per tonne) in November 2021 to US 17.9 cents per pound (USD 393.8 per tonne) in February. After increasing in March and April, prices retreated again in May and

averaged US 19.4 cents per pound (USD 428.4 per tonne). Despite recent declines, however, world sugar prices remained more than 10 percent above the already high levels of May 2021.

Favourable production prospects in major exporting countries, notably India and Thailand, eased global supply concerns and exerted downward pressure on world sugar prices. The slowdown in the global economic recovery also weighed on prices, as the sector is sensitive to economic performance and most demand comes from the food and beverages industries. Despite a gradual appreciation of the United States dollar against the currencies of key sugar exporting countries since May 2021, the Brazilian real appreciated against the United States dollar in early 2022 and prevented more pronounced declines in world sugar prices. Although higher crude oil prices tend to support sugar prices by encouraging a greater use of sugarcane for ethanol production, in Brazil, the world's largest sugar producer, the increase was not fully transmitted to domestic prices.

The positive production outlook for the current season and early indications pointing to a further rebound in 2022/23, coupled with the projected contraction in the growth prospects of the global economy in 2022 and 2023, are likely to continue weighing on the sugar market. On the other hand, international sugar prices are largely influenced by movements in the Brazilian currency, which affect producer-selling decisions. In 2021 and early 2022, the Brazilian real appreciated against the US dollar,

Figure 1. International sugar prices*



* as measured by the International Sugar Agreement (ISA)

restraining exports and providing upward pressure on world sugar prices. In addition, an increase in ethanol prices in Brazil could divert more sugarcane into ethanol, although, current market conditions point to a higher profitability for millers when using sugarcane to produce sugar rather than ethanol.

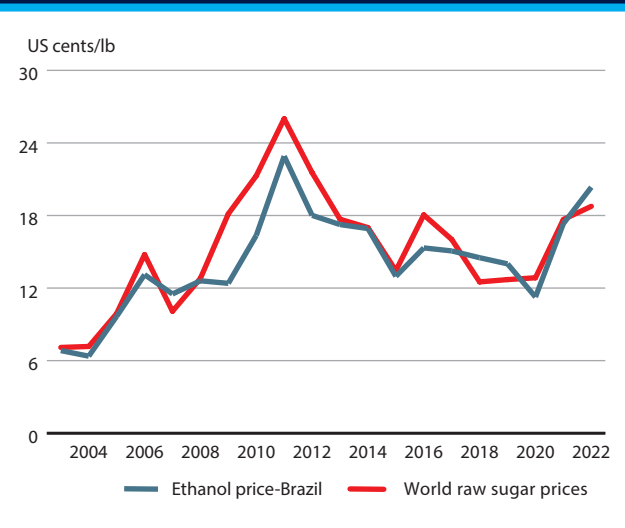
PRODUCTION

World sugar production seen recovering in 2021/22

World sugar production in 2021/22 (October/September) is forecast at 174.6 million tonnes, up 5.1 million tonnes, or 3 percent, from the reduced level of 2020/21 and slightly above the preliminary forecast in the last issue of the Food Outlook report in November 2021. The anticipated upturn reflects expectations of production increases in **India**, **Thailand** and the **European Union**, more than offsetting significant declines foreseen in **Brazil** and **China**.

In *South America*, the latest indications point to a production decline in 2021/22, mainly due to reduced output in **Brazil**, the world's largest producer and exporter of sugar. Unfavourable weather conditions and a shift to more profitable crops, particularly soybeans, triggered the decline in output. Production is forecast to fall to 34 million tonnes, 12 percent down from 2020/21. However, Brazil's sugar output is also influenced by changes in the ethanol parity price – the price of raw sugar below which it becomes more profitable to produce ethanol instead of sugar. Based on current market conditions, the estimated parity price of US 15.1 cents per pound is below the current level of international raw sugar prices, indicating a higher profitability of producing sugar

Figure 3. World sugar prices and Brazil ethanol prices, in raw sugar equivalent



compared to ethanol. In the key producing area of São Paulo, from October 2021 to April 2022, 43 percent of the sugarcane harvest was used to produce sugar, the highest share recorded during the corresponding period in most recent years. The higher profitability of producing sugar should contribute to preventing a larger decline in sugar output. Elsewhere in *South America*, sugar production is also anticipated to decline in **Argentina**, while it is expected to remain relatively stable in **Colombia**, the region's second largest producer.

In *Central America and the Caribbean*, 2021/22 sugar production in **Mexico** is forecast to increase for the second consecutive season, after the drought-reduced crop in 2019/20, due to improved crop yields. Similarly, in **Guatemala**, sugar output is expected to expand as a result

Figure 2. World sugar production by region

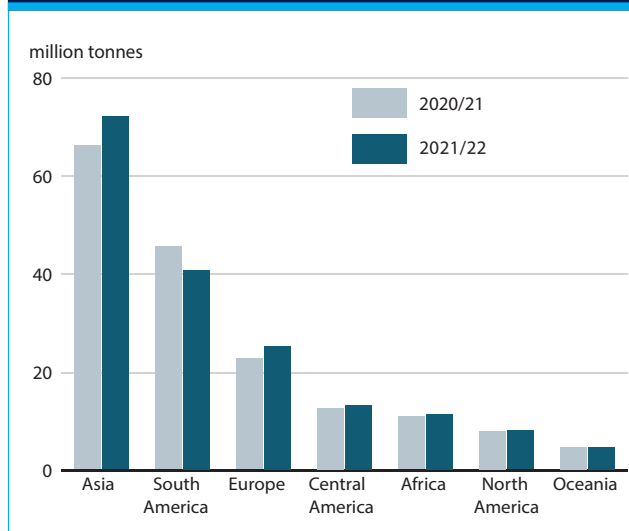


Figure 4. Sugar production in major producing countries

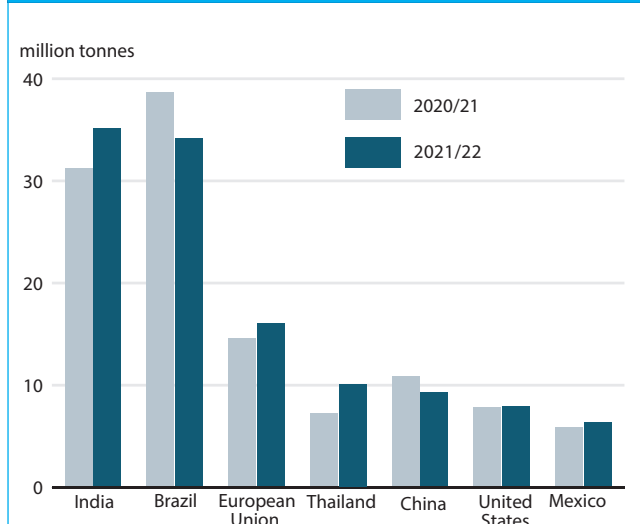


Table 1. World sugar market at a glance

	2019/20	2020/21 <i>estim.</i>	2021/22 <i>f'cast</i>	Change: 2021/22 over 2020/21
	<i>million tonnes</i>			<i>%</i>
WORLD BALANCE				
Production	171.0	169.5	174.6	3.01
Trade	62.2	60.1	59.0	-1.75
Total utilization	164.9	170.5	172.8	1.33
Ending stocks	104.5	103.6	105.3	1.69
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/yr)	21.4	21.9	22.0	0.27
LIFDC (kg/yr)	12.2	13.0	13.1	0.38
World stocks-to-use ratio (%)	63.4	60.8	61.0	0.35
ISA DAILY PRICE AVERAGE (US cents/lb)				
	2020	2021	2022 <i>Jan-May</i>	Change: Jan-May 2022 over Jan-May 2021 <i>%</i>
	12.85	17.67	18.84	17.21

of good weather conditions combined with the use of high-yielding sugarcane varieties. In **Cuba**, input shortages and logistical constraints are expected to negatively affect sugar production for the second consecutive year.

In *Africa*, total sugar production for 2021/22 is set to rise, mainly because of a bumper crop forecast in **Egypt**, the continent's largest producer. The increase is mostly due to expected larger plantings of sugarbeet, supported by good procurement prices and government investments in the sector. An increase in outturn is also expected in **South Africa**, the region's second largest producer, but this is pending an assessment of the crop damage caused by severe flooding in the key sugar-growing province of KwaZulu-Natal in mid-April.

In *Asia*, total sugar production is forecast to increase for the second consecutive season in 2021/22. Most of the increase stems from a bumper crop foreseen in **India**, while output is set to recover in **Thailand**. By contrast, a significant reduction is anticipated in **China**, due to unfavourable weather conditions and the shift to more profitable crops, notably maize. In **India**, the world's second largest sugar producer, production is forecast to reach a record high of 35 million tonnes, 13 percent above its level in 2020/21. This is the result of higher crop yields as well as greater sugar recovery rates due to the use of better seed varieties and timely application of fertilizers, together with conducive weather conditions. In addition, the Fair and

Remunerative Price¹ of sugarcane payable by sugar mills for the 2021/22 season was increased by 1.8 percent on an annual basis. In **Thailand**, the 2021/22 sugar output is set to rebound following two consecutive years of drought-reduced outputs, mainly on account of a recovery in crop yields due to good weather conditions. Output is also set to expand in **Pakistan**, as a result of larger plantings spurred by remunerative prices, and in **Indonesia**, as a result of good weather conditions and a slight expansion in area. By contrast, 2021/2022 production in **Türkiye** is anticipated to decrease from the bumper crop of last year due to a contraction in area and dry weather conditions.

In *Europe*, the latest forecast points to a production recovery from the near 20-percent fall recorded last year, mainly mirroring a rebound in the **European Union**. Latest official estimates for the **European Union** indicate a more than 10 percent increase in sugar output in 2021/22 after three years of falling production. The increase is underpinned by a sharp rebound in sugar beet yields in **France**, which suffered widespread damage from the Beet Yellow Virus (BYV) in 2020/21, combined with a slight increase in area. In the **United Kingdom of Great Britain and Northern Ireland (United Kingdom)**, production in 2021/22 is anticipated to increase after last year's drop, on account of expansion in plantings and a return to average yields. In the **Russian Federation**, production in 2021/22 is expected to partially recover from the sharp decline in 2020/21, following a growth in plantings and an increase in the average beet yield. Similarly, sugar production in **Ukraine** is set to increase for the first time in the past three years as a result of both higher plantings and crop yields, with the 2021/22 sugarbeet harvest completed late last year. Despite the difficult conditions in the country due to the war, planting of the 2022/23 crops is progressing across most regions, however, total area is expected to be lower than in 2021/22. As of late May 2022, approximately 182 thousand hectares of sugarbeet were sown, nearly 90 percent of the planned area and about 20 percent down the area sown in the corresponding period last year.

In the *rest of the world*, production in the **United States of America (the United States)** is forecast to grow for the second consecutive year, with an increase in sugarbeet output, stemming from higher yields, which more than offset a decline in the sugarcane outturn. In **Australia**, the 2021/22 sugar production is anticipated to remain stable year-on-year at 4.3 million tonnes.

¹ The Fair and Remunerative Price or FRP is the price declared by the government, which sugar mills and factories are required to pay to sugarcane farmers.

UTILIZATION

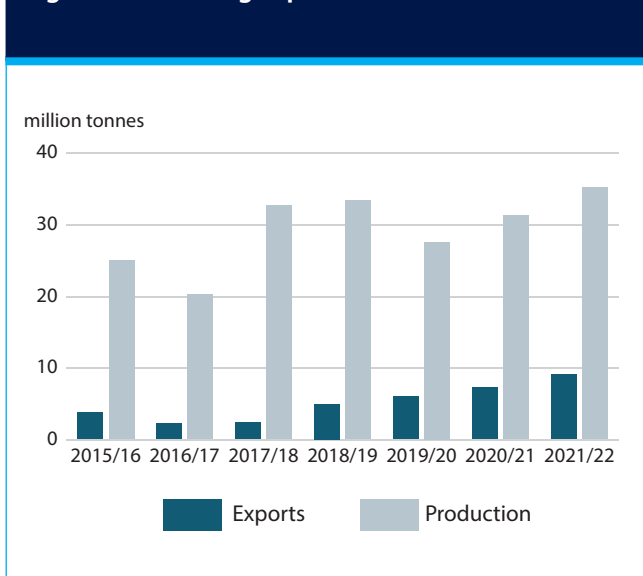
Consumption rebound in 2021/22 revised lower

Global sugar consumption is forecast to reach 172.8 million tonnes in 2021/22, up 2.3 million tonnes or 1.3 percent from 2020/21. Although consumption is set to rebound for a second successive season in 2021/22, the growth is below the level predicted previously in November 2021. This, combined with a slight upward revision to global production, is forecast to result in a global sugar production surplus of 1.8 million tonnes in the current season. The downward revision in utilization mostly reflects the significant slowdown in global growth forecast in 2022, with the economic impacts of the war in Ukraine adding to the economic strains from the pandemic. According to the World Economic Outlook of the International Monetary Fund (IMF), growth in the global economy in 2022 is projected to slow from an estimated 4.9 percent in October to 3.6 percent in April 2022, which is 2.5 percentage points lower than in 2021. Economic growth has an effect on the derived demand for sugar, as the beverage and food processing sectors – which account for the bulk of aggregate sugar use – are positively influenced by favourable economic conditions.

India, the world's largest sugar consumer, and African countries are expected to drive the global increase in sugar consumption in 2021/22. In **China**, the world's second largest sugar consumer, a slowdown in economic growth, associated with new COVID-19-related containment measures and high sugar prices, could curb consumption in 2021/22. A significant downward revision to consumption in 2021/22 was also made for Europe due to the sharp year-on-year contraction anticipated in **Ukraine** and the

Russian Federation because of the ongoing war. Overall, current high sugar prices are expected to limit further increases in sugar consumption in 2021/22. In **Brazil**, despite some weakening in early 2022, the domestic prices of sugar in April 2022 were 40 percent higher than a year ago after sharp increases in the second half of 2021. In the **European Union**, the average prices of sugar in the first quarter of 2022 were more than 10 percent higher than those registered in the corresponding period last year. Similarly, in the **United States**, domestic prices of refined sugar in April 2022 were 15 percent higher on a yearly basis. Given current prospects, global per capita sugar consumption is estimated at 22.0 kg, only 0.3 percent above the 2020/21 level.

Several elements of uncertainty further characterize the prospects for sugar consumption. Current forecasts depend on the future developments of the war in Ukraine and related escalation of sanctions on the Russian Federation, which could further deteriorate the global economic outlook. In addition, despite a general improvement in the epidemiological situation, the emergence of new COVID-19 variants, combined with new containment measures, may dampen global growth prospects. This is the case in China, where new movement restrictions were recently imposed following a surge in daily infections from the Omicron COVID-19 variant. The extent of overall global recovery also depends on the policy actions implemented at country levels to safeguard economic growth and to contain the surge in global inflation. Changes in crude oil prices, a key element for the profitability of sugar crop-based ethanol production, remain a major source of uncertainty for the sector, with possible impact on sugar availability for consumption. Finally, developments in world and domestic sugar prices, combined with movements in the value of currencies with respect to the United States dollar, will be key drivers to monitor, given their effects on the level of sugar consumption.

Figure 5. India sugar production and trade

TRADE

World sugar trade to contract slightly in 2021/22

FAO's forecast for world trade in sugar in 2021/22 (October/September) is currently pegged at 59.0 million tonnes, 2 percent down from the previous season. The anticipated contraction is the result of reduced exportable supplies in key exporter **Brazil**, anticipated to more than offset foreseen greater shipments from **India** and **Thailand**.

Brazil's exports in 2021/22 are forecast to decline by around 20 percent from the previous season's record high, reflecting the expected significant decline in production.

However, the country is seen to remain the world's largest sugar exporter, accounting for over 40 percent of world exports in 2021/22. The bulk of Brazilian sugar sales is in raw form, which in the current season have been shipped mainly to **China, Algeria, Nigeria, Morocco and Bangladesh**. The final volume of Brazilian exports will depend on the quantity of sugarcane that is processed into ethanol, with current market conditions pointing to a higher profitability of producing sugar. In addition, currency movements will affect producer selling decisions. The Brazilian real appreciated in the first months of 2022, and any further appreciation against the United States dollar could affect the country's competitiveness in the world sugar export market.

Following a rebound in production, **Thailand's** exports are forecast to recover in 2021/22 after a sharp decline in the past two seasons and to more than double on a yearly basis. Nevertheless, the country is expected to remain the third largest sugar exporter in the world, after Brazil and India. Over 60 percent of Thailand's exports are expected to be shipped in raw form to neighbouring countries, including **Indonesia, South Korea, Cambodia and China**. **India** is set to remain the world's second largest sugar exporter for the second consecutive season, with sales likely reaching 9 million tonnes in 2021/22. Large exportable supplies are the result of abundant domestic availabilities, prompted by relatively profitable returns, despite the government's decision to discontinue the export subsidy scheme for the current season, as well as logistical constraints, including high freight rates and container shortages.

Exports from **Australia**, the world's fourth largest raw sugar exporter, are forecast to increase to 3.6 million tonnes in 2021/22. Over 80 percent of the sugar produced in Australia is exported, mostly in raw form. Australia's traditional markets are **South Korea, Indonesia and Japan**, although in the current season, large volumes are also being exported to **Bangladesh and Singapore**. Exports by **Guatemala and Mexico**, the second and third largest sugar exporters in *Latin America and the Caribbean*, are expected to rebound significantly in 2021/22, reflecting larger domestic availabilities. Exports by the **European Union** are likely to increase by 15 percent year-on-year after declining in the past two seasons.

On the import side, purchases by *Asian* countries are forecast to decrease in 2021/22 by nearly 2 percent year-on-year mainly reflecting lower imports by **China**. Subdued demand amid high import costs and COVID-19-related import restrictions are anticipated to reduce purchases. In the first six months of the season, imports were nearly 30 percent below the volume imported during the corresponding period in 2020/21. Nevertheless, **China**

is expected to maintain its position as the world's largest sugar importer, followed by **Indonesia**, where imports are forecast to be broadly unchanged year-on-year, with higher domestic production meeting the growing domestic demand.

In *Europe*, imports by the **European Union** are forecast to exceed those of the previous season, on the back of higher demand, with Everything-but-Arms and Economic Partnership Agreement countries as the main import origins, followed by **Brazil**. Similarly, imports by the **United Kingdom** are expected to be larger than in the previous year. By contrast, imports by the **Russian Federation and Ukraine** are expected to decline markedly on a yearly

Figure 6. World sugar exports by region

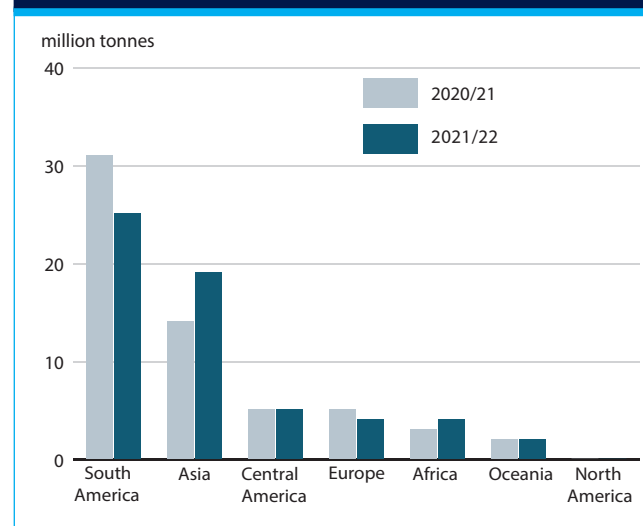
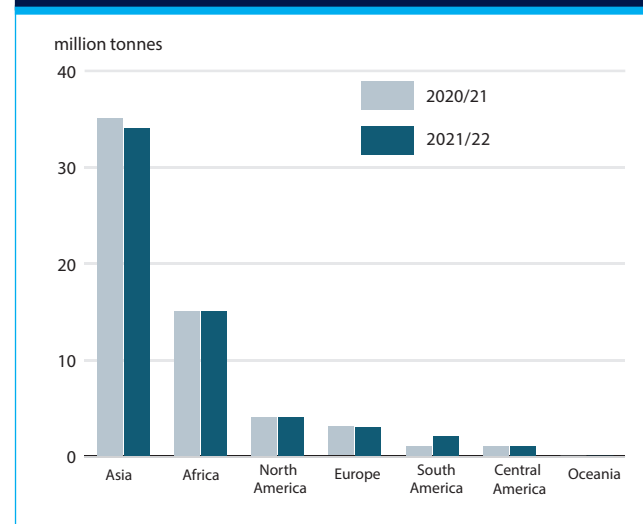


Figure 7. World sugar imports by region



basis, reflecting the drop in demand due to the war, higher domestic production and logistical constraints.

In the *rest of the world*, imports by the **United States** are set to decline for the second consecutive year, while

imports by *African* countries are expected to continue to expand, driven by strong internal demand due to population and income growth.

MEAT AND MEAT PRODUCTS



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PRICES

Tight supplies from leading exporters strengthen international meat prices

Following nearly uninterrupted increases since October 2020, international meat prices¹ jumped to an all-time high in May 2022, lifting the index 13.6 percent above its value in May 2021. Tight export supplies from leading exporting countries stemmed from the challenging production environment were mainly behind this steep price increase. The bovine meat price sub-index reached an all-time high in April 2022, reflecting exceptionally tight slaughter cattle supplies in South America due to low inventories and significantly high herd rebuilding demand in Oceania. Meanwhile, poultry meat producers in leading exporting countries confronted sharply rising feed prices and dim growth prospects, mainly stemming from outbreaks of the Highly Pathogenic Avian Influenza (HPAI), including in parts of Asia, Europe and North America. Disruptions to poultry meat exports from Ukraine following the outbreak of the war in late February 2022 added more uncertainty to meat markets.

International pig meat prices also rose significantly, as African swine fever (ASF) outbreaks continued to constrain output growth in several leading exporting countries, including the European Union. In addition, squeezed profit margins due to increased animal feed prices led farmers

¹ As measured by the FAO Food Price Index.

Figure 1. FAO monthly meat price index (2014-2016 = 100)

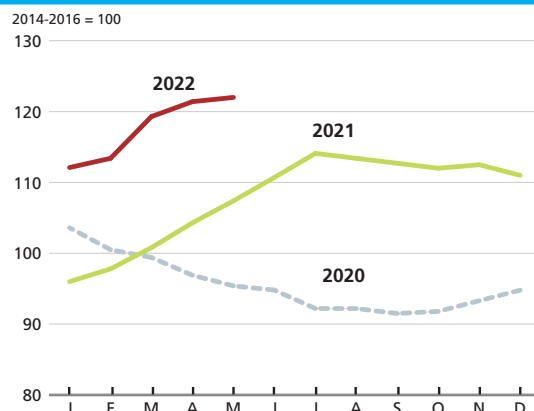


Figure 2. FAO monthly international price indices for bovine, ovine, pig and poultry meats (2014-2016 = 100)

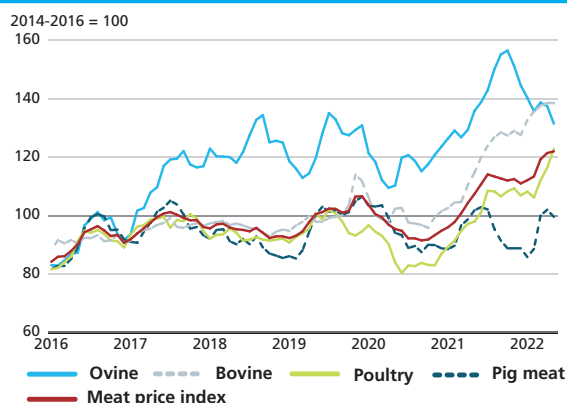


Table 1. World meat market at a glance

	2020	2021 <i>estim.</i>	2022 <i>f'cast</i>	Change: 2022 over 2021
	<i>million tonnes (carcass weight equivalent)</i>			<i>%</i>
WORLD BALANCE				
Production	340.3	355.5	360.5	1.4
Bovine meat	72.0	72.5	73.2	1.0
Poultry meat	136.0	137.8	138.8	0.8
Pig meat	109.8	122.5	125.6	2.5
Ovine meat	16.1	16.4	16.6	1.0
Trade	41.7	42.1	42.3	0.5
Bovine meat	11.7	12.1	12.4	2.7
Poultry meat	15.5	15.8	16.2	2.1
Pig meat	13.0	12.7	12.2	-4.0
Ovine meat	1.1	1.1	1.1	5.1
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/year)	43.4	44.9	45.1	0.4
Trade - share of prod. (%)	12.3	11.8	11.7	-0.9
FAO MEAT PRICE INDEX (2014-2016=100)	2020	2021	2022 <i>Jan-May</i>	Change: Jan-May 2022 over Jan-May 2021 %
	96	108	118	16.2

in several large producing countries to reduce production. By contrast, China's hog stocks and pig meat production continued to expand, leading to a faster-than-anticipated recovery in pig meat production, easing supply tightness and lowering domestic pig meat prices. Similarly, ovine meat exports from Oceania, the world's largest exporter, remained limited due to buoyant flock rebuilding demand. Increased input costs, mainly for feed and energy, logistical hurdles and freight costs discouraged meat producers in many countries.

On the demand side, China remained the largest meat importer globally, accounting for nearly a quarter of global total meat imports, despite a recent decline in pig meat imports. Reflecting higher sales in the hospitality, restaurant and institutional (HRI) sector, owing to increasingly relaxed COVID-19-related restrictions, meat imports rose in several leading meat importing countries.

OVERALL PRODUCTION AND TRADE

World meat output to expand moderately in 2022

Global meat production is forecast to reach 361 million tonnes (carcass weight equivalent) in 2022, expanding by 1.4 percent, albeit at a slower pace than the 4.5 percent growth in 2021. The expansion is driven mainly by a steep growth in meat output in **China** and notable increases in **Brazil, Australia** and **Viet Nam**, foreseen to be partly offset by anticipated declines in the **European Union**, the **United States of America** (the **United States**), **Canada**, the **Islamic Republic of Iran** and **Argentina**. Concerning meat categories, pig meat production is expected to register the highest volume gain, followed by poultry, bovine, and ovine meats.

In **China**, overall meat production is forecast to expand by 4.4 percent to around 96 million tonnes. This expansion is foreseen to be driven mainly by an anticipated 8-percent growth in pig meat output, to 58 million tonnes, on account of a fast-paced rise in the hog inventory, exceeding the volume that existed before the widespread ASF outbreak in 2018. **Brazil's** total meat output is forecast to expand by 3.3 percent to 30.6 million tonnes, underpinned by anticipated steep production gains in poultry meat, benefiting from an expected increase in global demand and, in bovine meat, due to increased cattle supplies and carcass weight. In **Australia**, bovine meat production is heading for recovery due to cattle availability at competitive prices, following a significantly high supply of cattle following the recent herd-rebuilding phase, supported by the dissipation of labour shortages in abattoirs and processing plants. Ovine meat production in Australia is also projected to expand, reflecting a recovery in sheep/goat stock following a flock-rebuilding phase. In **Viet Nam**, much of the expansion in meat output is anticipated to originate in the pig meat sector, driven by a recovery in hog inventory following the introduction of biosafety measures against the ASF virus.

In the **European Union**, pig meat output is projected to decline due to ASF outbreaks, rising input costs and disease-related export constraints. Bovine meat production is expected to decrease due to the limited availability of slaughter cattle. Rising input costs could lead to profit margin squeezes in the pig and bovine meat sectors, leading to some contractions in total meat output in the **United States** and **Canada**. Similarly, rising feed prices and their shortages are likely to reduce poultry meat production in the **Islamic Republic of Iran**. By contrast, the limited availability of slaughter cattle, amid herd inventory declines and rising production costs, is responsible for the foreseen output contractions in most countries, including **Argentina**.

Figure 3. FAO meat and feed price indices (2014-2016 = 100)

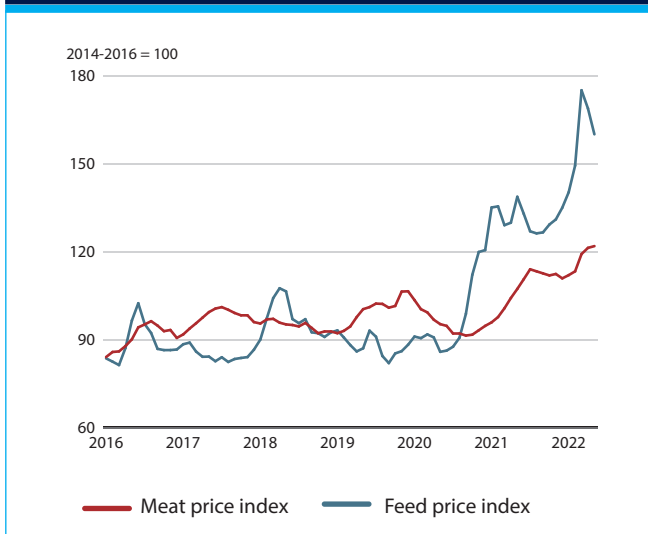
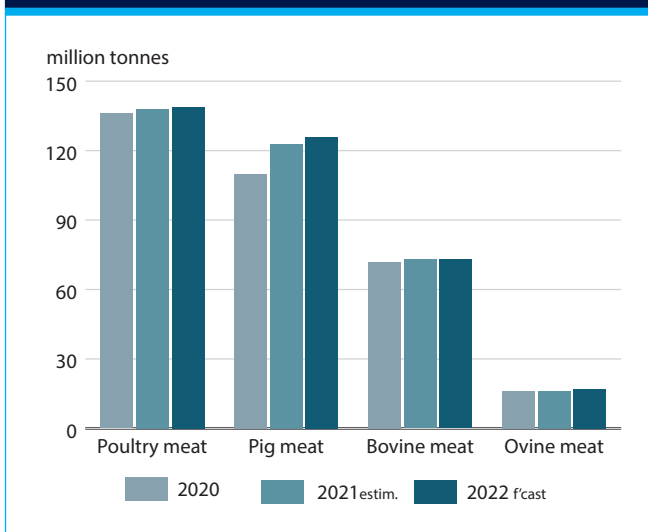


Figure 4. Global meat production by type



Global meat trade likely to grow marginally

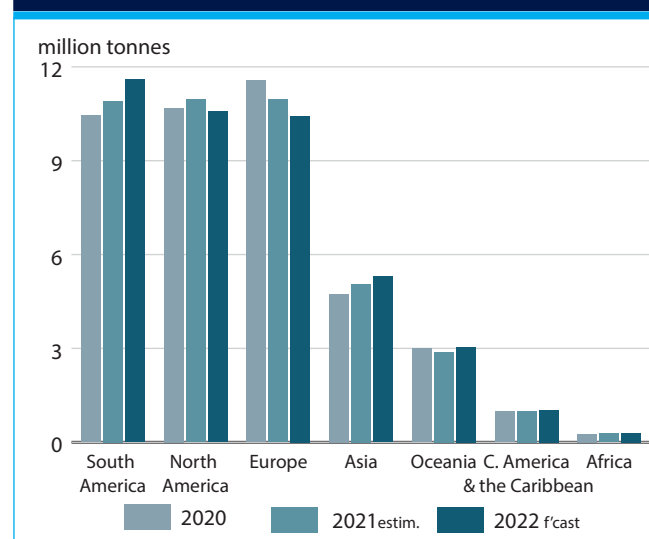
World trade in meat and meat products is forecast to reach 42 million tonnes (carcass weight equivalent) in 2022, expanding only slightly (+0.5 percent) from 2021 and registering the slowest pace of growth in the last seven years. Moderate import expansions anticipated in the **United States**, the **United Kingdom of Great Britain and Northern Ireland (the United Kingdom)**, the **Republic of Korea** and **Mexico** are likely to offset steep declines foreseen in **China**, the **Russian Federation**, **Saudi Arabia** and **Chile**.

Although forecast to remain at close to 10 million tonnes, total meat imports by **China** are projected to fall by 780 000 tonnes, or 7.4 percent, reflecting likely increases in the domestic availability of

bovine, ovine and pig meats and lower prices in domestic markets. In the **Russian Federation**, imports are expected to fall due to national production upturns in some sectors and a possible reduction in import demand amid the projected economic downturn, high inflation and depreciation of the national currency. In **Saudi Arabia**, poultry meat purchases will probably decline due to import restrictions imposed on several processing plants in exporting countries, only partially offset by expected growth in demand for bovine meat. By contrast, the **United States** is forecast to import 10 percent more meat products in 2022, compared to 2021, with bovine meat constituting the highest share, principally reflecting a lower level of national supply amid rising demand, especially in the restaurant sector. With a rebound in HRI sales and rising consumer demand, in some cases also prompted by better economic prospects, the **United Kingdom**, the **Republic of Korea** and **Mexico** are forecast to import more meat products in 2022.

On the export side, reflecting significantly low global import demand, coupled with reduced national availabilities, animal disease-induced import restrictions, less optimistic economic prospects, trade restrictions and disruptions to trade flows arising from the war in Ukraine, meat shipment volumes are forecast to fall significantly among several leading meat exporters, including **Ukraine**, the **United States**, the **European Union**, the **Russian Federation**, **New Zealand** and **Canada**.

Figure 5. Global meat trade by region



POULTRY MEAT

Production to grow at a slow pace

Global poultry meat output is forecast to reach 139 million tonnes in 2022, growing at a slow pace of 0.8 percent, as anticipated increases in the Americas, Asia, Africa and Oceania are likely to be offset by declines foreseen in Europe. At the country level, **Brazil**, the **Russian Federation**, **Türkiye**, the **United States** and **Mexico** are likely to register significant volume gains; however, these will be offset by anticipated declines in **China** and the **Islamic Republic of Iran**.

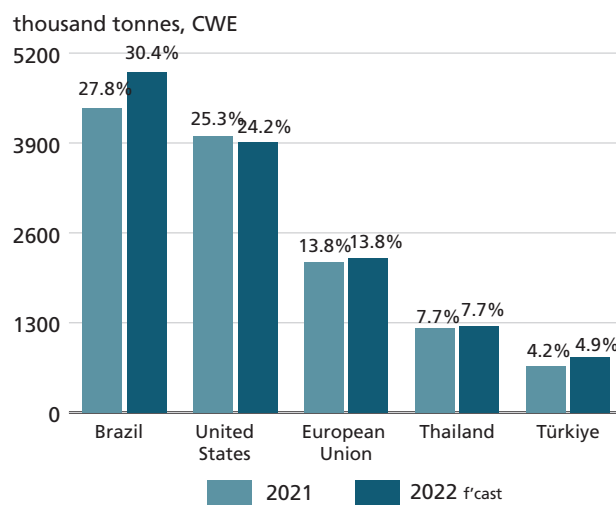
A surge is expected in the global demand for supplies of meat from **Brazil** due to disruptions to meat exports from Ukraine, coupled with constraints to exports from other leading meat producers, mostly stemming from HPAI outbreaks and squeezed profit margins. Poultry meat production in the **Russian Federation** is likely to rebound from a two-year contraction, helped by the increased availability of coarse grains. High foreign demand, especially from the Middle East, is expected to sustain production expansion in **Türkiye**. Poultry meat production in the **United States** is likely to be fractionally higher in 2022, reflecting a possible increase in production efficiency to counter high feed grain prices, moderate demand growth due to rising retail prices, and the impact of HPAI outbreaks. Despite rising prices, expected increases in HRI sales and food processing sector demand may spur **Mexico's** poultry meat production.

By contrast, **China's** poultry meat production is forecast to drop, given the high probability of consumers switching back to pig meat – the preferred meat option for many consumers – with the sector's ongoing production rebound. Meanwhile, shortages and high world prices of feed, and lower demand due to rising poultry meat prices, are likely to reduce output in the **Islamic Republic of Iran**.

Firm demand expected

Global poultry meat exports are forecast at 16.2 million tonnes, up 2.1 percent from 2021, driven by likely import expansions in Asia, which could be partially offset by a substantial drop foreseen in Europe. At the country level, the **United Kingdom**, **Iraq**, the **United Arab Emirates**, the **United States**, the **European Union**, **Kazakhstan**, and **China** are all expected to import more poultry meat in 2022 to meet growing domestic demand, mostly induced by rebounds in HRI activities and better economic prospects in some countries. By contrast, lower imports are forecast for the **Russian Federation**, due to a probable increase in national production, the recent depreciation of the national currency and rising poultry prices. Lower imports are also

Figure 6. Poultry meat exports by leading suppliers and their global market shares



expected for **Saudi Arabia**, reflecting import bans imposed on processing plants in several exporting countries and the loss of exports from Ukraine, following the Russian invasion, which could be only partially compensated by increased imports from Thailand, benefiting from the removal of an 18-years import ban, in March 2022.

Regarding exports, much of the increased demand is expected to be met by **Brazil**, **Türkiye**, the **European Union**, the **United Kingdom** and **Thailand**. **Brazil**, **Türkiye** and **Thailand** could benefit from the demand gap left by Ukraine's abrupt suspension of meat exports. Meanwhile, exports are likely to increase moderately from, as well as between, the **European Union** and the **United Kingdom**, benefiting from higher demand by some African countries and the possible relaxation of trade controls by the United Kingdom on imports from the European Union.

BOVINE MEAT

Growth among four large producers to sustain production expansion

World bovine meat production is forecast to expand by 1.0 percent in 2022, to 73 million tonnes, based on expectations of an expansion in Asia, South America, Oceania and Central America and the Caribbean, partly offset by contractions foreseen in Europe, North America, and Africa. High production gains are anticipated in **Brazil**, **Australia**, **China** and **India**, while contractions are likely in the **European Union**, the **United States**, **Canada**, **Argentina** and **New Zealand**.

In **Brazil**, an increase in cattle supplies and carcass weight, mainly in feedlots, is likely to result in higher output, especially on farms that use improved genetics

and animal feed. However, the ongoing drought and rising input costs could reduce profit margins and limit production growth. **Australia's** bovine meat production is increasing due to greater cattle availability at competitive prices, following a herd-rebuilding phase, and further supported by the dissipation of labour shortages in abattoirs and processing plants. In **China**, bovine meat production is on the rise, driven by increased slaughter weight, mainly on large-scale farms with intensive feeding and the increased availability of slaughter cattle. Robust growth in cattle numbers and carcass weight, especially in new breed varieties, and growing global demand should lift carabeef² meat output in **India**.

By contrast, the limited availability of slaughter cattle, amid herd inventory declines, and rising production costs are responsible for output contractions foreseen in many countries, including the **European Union**, the **United States**, **Canada**, **Argentina** and **New Zealand**.

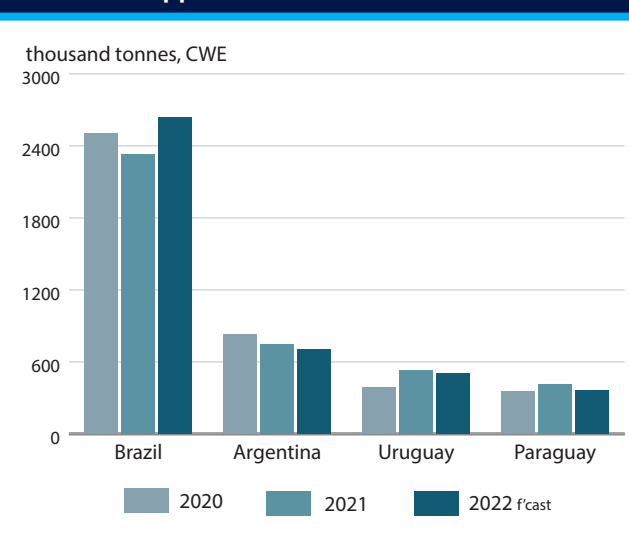
Robust import demand expected

World bovine meat exports are forecast at 12.4 million tonnes, up 2.7 percent year-on-year. A significant import expansion is expected in Asia and North America, which will likely be partially offset by a lower level of imports anticipated in Europe. At the country level, bovine meat imports are likely to rise in **China**, the **United States**, the **United Kingdom**, **Viet Nam** and **Malaysia**, but will possibly fall in the **Russian Federation**, **Chile** and **Japan**.

Demand for bovine meat is growing in **China**, mainly among middle-class consumers, sustaining import expansion, although the pace of import growth is likely to be contained this year due to a less than optimistic projected economic outlook. The anticipated contraction in production amid rising demand, especially in the restaurant sector, is likely to spur bovine meat import demand in the **United States** and the **United Kingdom**. Recovering food services sales and rising consumer spending may boost imports by **Viet Nam** and **Malaysia**. By contrast, bovine meat imports may fall in the **Russian Federation** due to the depreciation of the country's currency, and in **Chile**, on rising domestic production. Meanwhile, an anticipated recovery of HRI sales notwithstanding, reduced demand due to high retail prices and a shift to cheaper meats may slightly reduce **Japan's** bovine meat imports.

Bovine meat exports by **Brazil**, **Australia**, **India**, **Mexico**, the **European Union** and the **United Kingdom** are expected to increase, whereas contractions are likely in **Paraguay**, **Argentina**, the **United States**, **New Zealand**, **Uruguay** and **Canada**. Greater availability and high international prices will

Figure 7. Bovine meat exports by leading South American suppliers



likely lift exports from **Brazil** and **Australia**. **India's** gaining market share in some countries in the Middle East and North Africa (MENA) region and East Asia should prompt higher shipments. Rising bovine meat production, mainly in feedlots, and somewhat muted domestic demand growth due to soaring prices may lead to larger shipments from **Mexico**. The **United Kingdom** also may increase shipments, mainly to the European Union, as trade relations improve.

By contrast, exports from the **United States** are forecast to contract, caused by lower production and strong domestic demand. Meanwhile, bovine meat exports from **New Zealand** are likely to fall from the 2021 record level due to multiple challenges, especially labour shortages, and in **Paraguay**, **Argentina** and **Uruguay** due to tight cattle supplies. **Canada's** bovine meat exports may drop due to farm margin squeezes, decreasing feedlot supplies.

PIG MEAT

Output in China to exceed pre-ASF volumes

Following an 11.5 percent growth in 2021, global pig meat production is forecast to expand by 2.5 percent in 2022 to 125.6 million tonnes. The expansion is likely to be concentrated in Asia, but moderate increases are also likely in South America and Central America and the Caribbean. By contrast, output contractions are predicted in Europe and North America. The largest volume gain is expected in **China**, with slight increases foreseen in **Viet Nam**, **Brazil**, and **Mexico**, partially offset by substantial drops anticipated in the **European Union**, **Thailand**, the **United States**, **Ukraine** and **Canada**.

Pig meat production in **China** is forecast to expand by nearly 8 percent to 58 million tonnes, exceeding

² Meat derived from water buffaloes.

production levels before the widespread ASF outbreaks. Despite sporadic outbreaks, nominal output growth is likely in **Viet Nam**, facilitated by rising hog inventories, following years of effort to bring ASF under control. High internal and foreign demand sustain production expansions in **Brazil**, notwithstanding elevated production costs, which have negatively impacted the operating margins of many farms. Increased import demand and growing domestic consumption, driven by population growth and increased affordability of pig meat, have helped **Mexico** to increase its pig meat production, complemented by supply chain development with the United States.

By contrast, margin squeezes due to high feed prices have led to the slaughter of younger pigs in the **European Union**, resulting in lower carcass weight and output. ASF outbreaks in **Thailand** have caused hog stocks to shrink and farm-gate prices to fall, turning the production outlook negative. In the **United States**, low initial hog inventories and likely reduction in farrowing amid high feed prices could lead to tighter hog supplies in the remainder of the year, possibly lowering overall annual output. Pig meat production in **Ukraine** is forecast to decline by a minimum of 19 percent based on available information on the extent of damage to the farming infrastructure, labour shortages and lack of services due to the war. **Canada's** production is likely to decline due to a possible reduction in carcass weight, despite a moderate rise in slaughtering numbers.

Rising production to depress imports

Global pig meat exports are forecast at 12.2 million tonnes in 2022, down 4.0 percent from 2021. The decrease is mostly driven by anticipated lower imports by **China**, **Viet Nam** and **Chile** but is partially offset by higher purchases by the **United States**, the **United Kingdom**, the **Republic of Korea**, **Mexico**, **Japan**, the **Dominican Republic**, the **European Union** and the **Philippines**.

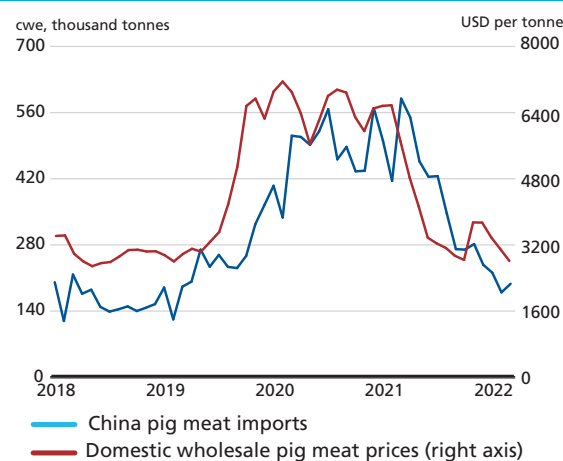
Abundant domestic supplies and low domestic prices have made it difficult for imported pig meat to compete with local products, reducing import purchases by **China**. In **Viet Nam**, the likely domestic production growth amid subdued demand may discourage imports, although total annual pig meat imports in 2022 could still be close to 220 000 tonnes. Due to rising local production, **Chile's** imports may fall by about 9 percent.

Underpinned by buoyant consumer demand and a probable decline in domestic production, the **United States** is expected to import more pig meat in 2022, primarily from Canada, the European Union and Mexico. Meanwhile, higher pig meat imports are forecast for the **Republic of Korea** on account of rising demand from the

food services sector, and for the **United Kingdom** due to decreased national production. Driven by population growth, affordability and a menu of various products that restaurants usually offer, pig meat consumption is rising in **Mexico**, further spurring imports, especially from the United States. Similarly, **Japan** may import more pig meat, prompted by a resurgence in food services sales and high bovine meat prices. Pig meat imports by the **Dominican Republic** may also rise due to the impact of recent ASF outbreaks on national production. Imports by the **Philippines** are forecast to increase by around 3 percent to 341 000 tonnes, given the slower-than-anticipated recovery of the domestic pig herd from the ASF virus.

With regard to exports, significant contractions are anticipated for the **European Union**, the **United States**, the **Russian Federation**, **Canada** and **Thailand**. The **European Union's** exports to some leading Asian destinations are foreseen down due to the non-recognition of official controls and eradication of animal diseases in regions (zones) affected when imposing import controls, except for China's recognition of zoning in France. Constricted domestic supplies and high prices are likely to limit pig meat exports from the **United States**. Exports from the **Russian Federation** are likely to fall, given production recoveries in some of the largest export destinations such as Viet Nam and possible logistical challenges.

Figure 8. China pig meat imports and domestic wholesale prices¹



¹ Data for 2022 reflect up to March
Source for wholesale prices: IHS Markit

OVINE MEAT

Growth prospects up

Global ovine meat output is forecast to expand by 1.0 percent in 2022 to around 17 million tonnes, with Asia and Oceania likely leading the expansion, while slight production contractions are anticipated in Europe, South America, and North America. At the national level, **Australia, Türkiye, China** and the **United Kingdom** are projected to increase production, while noticeable contractions are anticipated in the **Russian Federation, New Zealand** and the **European Union**.

Ovine meat production is increasing in **Australia**, reflecting a recovery of the national sheep/goat flock. A production expansion is expected to rise in **Türkiye** due to high slaughter rates, partly brought-on by elevated prices. Ovine meat production in **China** continues to increase, helped by the entry of small-scale farmers attracted by the high prices. Significantly high carry-over livestock from 2021, the entry of new season lambs and higher ewe kill, induced by rising feed costs and meat prices, could increase ovine meat production in the **United Kingdom**. By contrast, ovine meat production may fall in the **Russian Federation** due to a likely reduction in affordability. In **New Zealand**, production may decrease due to a possible drop in lamb flock. A decline in the sheep flock, coupled with higher slaughter of younger animals leading to lower carcass weight, may cause ovine meat output to fall in the **European Union**.

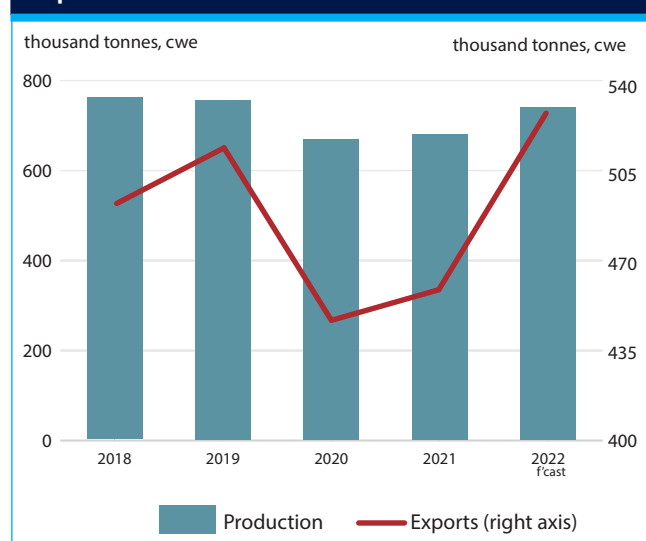
Trade to expand amid easing supplies

World exports of ovine meat are forecast to increase in 2022 by 5.1 percent to 1.1 million tonnes, with around 80 percent of the increase originating in Oceania. Nearly 70 percent of the projected expansion in exports is likely to be destined for Asia, followed by North America and Europe. This year's projected increase in trade reflects higher export availabilities from **Australia**, following flock rebuilding last year; the country is forecast to ship nearly 530 000 tonnes, 15.2 percent more than last year. High international prices and low global supplies will likely lead to slightly more shipments from the **United Kingdom, South Africa, Türkiye** and the **European Union**.

China is foreseen to purchase more ovine meat, mainly from Oceania, driven by the rapidly rising affluent population, rising incomes and urbanization, and increased food services sales. Expectations also point to substantially higher imports by the **United States, Malaysia**, and the **United Arab Emirates**. Following downturns in 2021, several other Middle Eastern

countries are expected to register import rebounds, reflecting the easing of supply constraints in Oceania.

Figure 9. Australia ovine meat production and exports



MILK AND MILK PRODUCTS



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PRICES

Tight export supplies continue to support international dairy product prices

Except for three months from June to August in 2021, international prices of dairy products have been on an upward trend since mid-2020, as global import demand tended to exceed export supplies from leading exporting countries. Reflecting these changes, the FAO Dairy Price Index reached an eight-year high in April 2022 but retreated by 3.5 percent in May 2022, underpinned by a decline in global buying interest on market uncertainties stemming from the continued lockdown in China.

Despite the latest decline in global buying interest, global dairy import demand was buoyant for most of the recent months, with the highest volume destined for Asian markets, mainly China. Milk powders and whey constituted the bulk of the imports by China, driven by increased demand from consumers and the pig meat industry (as feed for piglets) and a rebound in the food services sector. However, recent port disruptions in China due to the lockdowns related to the spread of the COVID-19 omicron variant led to a decrease in imports, especially whole milk powder (WMP), weighing on international prices. Besides China, dairy imports have been rising faster in countries with insufficient national production capacity to supply the type and quality of dairy products required by the hospitality industry, supporting international dairy prices.

Figure 1. FAO monthly dairy price index (2014-2016=100)

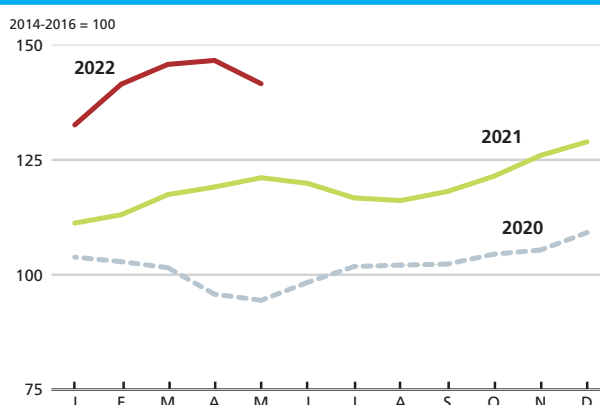


Figure 2. FAO monthly international price indices for butter, cheese, SMP and WMP (2014-2016=100)

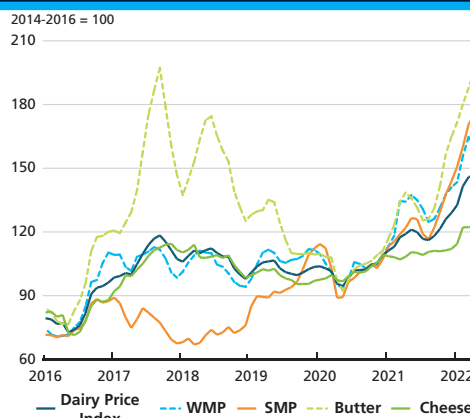


Table 1. World dairy market at a glance

	2020	2021 <i>estim.</i>	2022 <i>f'cast</i>	Change: 2022 over 2021
	<i>million tonnes, milk equiv.</i>			<i>%</i>
WORLD BALANCE				
Total milk production	915.5	927.8	937.3	1.0
Total trade	86.6	88.1	87.8	-0.4
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/year)	117.4	117.8	117.8	0.0
Trade - share of prod. (%)	9.5	9.5	9.4	-1.4
FAO DAIRY PRICE INDEX (2014-2016=100)				
	2020	2021	2022 <i>Jan-May</i>	Change: Jan-May 2022 over Jan-May 2021 <i>%</i>
	102	119	142	21.7

On the supply side, global dairy exports from leading exporters have been generally tight, reflecting lower milk deliveries in Western Europe and Oceania due to lower dairy cattle numbers, higher input costs, environmental regulations and labour shortages. Meanwhile, rebounds in food services sales in Western Europe increased the demand for dairy products, such as butter and cheese, further tightening export supplies. The deficit of sunflower oil and margarine – due to reduced supplies from Ukraine – also exerted upward pressure on international butter prices. Milk outputs are also tracked below historical seasonal levels in the United States of America (United States) and the United Kingdom of Great Britain and Northern Ireland (United Kingdom), reflecting the declines in dairy cattle numbers and producer margins, exacerbating global supply tightness.

MILK PRODUCTION

World milk output to expand, albeit at a slower pace

World milk production in 2022 is forecast to reach 937 million tonnes, rising by 1.0 percent year-on-year, which, if confirmed, would continue the slowdown in growth for the fifth consecutive year. This year's production expansion is expected to be driven by Asia, North America and Central America and the Caribbean, partially offset by predicted declines in Europe, South America and Oceania, while in Africa, the output is anticipated to remain broadly stable.

Milk output in *Asia* in 2022 is pegged at 411.3 million tonnes, up nearly 3 percent from 2021, with

much of the expansion seen originating in **India**, followed by **China** and **Pakistan**.¹ Milk production in **India** is forecast to expand by 3.2 percent to 217 million tonnes, driven by an expected increase in dairy herds, a moderate yield gain, and more efficient milk collection by dairy cooperatives. In **China**, milk output is expected to expand by 5.5 percent to 40 million tonnes in 2022, continuing the growth momentum that began with the launch of the national dairy revitalization strategy in 2018, sustained by rising efficiency across the entire dairy value chain. In **Pakistan**, increasing cattle numbers are expected to support milk output expansion, although shortages of feed and fodder, poor milk collection and processing continue to pose challenges to growth. Farm modernization, partly driven by government assistance, may spur milk output growth in **Uzbekistan, Kazakhstan, Japan** and **Viet Nam**. By contrast, milk output is anticipated to fall slightly in the **Republic of Korea** and the **Syrian Arab Republic**.

In *North America*, milk output is forecast at 112.7 million tonnes in 2022, a marginal increase year-on-year. The forecast reflects a marginal growth expected in the **United States**, as gains through yield improvements are likely to be partially counterbalanced by a possible rise in dairy cattle slaughter due to declining producer margins. Meanwhile, in **Canada**, an increase in milk prices, which was announced in November 2021, could potentially compensate for rising input costs, enabling milk output to expand moderately.

In *Central America and the Caribbean*, milk output is forecast at 19.0 million tonnes, up 1.6 percent year-on-year, reflecting an expected output increase in **Mexico**. Notwithstanding inflationary pressures, efforts to ensure high farmgate prices could mitigate the impacts of rising input costs, helping Mexico to sustain a production expansion. In **El Salvador** and the **Dominican Republic**, milk output may fall due to dry weather, causing pasture and fodder availability to deteriorate, while lower food crop incomes and reduced job opportunities could depress consumer purchasing power.

In *Europe*, following a 0.4 percent decline in 2021, milk output is forecast to fall by a further 0.5 percent in 2022, to 232.6 million tonnes, with significant contractions anticipated in **Ukraine** and the **United Kingdom**. However, these declines are expected to be partially compensated by modest but widespread output expansions, most notably in the **European Union**, the **Russian Federation** and **Belarus**. In the **European Union**, milk production is likely to remain largely stable

¹ Unless otherwise stated, countries are listed by the magnitude of the volume change.

in 2022, sustained by an anticipated milk yield increase, compensating for a probable decline in milk deliveries due to falling dairy herd numbers. In addition, rising feed, fertilizer and energy prices could decrease producer margins in the European Union, leading to increased culling of dairy cattle and reducing milk deliveries further. Milk output in the **Russian Federation** may expand, underpinned by high farmgate prices, state assistance and increased production on large-scale dairy farms. Farm management improvements, increased use of better-quality feed and solid demand from neighbouring countries, mainly the Russian Federation, may sustain production growth in **Belarus**. By contrast, reported farming infrastructure damages and disruptions to milk processing due to the war could reduce milk output by a minimum of 15 percent in **Ukraine**, lowering annual milk output to about 7 million tonnes. The shrinking dairy herd and rising input costs could reduce milk output in the **United Kingdom** by about 1 percent, to 15 million tonnes.

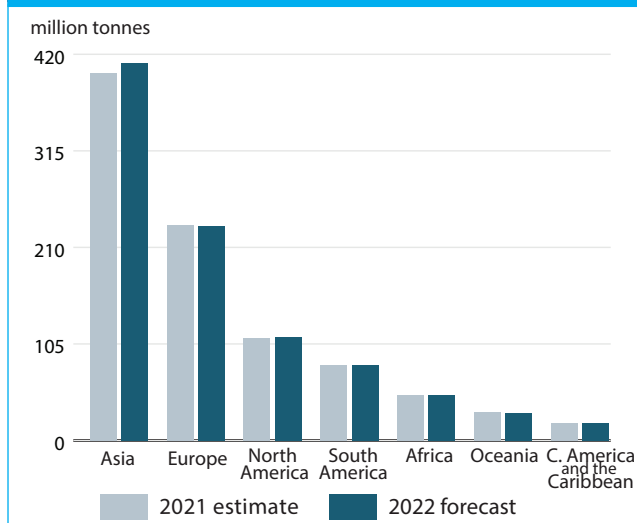
In *South America*, milk production is forecast to fall by 1.0 percent to 81.5 million tonnes, reflecting steep anticipated output drops in **Colombia, Brazil, and Argentina**; these could be moderated by likely expansions in **Uruguay and Peru**. Rising costs of feed, fertilizer and fuel are expected to present significant challenges in **Colombia, Brazil and Argentina**, where farmers may need to reduce their use of feed and, in some cases, resort to increased culling, reducing milk output. In addition, all southern cone countries experienced heat waves in late 2021 and early 2022, resulting in dry conditions and poor pasture quality, which has further lowered milk production potential in Brazil and Argentina. Despite parts of **Uruguay** and **Paraguay** also being affected by extreme heat waves this year, pasture conditions do not appear to have significantly deteriorated in these countries.

In *Oceania*, milk output is forecast at 30.5 million tonnes, down 1.5 percent year-on-year – the equivalent of 470 000 tonnes, reflecting likely output declines in **Australia and New Zealand**. Milk production in **Australia** continues to be constrained by the shrinking dairy herd and the shortage of skilled labour. In **New Zealand**, milk production is forecast to fall by 0.9 percent, following the recent trend of milk production tracking below its seasonal levels and the potential impact of rising feed and fertilizer prices on milk yields.

In *Africa*, milk output is forecast to reach 49.7 million tonnes in 2022, remaining largely stable, as anticipated increases in **Algeria, Egypt and South Africa** are likely to be offset by foreseen declines in **Kenya, Sudan, Niger, Ethiopia, Somalia, Uganda and Morocco**, among others. In **Algeria, Egypt and South**

Africa, milk output may benefit from likely increases in coarse grain harvests and increased fodder availability. By contrast, milk output could contract in **Niger** and parts of **Ethiopia, Somalia and Kenya** due to fodder shortages, and **Morocco, Sudan and Uganda** due to erratic rainfalls or widespread droughts. Conflicts continue to limit milk production growth in pastoral production systems in sub-Saharan Africa.

Figure 3. World milk production by region



INTERNATIONAL TRADE IN DAIRY PRODUCTS

Following a steep increase last year, the world dairy trade is expected to fall slightly in 2022

World trade in dairy products in 2022 is forecast at 88 million tonnes (milk equivalent), down 0.4 percent from a sharply elevated trading volume in 2021. The projected decline is attributable to expected lower imports by **Ukraine, Sri Lanka, the Russian Federation, Nigeria, Brazil and Viet Nam**, among others, due to conflicts, economic downturns and consumers' low purchasing power. However, these declines are forecast to be counterbalanced by increased purchases by **China** and, to a lesser extent, **Indonesia, Thailand and Mexico**, with recoveries anticipated for the **United Kingdom, Algeria, the Philippines, and Saudi Arabia**, primarily due to rising consumer demand, which tends to exceed growth in national production. In **China**, the world's largest dairy importer, imports are forecast to increase 1.2 percent to 20.9 million tonnes in 2022. However, this growth rate is much slower than the 22.2 percent registered in 2021, resulting

from weaker SMP and cheese demand, linked to the expected domestic milk production increase, economic growth slowdown, and lockdown-related disruptions of food services.

New Zealand and **Australia** are predicted to record the most significant declines in exports among the major exporters, reflecting tight export availabilities. Lower shipments are also likely from **Ukraine**, **Malaysia**, the **Russian Federation** and **Uruguay**. These declines will likely be compensated by anticipated higher shipments from the **European Union**, the **Islamic Republic of Iran**, **Türkiye**, the **United Kingdom** and **India**.

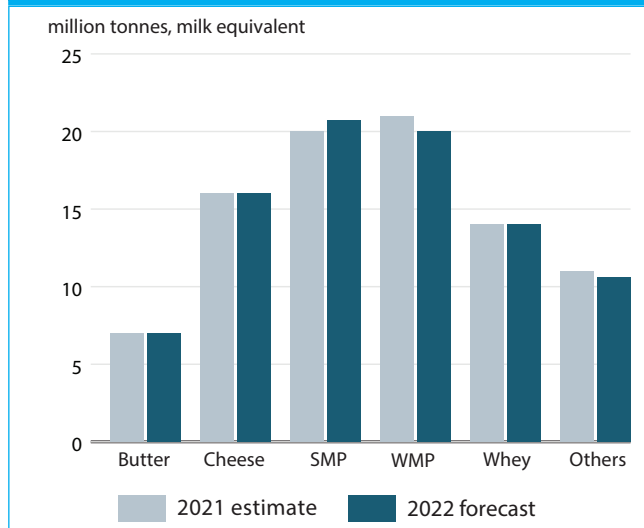
Across the major dairy products, international trade in WMP is forecast to contract, while those of SMP, cheese and whey powder are anticipated to expand. Meanwhile, global butter trade is likely to remain stable. With these changes, milk powders should account for nearly 47 percent of global trade (in milk equivalents), with cheese, whey and butter accounting for 18 percent, 16 percent and 8 percent, respectively.

Table 3. Trade in dairy products: Principal exporting countries

	Average 2018-20	2021 estim.	2022 f'cast	Change 2022 over 2021
<i>thousand tonnes (product weight)</i>				
WHOLE MILK POWDER				
World	2650	2757	2623	-4.9
New Zealand	1479	1617	1501	-7.2
European Union*	326	298	283	-5.0
Argentina	127	145	148	2.2
Uruguay	137	143	141	-1.2
SKIM MILK POWDER				
World	2572	2673	2730	2.1
United States	745	894	864	-3.3
European Union*	870	788	812	3.0
New Zealand	362	326	351	7.7
Australia	137	156	144	-8.0
BUTTER				
World	989	1019	1021	0.2
New Zealand	449	398	408	2.4
European Union*	228	262	263	0.1
Belarus	84	87	88	0.4
United States	36	58	55	-5.0
United Kingdom	-	52	50	-4.2
CHEESE				
World	2918	3525	3561	1.0
European Union*	1038	1385	1413	2.0
United States	356	407	421	3.4
New Zealand	328	358	352	-1.5
Belarus	243	298	299	0.3
United Kingdom	-	154	164	6.7

* From 2020 EU 27

Figure 4. Composition of global dairy exports



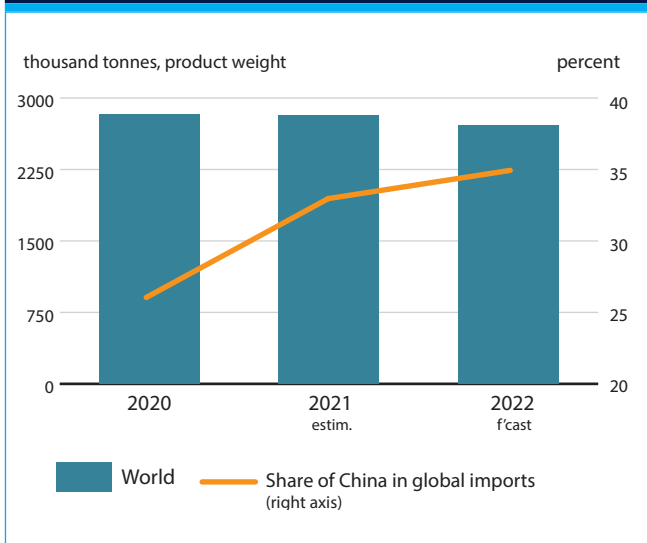
Whole milk powder

WMP trade to fall again in 2022

Global trade in WMP is forecast at 2.6 million tonnes in 2022, down by 4.9 percent from 2021; if confirmed, the downturn would occur for the second consecutive year. It reflects likely steep import curtailments by **Sri Lanka**, **Nigeria** and **Brazil**, caused by slower growth anticipated in the food services sector amid economic growth slowdowns, while inflationary pressure remains, eroding the purchasing power of consumers. By contrast, **China**, **Indonesia** and **Saudi Arabia**, among others, are likely to purchase more WMP. The world's largest WMP importer, **China**, is predicted to buy nearly 2 percent more WMP in 2022, lifting its total volume to 944 000 tonnes, or 35 percent of global imports. The bulk of Chinese imports is likely to be supplied by New Zealand, partly facilitated by the free trade agreement that came into force on 7 April 2022, which eliminated duties on most of New Zealand's dairy products. **Indonesia** and **Saudi Arabia** are also foreseen to import more WMP, reflecting high internal demand.

With the anticipated decline in global WMP trade, shipments from **New Zealand**, the **European Union** and **Uruguay**, among others, are forecast to fall. The decrease in **New Zealand** reflects tight milk production conditions in the country. In the **European Union**, the decline is due to the higher allocation of milk to other dairy products, mainly cheese, that have higher profit margins.

Figure 5. Global WMP imports and China import share



Skim milk powder

SMP trade to expand largely driven by Asian demand

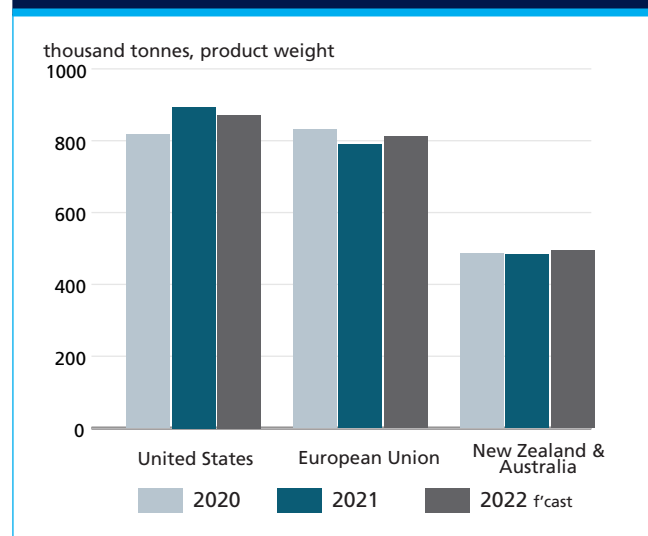
The global SMP market trade in 2022 is forecast at 2.7 million tonnes, up 2.1 percent from 2021, resulting from a possible increase in purchases by Asia, mainly by **Indonesia, Thailand** and the **Philippines**, partially counterbalanced by anticipated decreases in **China, Viet Nam, Yemen, Bangladesh** and the **Russian Federation**, among others.

SMP imports by **Indonesia, Thailand** and the **Philippines** are likely to expand amid rising consumer demand. **Algeria's** SMP imports are likely to recover after a slump in 2021. Limited domestic production, coupled with possible improvements to economic conditions and easing of COVID-19 restrictions, is anticipated to lift SMP imports by **Mexico** and **Egypt**. After a sharp rise in 2021, in **China**, SMP imports expect to decrease in 2022 by 3.3 percent, reflecting an ample supply availability from the past year and a slowdown in domestic demand due to higher import prices. Despite the import drop, China remains the largest SMP importer. In **Viet Nam** and **Bangladesh**, imports may decline in 2022 due to higher inflation, negatively affecting household expenditures. SMP imports by the **Russian Federation** are forecast to fall moderately in tandem with increasing domestic production.

Regarding exports, **New Zealand, the Islamic Republic of Iran, the European Union, and Türkiye** are expected to export more SMP due to likely increases in domestic production, given the profitability of allocating available milk to the butter-SMP production mix. By contrast, SMP exports from the **United States** and

Australia are forecast to decline from their high export levels in 2021 but remain above the historical trend levels.

Figure 6. Major global SMP exporters



Butter

Butter trade foreseen to increase slightly in 2022

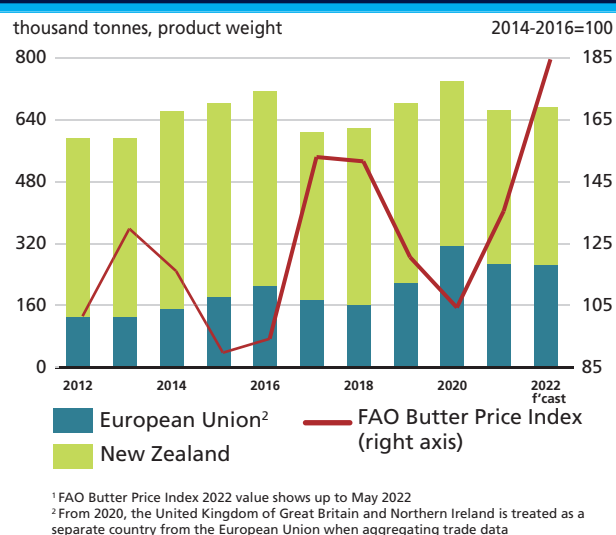
Global butter trade is forecast to increase marginally in 2022 to 1.0 million tonnes, driven primarily by anticipated higher exports from **New Zealand, Türkiye, India** and **Saudi Arabia**, offset by lower exports from **Ukraine, the United States** and the **United Kingdom**.

Butter exports from **Ukraine** may fall by nearly 50 percent, impacted heavily by the ongoing war. At the same time, shipments from the **United States** and the **United Kingdom** could fall significantly, mainly on limited milk production growth coupled with likely increases in internal demand. Notwithstanding milk production tracking below their seasonal averages, butter exports are forecast to expand in **New Zealand**, while those of the **European Union** remain chiefly stable, as processors allocate the available milk to produce the butter/SMP mix. Taking advantage of the tight supply situation and the sudden stop to exports from Ukraine, some countries with the capacity to increase production within short notice and having stocks, such as **India**, may expand exports in 2022, destined mainly to the Middle East and North African markets. **Belarus**, the world's third largest butter exporter, could maintain current export volumes to the Russian Federation.

Notwithstanding soaring prices, butter imports by **China** may increase due to rising demand from the bakery and pastry products sector. Also, purchases by **Canada, Indonesia, Mexico** and **Egypt** could increase, reinforced

by more significant growth in consumer demand compared to domestic production. Despite reeling under the twin crises of unemployment and the COVID-19 pandemic, partial economic recovery in **Mexico** is likely to lift butter imports but anticipated to remain below pre-pandemic levels. By contrast, notably low purchases are anticipated by the **Russian Federation, Saudi Arabia, the United Kingdom** and the **Philippines** due to high international prices and economic downturns. Depressed demand, due to soaring prices and lower incomes, is likely to discourage butter imports by the **Russian Federation**, although imports from Belarus will continue. In the **United Kingdom**, imports could decline, albeit slower than the previous year, reflecting the easing customs controls with the European Union.

Figure 7. Butter exports and the FAO Butter Price Index¹



Cheese

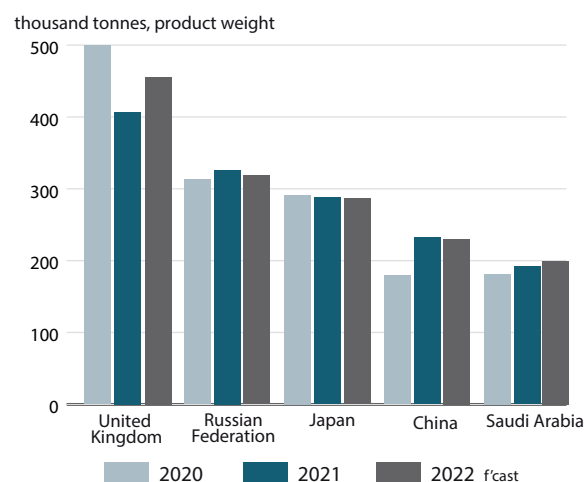
Global cheese trade to increase further in 2022

World cheese exports in 2022 are forecast at 3.6 million tonnes, up by 1.0 percent from 2021, driven by expected larger imports by the **United Kingdom, Mexico, Saudi Arabia, the Republic of Korea, El Salvador, Canada** and the **United States**. These increases are likely to be largely offset by significant import curtailments by the **Russian Federation, Australia, the Philippines, China, Chile** and **Japan**. The **United Kingdom** is heading towards a partial recovery in cheese imports, mainly from the European Union, mirroring the likely relaxation of customs control. **Mexico** may also import more cheese, reflecting the revival of the food processing sector. Similarly, the growing popularity cheese is expected to lift imports

by **Saudi Arabia**. In **China**, cheese imports are anticipated to decrease moderately in 2022 due to the economic slowdown, COVID-19 restrictions and ongoing lockdowns disrupting the supply chain and lowering domestic demand. By contrast, the **Russian Federation** could import less cheese due to low consumer purchasing power, while currency fluctuation and higher prices may deter cheese purchases by the **Philippines**.

Notwithstanding constrained milk production, the **European Union** –the world's largest cheese exporter– is forecast to increase exports as processors channel a high proportion of the available milk supplies to cheese production and rising global demand. Considering robust demand from Mexico, the **United States** may also export more cheese. The **United Kingdom** may increase cheese exports, especially to the European Union. By contrast, in **New Zealand**, cheese exports could decline moderately. **Egypt** may also decrease shipments due to limited export availabilities.

Figure 8. Top 5 world cheese importers



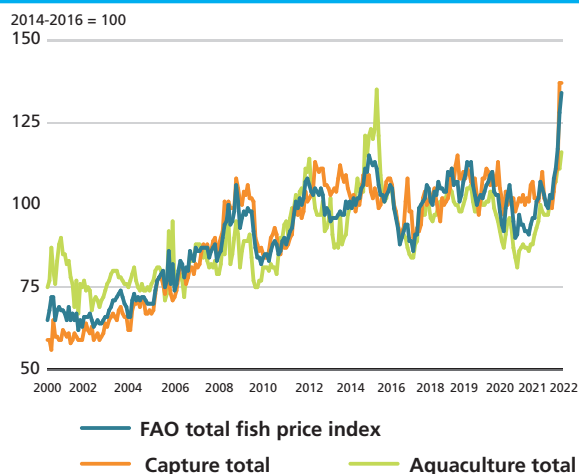
FISH AND FISHERY PRODUCTS



DETERIORATING ECONOMIC CONDITIONS AND MOUNTING UNCERTAINTIES DAMPEN POST-PANDEMIC RECOVERY

The COVID-19 pandemic, which has caused massive economic and social upheaval, is now waning its influence on day-to-day life. This has had a significant effect on global markets for fisheries and aquaculture products. Businesses all along the supply chain have been able to resume operations as physical distancing measures are relaxed or removed, and logistical delays have eased

Figure 1. FAO Fish Price Index (2014-2016=100)



Source of the raw data for the FAO Fish Price Index: EUMOFA, INFOFISH, INFOPECSA, INFOYU, Statistics Norway

Table 1. World fish market at a glance

	2020	2021 <i>estim.</i>	2022 <i>f'cast</i>	Change: 2021/22 over 2020/21
	<i>million tonnes (live weight)</i>			<i>%</i>
WORLD BALANCE				
Production	177.8	181.8	184.6	1.5
Capture fisheries	90.3	92.2	92.4	0.2
Aquaculture	87.5	89.6	92.2	2.9
Trade value (exports USD billion)	150.1	173.3	178.1	2.8
Trade volume (live weight)	59.8	61.4	60.2	-1.9
Total utilization	177.8	181.8	184.6	1.5
Food	157.4	161.7	164.2	1.6
Feed	16.4	16.0	16.3	1.6
Other uses	4.0	4.0	4.0	-0.1
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
Food fish (kg/yr)	20.2	20.5	20.6	0.6
From capture fisheries (kg/year)	9.0	9.2	9.1	-1.1
From aquaculture (kg/year)	11.2	11.4	11.6	1.9
FAO FISH PRICE INDEX (2014-2016=100)	2020	2021	2022 <i>Jan-Apr</i>	Change: Jan-Apr 2022 over Jan-Apr 2021 %
	95.0	102.0	122.6	24.5

Source of the raw data for the FAO Fish Price Index: EUMOFA, INFOFISH, INFOPECSA, INFOYU, Statistics Norway

* Jan-Apr2022 over Jan-Apr 2021, in percent

somewhat. The reopening of the foodservice sector and recovery of tourism has provided a demand boost for many fish species, particularly those that are popular on restaurant menus. At the same time, the innovations in delivery, sales, marketing and products that arose from constraints imposed by the pandemic look set to remain important features of the market. The combination of old and new demand has pushed prices steeply upwards for many aquatic products.

While the hope that the worst of the pandemic is behind us has restored some confidence among both consumers and businesses, more recent developments are darkening the outlook and perpetuating market uncertainty. The war in Ukraine and the Russian Federation has had several negative impacts on the global economy, which have direct implications for seafood businesses. Prices for commodities, including food, have been climbing steeply and fueling rates of inflation that in many cases have not been seen for decades. Already elevated costs of inputs and freight have risen even higher and are squeezing margins, particularly for supply chain intermediaries such as processors. Extensive trade sanctions and boycotts of Russian products by many businesses have also necessitated a mass reorganization of trading relationships.

The most recent forecasts for global fish production in 2022 predict 1.5 percent growth, to 184.6 million tonnes. Total export revenue is projected to climb by 2.8 percent to USD 178.1 billion, while volumes are set to drop by 1.9 percent. These figures reflect both the ongoing recovery of the market and the issues that continue to challenge supply chain businesses.

SHRIMP

Shrimp industry stakeholders anticipate a ten percent rise in farmed shrimp production in 2022. While the reopening of the foodservice trade has boosted aggregate demand, the shrimp market outlook remains uncertain, particularly in Europe, due to both the war in Ukraine and the lingering effects of the pandemic. Challenges include the rising cost of fuel and high freight rates.

In Asia and Latin America, there are concerns over the possible weakening of demand from China (mainland) and Europe, which will likely put downward pressure on prices given the anticipated rise in Asian supplies. In South America, Argentine shrimp fishers have forecasted reduced catches in 2022, and processing activities could be disrupted for some time. In Ecuador, additional supplies will be available since exports to the Russian Federation are on hold. In the United States of America (United States), the market is well-supplied but consumption may suffer due

to deteriorating economic conditions. In China (mainland), shrimp imports rose in the first quarter of the year, but the COVID-19 lockdowns in several large cities since late March have disrupted shipments.

TUNA

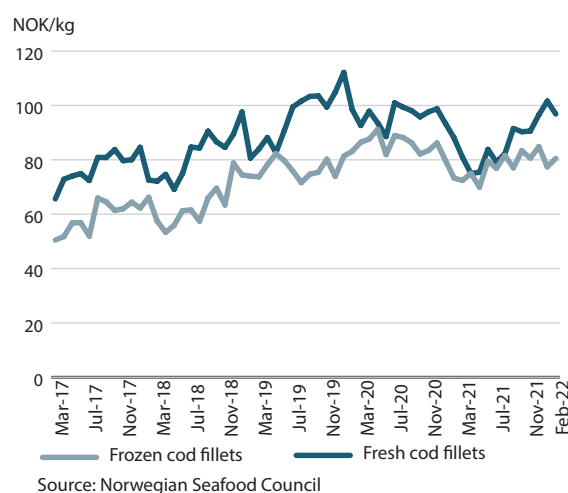
In early 2022, tuna catches in the Western and Central Pacific (WCP) were fluctuating between slow and moderate levels. Considering the supply situation, the demand by packers for frozen raw material is likely to increase in the coming months, with the shortage set to continue during the closure of fish aggregating devices in the WCP region from July to September. In the Atlantic Ocean, predicted increases in tuna catches will ease raw material shortages at local canneries.

Following generally lower imports in 2021, the demand for prepared tuna is likely to increase in some markets during the first half of 2022. However, the reaction of consumers to rising prices will be an important area of focus for the industry. For non-canned tuna, summer demand is expected to be positive in the US market and in Canada. However, in Europe, the war in Ukraine will obstruct the export of frozen fillets to the countries involved. In Japan, consumption will drop from June onwards following the spring festivals.

GROUND FISH

Groundfish quotas have been mildly reduced in some major groundfish fisheries. Global cod supplies are expected to drop by some 50 000 tonnes to 1.45 million tonnes. Pollock supplies will also be reduced, with the quota allocation in

Figure 2. Norwegian cod export prices



Alaska reduced by 189 000 tonnes. The Russian pollock fishery is expected to expand production in 2022, but a large volume of Russian fish will not find its way to western markets because of trade sanctions. Western countries have also indicated that they will ban imports of Russian groundfish processed in China (mainland). However, Russian landings of cod in Northern Norway have continued largely uninterrupted.

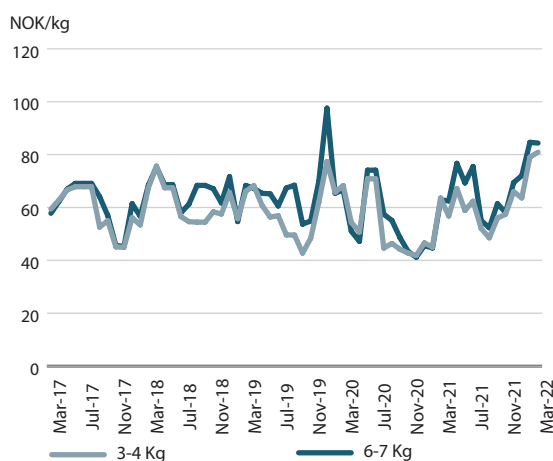
Weakening economic conditions will affect demand to some extent, particularly in Europe, but elsewhere, demand continues to be good. The demand for whitefish in China (mainland) and other Asian markets is growing, with China (mainland) responding by importing pollock and cod from the Russian Federation. Volatile exchange rates, together with strong inflation in most markets, will likely result in challenges for some exporters and importers. Profitability in the processing sector may be reduced.

CEPHALOPODS

The cephalopod supply situation is still tight, but improving. Supplies of octopus will be somewhat constricted in 2022 because of limited landings in the major octopus fisheries. Squid landings in Argentina were very slow early in the year and cuttlefish catches have also been reduced. Container availability is still limited and freight costs are high.

On the market side, recovering tourist numbers are expected to translate into improved sales this summer, particularly in the Mediterranean region as consumers resume their consumption of more expensive products, including cephalopods. The nations affected by the war in Ukraine are not among the largest consumers of cephalopods, so the

Figure 3. Norwegian salmon prices "Free on board"



Source: European Price Report, FOB prices

impact is less relative to other species. The home delivery trend that characterized the pandemic period is weakening somewhat but is expected to remain a feature of the market.

PANGASIUUS

The more conservative stocking of pangasius during the pandemic will likely mean tighter supplies in the medium term. COVID-19 restrictions led to severe disruption for producers and processors, while the war in Ukraine has raised production costs considerably, especially for feed. Viet Nam will face reduced tariffs in both the European Union (EU) and the United States this year, where demand for pangasius is high in both consumer and restaurant markets. Pangasius prices are at record highs, but farmers still hesitate to increase their production. Inflation is an issue for producers, processors and retailers, while high freight rates, logistical challenges and a stronger currency have all caused difficulties for pangasius exporters. In China (mainland), heightened phytosanitary border controls are an additional challenge.

TILAPIA

Tilapia has weathered the pandemic particularly well, benefiting from its position as a cheaper, retail-sold seafood option. Despite an improving supply, the rapidly strengthening demand has sent prices soaring. Global tilapia production is forecast to increase by 3 percent in 2022, an improvement over 2021; this reflects the post-pandemic recovery and the resumption of normal business operations in most producing regions. However, strong demand combined with high freight costs and high input costs are expected to keep prices on the rise despite the increased supply. Brazilian production growth will likely continue to significantly outpace competing producers, both in terms of supply and export share, while China (mainland) will see its share continue to decline.

SEABASS AND SEABREAM

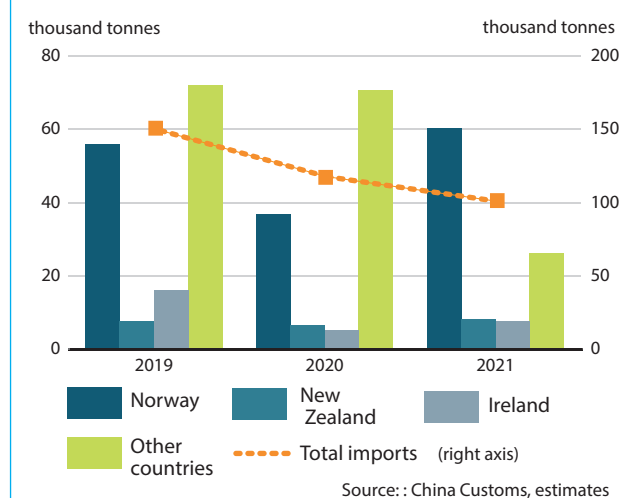
The production of both seabass and seabream is expected to increase by around 4 percent in 2022. EU import prices are rising steeply, particularly for seabass, due to a combination of strengthening demand and increasing costs of inputs, accelerated by the war in Ukraine. While inflation is high in Europe, it is rampant in top producer Türkiye, creating issues for producers. The post-pandemic reopening of Europe will continue to strengthen the market for seabass and seabream, but inflation is likely to have a negative impact. The pandemic saw more seabass and

seabream funneled through retail markets as restaurant sales in Europe evaporated, but the foodservice sector has returned and is ramping up for the summer season, when demand for bass and bream is expected to rise.

SALMON

At the same time however, salmon occupies a uniquely resilient market segment in the fisheries and aquaculture sector with a diversified set of markets, sales channels and product ranges, allowing it to perform well throughout the pandemic. Now, with demand receiving an additional boost as economies reopen, and with costs rising steeply, prices for farmed Atlantic salmon reached 40-year highs in early 2022. These prices have translated into very high revenues for salmon farmers, and margins are good despite the cost inflation. Although some decline from current peak prices is expected, global supply growth this year (1–2 percent for Norwegian production and 4–6 percent for Chile) is unlikely to be sufficient to bring prices back to the levels observed in recent years, given the current buoyant market conditions. At the same time, however, the Ukraine war remains a significant source of uncertainty, which could contribute to further cost increases and the reshuffling of trade routes and trading relationships. Wild Pacific salmon catches,

Figure 4. Chinese mackerel imports



which were exceptionally strong last year, are expected to drop during this year's summer season.

SMALL PELAGICS

The Russian Federation is a major producer of mackerel and herring, but its exports will be severely impacted by

Table 2. Seabass and seabream production

Top global producers of seabass					
	2016	2017	2018	2019	2020*
Türkiye	80847	99971	116915	137419	148907
Greece	42479	44285	46911	41237	40763
Egypt	24498	30720	24914	30313	32555
Spain	22956	17656	21269	25260	22765
Croatia	5310	5616	6220	6089	6754
Tunisia	2734	3448	2288	3331	4997
Italy	6800	6800	5738	7420	4693
Total	191510	215572	235722	263781	276422
Top global producers of seabream					
	2016	2017	2018	2019	2020*
Türkiye	58254	61090	76680	99730	109749
Greece	49621	55948	56203	55452	61976
Egypt	26663	35221	29994	35880	38737
Tunisia	13240	16841	18463	18017	15577
Saudi Arabia	2220	2230	2200	1444	10984
Croatia	4101	4830	5591	6774	7780
Spain	12397	17005	13810	12475	6458
Total	190335	219295	228661	259443	282074

*Data refer to farmed European seabass and Gilthead bream only.
Source: FAO

sanctions. As a result, the supply situation will be very limited in Western African markets, and it is likely that new trade patterns will emerge. At the same time, small pelagic imports by the Russian Federation and key Eastern European markets will also be severely limited.

In terms of production, the capelin fishery around Iceland was disappointing this year, and most of the catch was utilized for fishmeal and fish oil production. By contrast, the fishery in the Barents Sea performed well, with most of the catch directed to Asian markets. In Peru, there is growing interest in anchovies for human consumption, with the proportion used for human consumption growing significantly. High inflation rates may affect consumer spending, but since small pelagics are generally a low-cost item, they are somewhat shielded from the effects of inflation. Prices for mackerel have been increasing and are expected to continue to rise because of reduced supplies.

FISHMEAL AND FISH OIL

Peru's anchoveta quota for the first season of 2022 is significantly higher compared with the same season in 2021, increasing from 2.5 million tonnes to 2.79 million tonnes in the North-central region, and from 409 000 tonnes to 486 500 tonnes in the South region. However, El Niño has led to bad weather and poor fishing for Peru's fleet. Thus, just 32 percent of the 2022 quota has been filled, compared with 43 percent at the same time last year. Some cases of high juvenile catches have prompted fishing bans, adding to the disruption. Elsewhere, increases in United States and EU quotas for capelin and menhaden could mean a moderate growth in supply for both. In

Figure 5. EU imports of mussels - top three destinations

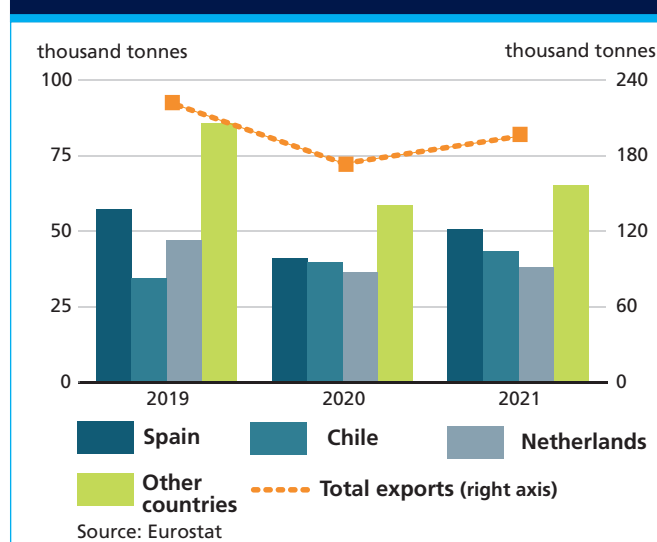
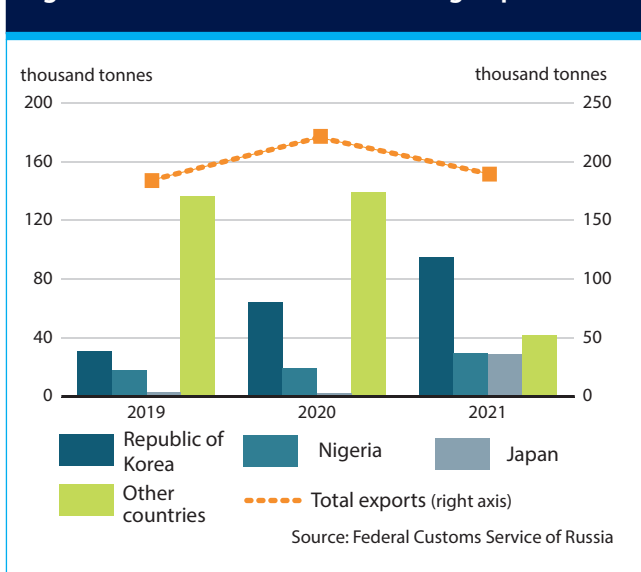


Figure 6. Russian Federation herring exports

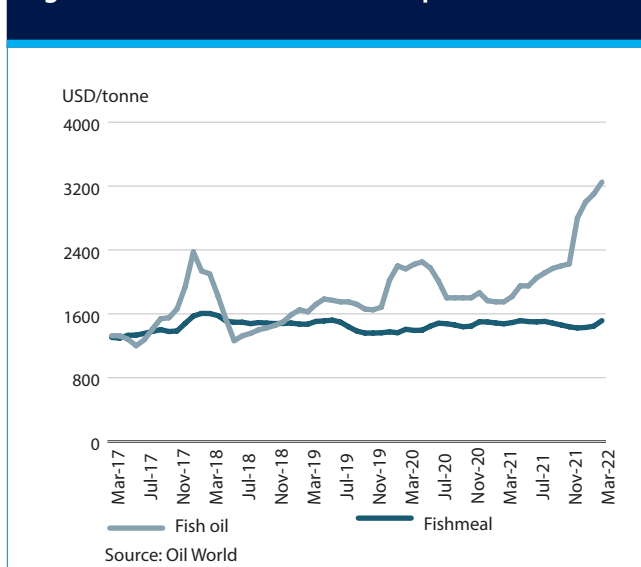


China (mainland), a fishing moratorium from 1 May until September 2022 has reduced domestic supplies. In China (mainland), the main importer of fishmeal for fish feed, increased border controls on food imports and the fisheries moratorium will likely contribute to accelerated growth in the domestic aquaculture sector.

CRAB

Many western countries have boycotted trade with the Russian Federation, and consequently supplies of crab will be very tight for some time. The snow crab fishery in the Bering Seas has been designated as overfished and the Alaska crab quota for 2022 was consequently cut by 88 percent, leading to a shortfall despite the higher

Figure 7. Prices of fish oil in Europe



Canadian quota. Supplies of Dungeness crab from the west coast of the United States have been very good, however. In general, consumers are keen to spend money on restaurant favourites, such as crab and lobster, despite worsening economic conditions and rising prices. King crab and snow crab are very popular in China (mainland), where demand is expected to rise. The Russian Federation will be diverting supplies to the Chinese (mainland) market.

BIVALVES

The bivalve supply from main European suppliers to Europe was poor last year, due to a cold summer in the north of the continent, which led to lower growth rates for mussels and oysters. It is too early to give a forecast for 2022, but the main producers in Europe are confident that supply will improve. The high inflation rates in Europe and the United States are impacting bivalve trade. Prices have increased by more than 20 percent since the beginning of 2022. This price hike can be explained primarily by high fuel costs, since intensive quantities of fuel are used in bivalve

production. Bivalves remain popular among consumers and the reopening of restaurants in Europe after the COVID-19 pandemic has been generating additional demand, which is likely to peak over the summer tourist season.

LOBSTER

Supplies of lobster were very good in 2021 but will be tighter in 2022. In Maine, lobster fishers are now worried about warmer waters, which push the lobsters farther north to colder waters. The lobster trade has picked up considerably in line with the post-pandemic recovery despite concerns over inflation. The popularity of the spiny warmwater lobster is increasing, with the species now constituting 22 percent of the US market for lobster. The trade agreement between the EU and the United States has removed some tariffs on American lobsters in the EU, but American exporters are focusing on China (mainland) and it is Canada that is benefiting from improved demand in Europe

SPECIAL FEATURES

The war in Ukraine and the risks it poses for global food commodity markets

Contributed by:
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The current war in Ukraine is causing extensive loss of life, massive population displacement and significant food insecurity and malnutrition in the country. It is also damaging critical infrastructure and disrupting food supply chains and markets. Because the war is engaging two of the world's most important agricultural commodity market players, its effects are being felt internationally. This Special Feature highlights the most significant risks that the war poses to world food markets.¹

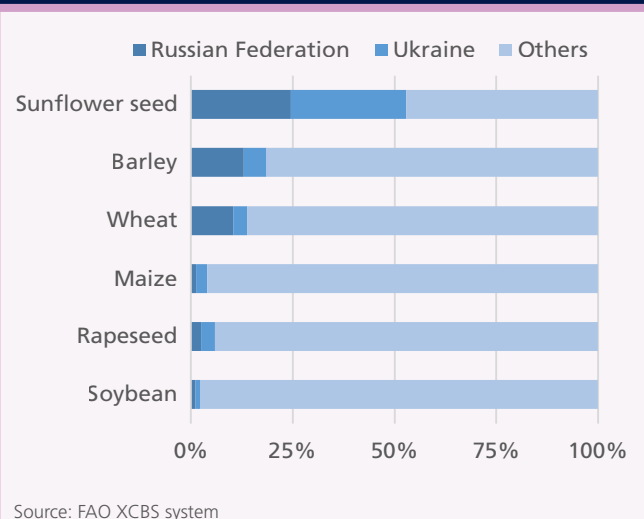
Market structure and trade profiles

The Russian Federation and Ukraine are among the most important producers of agricultural commodities in the world. In the cereal sector, their contribution to global production is especially significant for barley, wheat and maize. Between 2016/17 and 2020/21, the two countries together accounted for an average of 19, 14 and 4 percent of the global output of barley, wheat and maize, respectively (see Figure 1). In the oilseed complex, their contribution to the global production of sunflower seed was particularly important, with just over half of world output originating in the two countries during this period. Their average shares in global rapeseed and soybean production are comparatively more limited, standing at 6 and 2 percent, respectively.

The Russian Federation and Ukraine also play leading roles in supplying global markets with the aforementioned foodstuffs, contributing to high export concentration and thus exposing these markets to increased vulnerability to shocks and volatility. Figure 2 illustrates the important supply role that the countries play in international food

¹ Analyses of the impact of the war on food and agriculture that go beyond the topics covered by this Special Feature are examined in a series of FAO Briefing Notes, available at: <https://www.fao.org/newsroom/briefing-notes/en>. This feature draws from the briefing note titled "The importance of Ukraine and the Russian Federation for global agricultural markets and the risks associated with the current conflict", which benefited from extensive inputs by various analysts from the FAO Markets and Trade Division, the Animal Production and Health Division, and the Office of Emergencies and Resilience.

Figure 1. Global production of selected crops, percentage share in total, 2016/17–2020/21 average



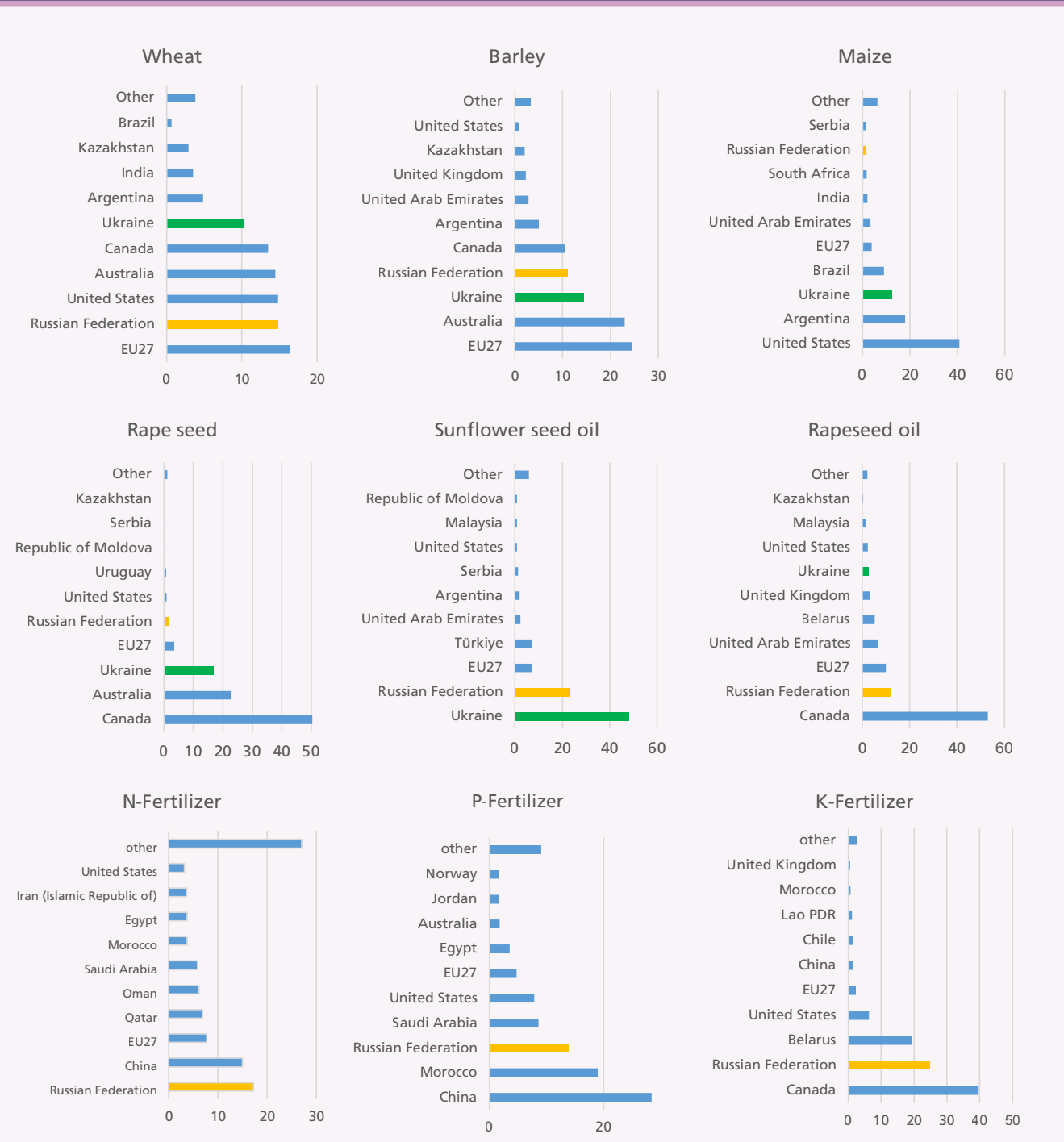
trade². For example, in the global wheat market, where the top seven exporters combined accounted for 89 percent of international trade in 2021, the Russian Federation was the second largest global wheat exporter that year, while Ukraine ranked as the sixth largest wheat supplier. In the sunflower oil sector, their substantial production bases of sunflower seed endowed them with a combined world export market share of close to 72 percent in 2021, making the two countries the two largest world sunflower oil exporters.

The high export concentration that characterizes food commodity markets is also prevalent in the fertilizer sector, where the Russian Federation plays a leading supplier role. In 2021, the Russian Federation ranked as the top exporter of nitrogen (N) fertilizers, the second leading supplier of potassic (K) fertilizers and the third for phosphorous (P) fertilizers (see Figure 2).

Many countries that are highly dependent on foodstuff and fertilizer imports rely on supplies from the Russian Federation and Ukraine, as shown in Figures 3 to 5. Many of these countries fall into the groups of Least Developed Countries (LDCs) and Low-Income and Food-Deficit Countries (LIFDCs). For example, Eritrea sourced almost

² Processed products are excluded from these estimates.

Figure 2. Top ten exporters of selected commodities, percentage share in world exports in 2021



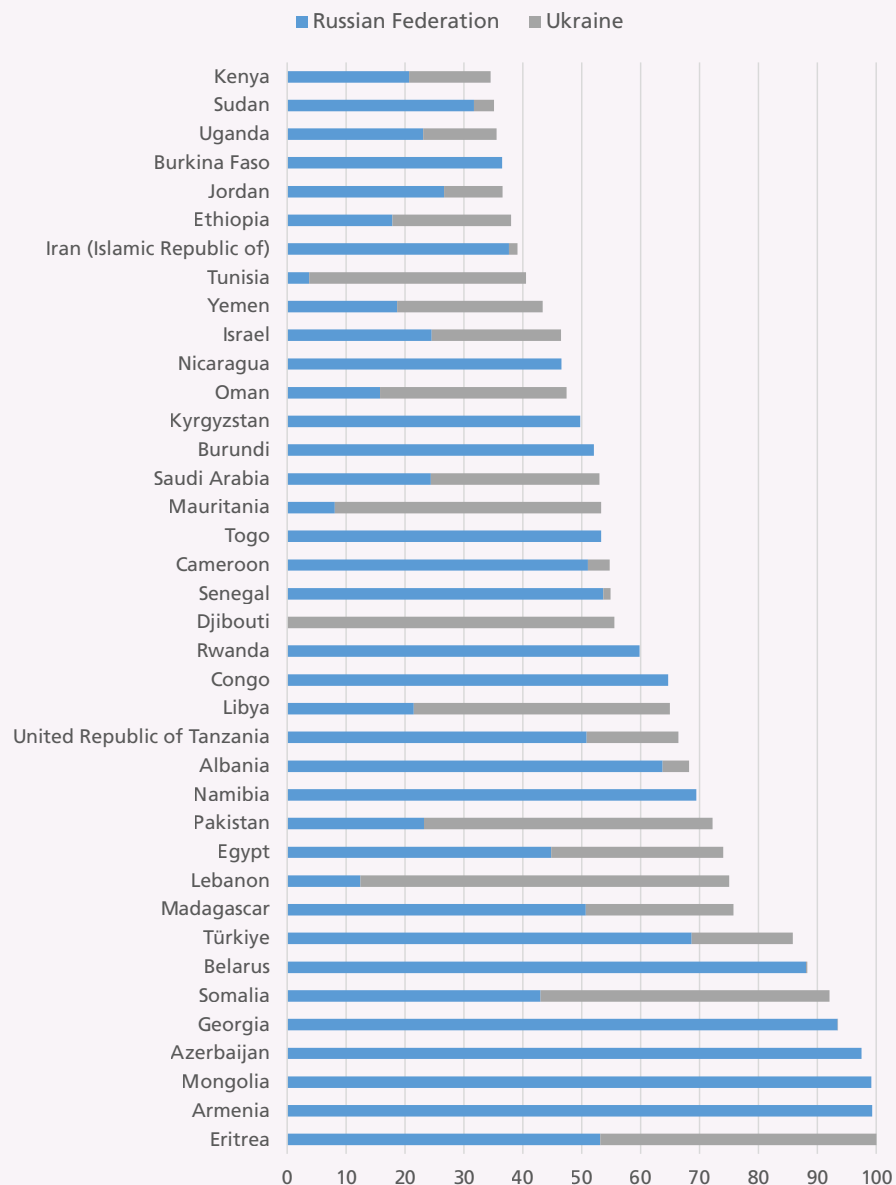
Source: Trade Data Monitor (TDM), authors' calculations.

the entirety of its wheat imports in 2021 from the Russian Federation (53 percent) and Ukraine (47 percent).

The wheat imports of many countries in North Africa and Western and Central Asia are highly concentrated towards supplies from the Russian Federation and Ukraine. Overall, more than 30 net importers of wheat depend on the two countries for over 30 percent of their annual wheat import needs.

As for fertilizers, Ukraine does not feature heavily as a prominent fertilizer exporter, with the exception of purchases by India. On the other hand, and although less than for wheat, global reliance on Russian N, P and K fertilizers is noteworthy. Some 15 net importers of fertilizers in Latin America, Europe and Asia have an import dependency of over 30 percent on Russian fertilizers, for all three types. Within these regions, Brazil, the European

Figure 3. Wheat import dependency: share of wheat imports from the Russian Federation and Ukraine in total wheat purchases by net importers in 2021 (%)



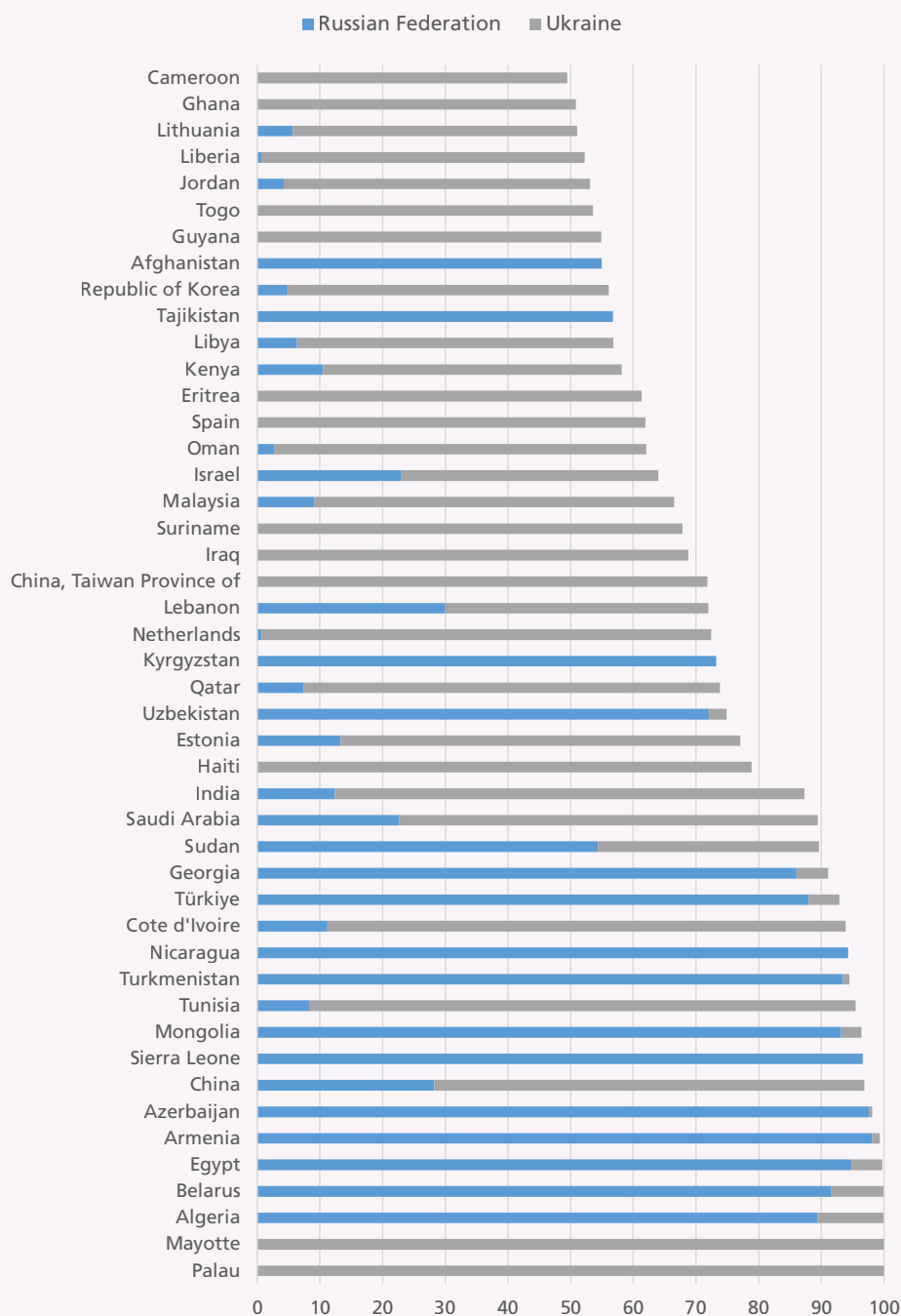
Source: Trade Data Monitor (TDM), authors' calculations.

Union (EU) and India account for the lion's share of Russian fertilizer exports in absolute terms, due to the larger area extensions they cultivate, but also higher fertilizer application levels. However, comparing fertilizer import levels with the amount of arable land to which fertilizer is applied (excluding pastures and meadows) reveals that many countries in Central and South America, Central Asia, and various non-EU members are much more dependent on Russian fertilizer imports than these larger agricultural market players (see Figure 5). Although Africa only accounts for 3–4 percent of global fertilizer consumption, many sub-Saharan countries are also heavily reliant on supplies from the Russian Federation.

Trade and logistical risks

The escalation of the war in late February came while Ukraine and the Russian Federation were in the midst of their 2021/22 marketing seasons. As such, it had immediate impacts on the countries' capacity to execute existing export contracts and to enter into new ones for crops already off the ground. This has been particularly the case in Ukraine, where the war has led to the cessation of all commercial shipping operations (owing to the closure of Ukraine's Black Sea ports), the temporary suspension of activities by private grain and crushing operators, damages to inland transport, storage and processing facilities and

Figure 4. Import dependency of sunflower oil: share of sunflower oil imports from the Russian Federation and Ukraine in total purchases by net importers in 2021 (%)



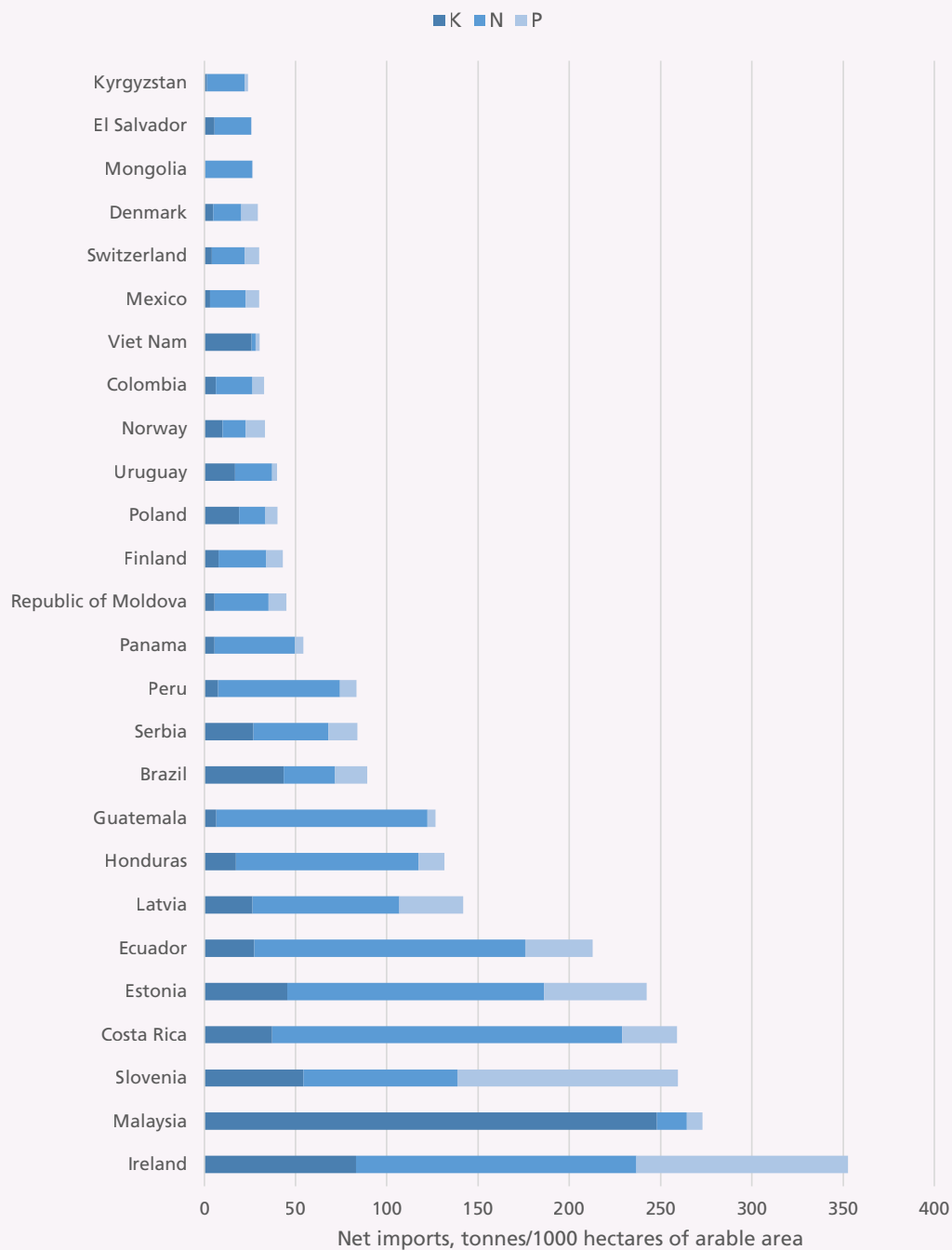
Source: Trade Data Monitor (TDM), authors' calculations.

the introduction of licensing requirements or outright bans on exports of some commodities. From an export perspective, the loss of Ukraine's maritime shipping capacity has been especially harmful; this normally handles close to 90 percent of the country's offshore sales. Efforts to boost food exports using alternatives, such as rail and road transport, are ongoing, but the capacity of these

alternatives to fully compensate for port closures are constrained by infrastructural damages, as well as limited railway car availability and conflicting rail gauges at borders with neighbouring countries.

Official statistics on Russian food exports since the onset of the war are not available. Yet, reports suggest that these have progressed, notwithstanding concerns

Figure 5. Net imports of Russian fertilizers in metric tonnes per 1 000 hectares of arable in 2021 (net importers only)



Source: FAOSTAT, Trade Data Monitor (TDM), authors' calculations.

that they could be considerably depressed by economic sanctions imposed on the country in response to the war. Although these sanctions do not directly target the Russian food and fertilizer sectors, these concerns are rooted in the possible indirect effects that the sanctions targeting the banking sector could have on Russian agricultural exports by constraining access to the financial services needed

to complete international transactions. A number of multinational agribusiness companies have also withdrawn from their export-oriented operations in the country and, while Russian Black Sea ports continue to function, there are apprehensions regarding increases in insurance premiums for vessels destined to berth in the Black Sea. On the policy front, while Russian exports of wheat and other

grains remain subject to the quotas and floating export taxes introduced prior to the war, Russian exports of various grains to members of the Eurasian Economic Union (EAEU) were prohibited in mid-March. Although this measure was rescinded soon after, in April, shipments of rapeseed and sunflower seeds were reportedly banned until August, with exports of sunflower oil and meal also made subject to quotas and licensing requirements until then.

In both countries, any prolonged interruption in supplying international markets will require greater reliance on storage facilities, especially silos. Under favourable conditions, grains can be stored for multiple seasons. However, the storability of raw oilseeds is usually shorter and oilseeds must be crushed shortly after harvesting in order to achieve the highest possible oil yields. In Ukraine, grain elevators and oil crushing facilities are spread across the country. However, they are larger and more highly concentrated near important transportation points and ports, increasing the risk of this infrastructure being damaged in the war. If modern oil crushing facilities are damaged, the excess capacity of smaller regional processing facilities could balance the losses. However, many of the smaller crushing facilities do not have the technology to switch between oilseeds.

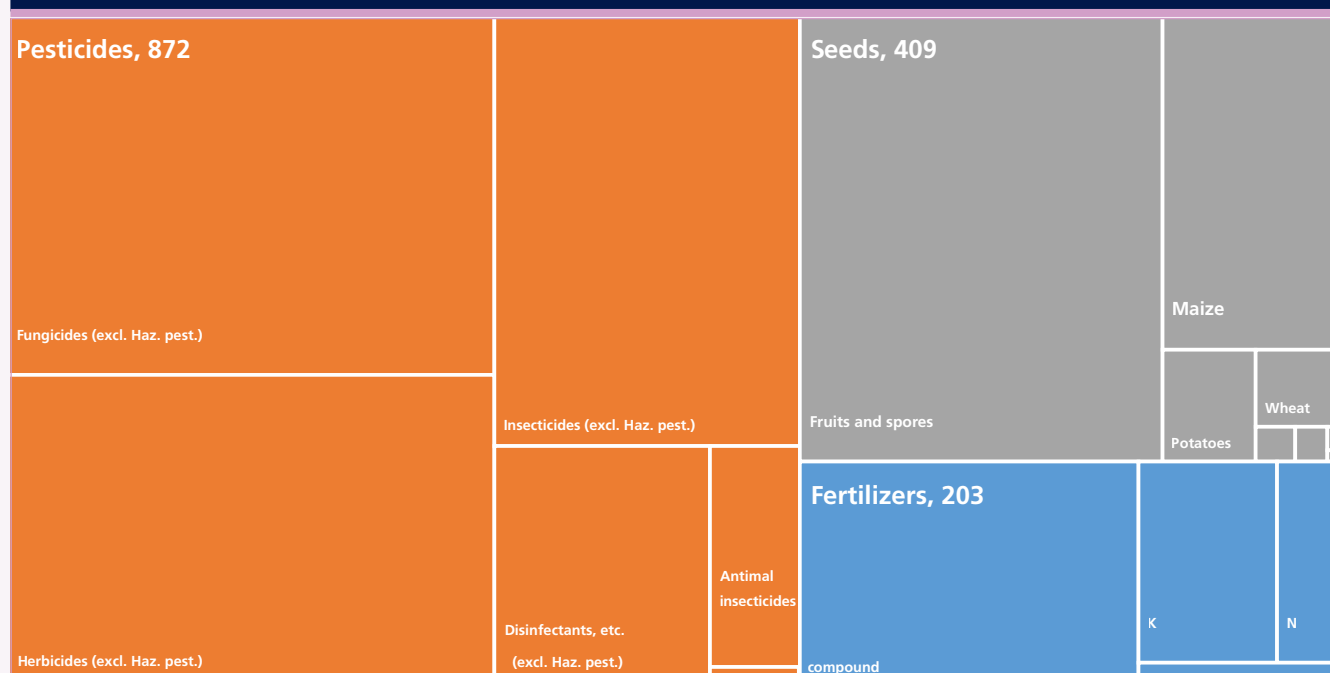
Production risks

Much uncertainty still surrounds the war itself, its intensity, geographical scope and duration. Yet, it is clear that the

war has already inflicted immense damage on Ukraine’s agricultural sector. This raises significant concerns regarding the country’s capacity to continue producing and exporting food going forward. Production prospects for the 2022/23 season in the country are already downcast because of war-induced constraints in accessing basic productive inputs, such as agricultural land, labour and fuel, combined with the presence of unexploded ordnance on farmland. Damage to infrastructure and disruptions to transport and markets could result in additional supply losses at the post-harvest stage, further to driving changes in cropping patterns that favour domestically-consumed foodstuffs, such as grains and potatoes, over export-oriented crops, such as oilseeds and derived products. The war has also caused massive population displacement and the abandonment of animals, which, importantly, undermines Ukraine’s capacity to control animal diseases. This is escalating the risk of disease proliferation, most notably of African swine fever (ASF), in Ukraine as well as in neighbouring countries.

Although no impacts on agricultural production appear imminent in the Russian Federation, international sanctions imposed on the country in response to the war could directly or indirectly inflict economic losses on Russian agriculture going forward. The incomes of Russian farmers risk being negatively impacted by the loss of export markets that could result from the sanctions. This could in turn drive farmers to curb their production of export-oriented crops. Moreover, although the Russian Federation is a net exporter

Figure 6. Russian imports of agricultural inputs in 2021, millions of USD



Source: Trade Data Monitor (TDM), authors’ calculations.

of fertilizers, Russian agriculture is particularly dependent on imported seeds and pesticides, as depicted in Figure 6. In 2021, the Russian Federation purchased USD 872 million worth of herbicides, fungicides, insecticides and other pesticides, 58 percent of which came from the EU. Russian imports of -high-value- seeds (i.e. hybrid, genetically modified organisms (GMO) or certified seeds), amounted to another USD 409 million that year, with 68 percent originating in the EU. This high import dependency on the EU suggests that trade sanctions could take a hefty toll on Russian crop production. If such an eventuality materializes, the combined effects of lower seed and pesticide uses, such as reduction in plantings, yields and/or product quality, could affect the availability of many food crops, both for domestic use and, arguably, even more so for products destined for international markets.

Price risks

As relayed by the FAO Food Price Index, international food prices were already high before the war broke out. A host of factors contributed to their increase, including strong demand for food and animal feed; poor weather in key suppliers; uncertainties regarding export policies implemented by some major exporters; high internal transport and production costs (e.g. energy and fertilizers) in exporting countries; and disruptions to supply chains owing to COVID-19. The war has compounded the pressure on prices. It jolted export quotations of grain and vegetable oils to fresh peaks in March 2022, as concerns about shortfalls in Ukrainian and Russian exports arose at a time of tight supplies of grains (mostly wheat) in other major origins and of substitute vegetable oils, such as soy and palm oil. The prospect of high and protracted food prices also triggered the imposition of export restrictions on food products by numerous countries. Although quotations of some commodities have since lost their upward momentum, world food prices remain generally elevated.

This persistent overall price strength is being underpinned by the spillover effects of grain and vegetable oil price hikes being felt in other food sectors, together with weather uncertainties and persistently high input costs, especially for fuel and fertilizers. In countries that depend on imports to meet their consumption needs, the higher food costs caused by these disruptions imperil the food security of vulnerable consumers. This is particularly the case for groups that dedicate a larger share of their disposable incomes to food, since in order to cope with the food price hikes they reduce the quantity and/or quality of the food they consume. This leads to more hunger and malnutrition or to less money available for other necessities,

such as health and education.

International benchmark prices for fertilizers also rose throughout 2021, with many quotations reaching all-time highs. The most notable increases were registered for nitrogen fertilizer. The end-of-year prices of urea, a key nitrogen fertilizer, rose by more than three times since early 2021, with prices of phosphorous fertilizer rising in tandem over the same period. As for other commodity prices, these fertilizer price dynamics were determined by an interplay of supply and demand. On the demand side, the higher output (crop) prices registered in 2021 boosted the affordability of fertilizers, thereby pushing fertilizer prices upwards. On the supply side, high and volatile energy prices were also registered, especially for natural gas, which plays a pivotal role in the production of N fertilizer and the price of which underwent a sharp increase in 2021 due to a host of reasons, including weather-induced disruptions to renewable energy and coal production. Additional upward pressure stemmed from supply disruptions and high transportation costs following the imposition of export restrictions on fertilizers and sharp increases in bulk and container freight rates caused by the COVID-19 pandemic.

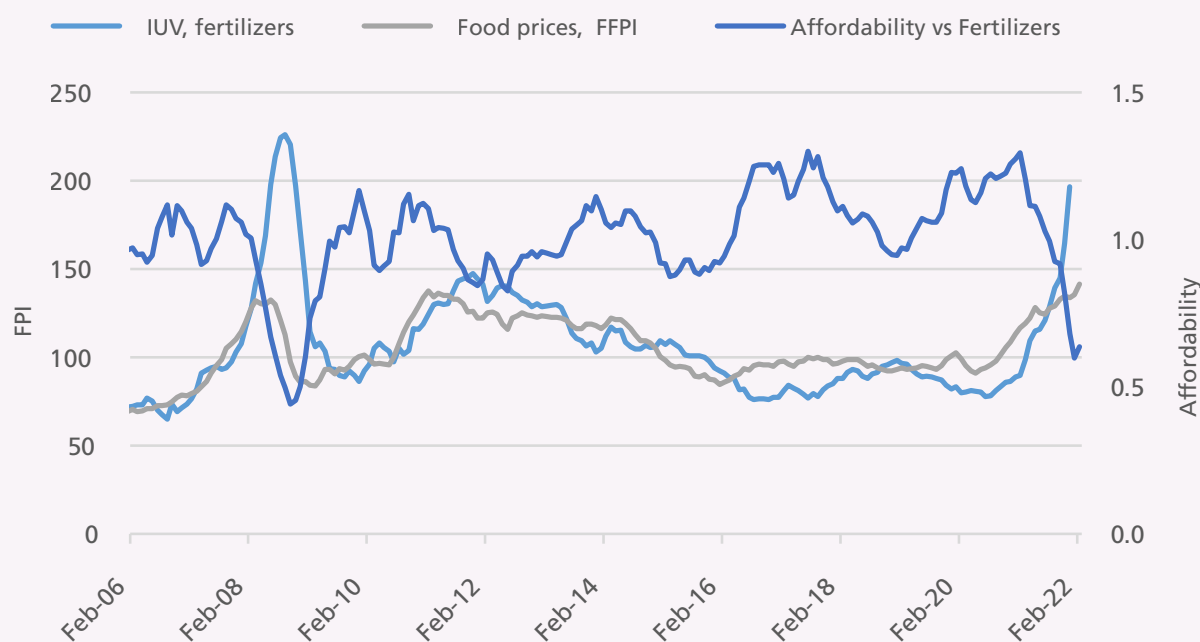
With the prospect of a likely trade embargo on exports from the Russian Federation or a self-imposed export restriction, the global fertilizer market has also seen prices pushed up by the war. For example, international quotations for urea (N), phosphate (P) and potassium (K) reached record highs in April 2022, especially potassium, which increased by over 150 percent since the beginning of the year. Generally, high fertilizer prices keep overall input prices elevated, resulting in lower affordability for farmers and ultimately lower use levels that is contingent on the level of output prices. However, the recent price increases for fertilizers were so pronounced that they exceeded the price increases for outputs by a considerable margin, as shown in Figure 7. The result was a sharp decline in the affordability³ of fertilizers, particularly for agricultural products that have so far been spared by the otherwise widespread price increases. Lower levels of affordability in turn should almost inevitably result in lower input use and, as a consequence, lower yields and compromised quality (such as lower protein levels in milling wheat) in the next cropping season.

Energy risks

Agriculture absorbs high amounts of energy, both directly, through fuel, gas and electricity use, and indirectly, through the use of agrichemicals, such as pesticides, lubricants

³ Affordability is defined here as the ratio of output to input prices.

Figure 7. Fertilizer affordability, FAO Food Price Index (FFPI) versus fertilizer prices, 2014–2016=100



Source: FAO Food Price Index (FFPI), Trade Data Monitor (TDM), authors' calculations.

and fertilizers. Energy is also required to manufacture feed ingredients, such as by crushing oilseeds to produce oil meals and milling grains to manufacture feedstuffs (e.g. pellets, flours and compound materials). The Russian Federation is also a key player in the global energy market. Its shipments of coal, oil and gas account, respectively, for 18, 11 and 10 percent of global exports. Russian energy exports are particularly important for the EU, which sources, 46, 25 and 31 percent of its coal, oil and gas imports, respectively, from the Russian Federation.

Since N-fertilizer production relies on (natural) gas as its main source of fuel, prices of N-fertilizer, such as urea, normally track gas prices (see Figure 8). However, the close co-movement of gas and urea prices came to an abrupt halt in the fourth quarter of 2021 (Q4-2021), when prices for natural gas experienced a massive spike. The spike was so pronounced that the upgrading margins between gas and ammonia as well as gas and urea prices turned negative and urea plants were forced to shut down or reduce their output considerably. Since then, and further exacerbated by the war, prices for natural gas have remained very volatile and upgrading margins have shifted back-and-forth from positive into negative territory.

Recently, however, the swift and substantial increases in energy prices triggered by the war's escalation in late February were followed by a notable relaxation in the European gas market during the second week of March 2022. Key quotations for natural gas declined by more

than 50 percent from their peaks in just ten days, amid milder spring weather in Europe and rising liquefied natural gas imports by the EU. While this allowed the strength in urea prices to moderate, it is likely to re-establish positive upgrading margins for fertilizer producers. With gas prices still remaining at very high historical levels in Europe and the United States of America, there is limited scope for fertilizer prices to decline in 2022. Uncertainties also cloud the supply outlook for these commodities going forward, notably in EU members of Europe and Central Asia. On the one hand, high (natural) gas prices could make once-unprofitable investments in energy production, such as fracking installations in the United States, commercially viable, thus easing international fertilizer prices. At the same time, amid efforts to wean themselves off imported gas (especially from the Russian Federation), EU countries and companies could be inclined to shift from using natural gas for fertilizer production to using it for other outputs with higher marginal-value products. This could in turn have further implications for world fertilizer availability, as the EU is also among the leading global suppliers of fertilizers.

The sharp increase in energy prices that has accompanied the war could also impact agriculture through price linkages on the output side. After the last significant energy price hike in 2008, much of the use of agricultural feedstocks for the energy market was driven by biofuel policies, which, through mandates,

Figure 8. Urea price vs natural gas price, 2014–2016=100



Source: IndexMundi.

tariff protection and/or price incentives enticed biofuel producers to use a certain and rather inflexible amount of feedstocks for the production of biofuels. Maize, sugar and oilseeds (vegetable oils) are the most common feedstocks, with ethanol and biodiesel the most popular biofuels. The mandated or incentivized quantities are largely independent of energy prices. However, since energy prices are on a sharp upward trajectory again, the use of agricultural feedstocks for biofuels can also evolve directly through energy prices. When energy prices rise, there is a

threshold at which the production of biofuels from food crops, especially maize, sugar and oilseeds (vegetable oils) becomes competitive. Higher energy prices make more and larger quantities of agricultural feedstocks competitive for conversion into energy and, given the large size of the energy market relative to the food market, this feature could pull food prices up to their energy parity equivalents. The food price rise is capped again when agricultural feedstocks become so expensive that they can no longer compete in the energy market.



1000 VEGETALI
 ITALIA MC I
 1,45

PEPERONI
 ROSSI/VERDI
 ITALIA MC I
 3,90

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SALADINA
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MOGRO
 VERDE
 ITALIA MC I
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12104
 ITALIA MC I
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HELANDE
 ITALIA MC I
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PATATE NUOVE
 ITALIA MC I
 1,40

CIPOLLE ZORANI
 DI QUINARI
 ITALIA MC I
 € 3,25

CIPOLLE
 QUAVIVA
 ITALIA MC I
 € 2,90

CIPOLLE ROSSE
 CANARIE
 ITALIA MC I
 € 3,25

40 CAROTE
 ITALIA MC I
 € 1,95

High input prices protract high food prices, creating a double burden for import-dependent countries

Contributed by:
Josef Schmidhuber
Bing Qiao

Introduction and overview

The increasing cost of food is heightening concern and distress throughout the world. The FAO Food Price Index reached a record nominal high in March 2022, before marginally falling in April. Most of all, the rising cost of producing food, driven by soaring prices of fertilizers, energy and other inputs, gives much cause for alarm as it increases consumer prices, imperilling food security. From another perspective, the spike in the price of inputs raises questions about whether the world's farmers can afford to buy them, to the extent that productivity and hence global food supply could be adversely affected in the 2022/23 season and beyond.

Generally, periods of high food prices are considered a boon for producers, especially in countries that supply the international market, raising the profitability of farmers. However, such periods tend to be short-lived when price incentives instigate a supply response, facilitated by continuous cropping seasons in the northern and southern hemispheres that bring food markets swiftly back into equilibrium. This has often been the case in the last two decades, but today, different forces are seemingly conspiring to protract the current crisis, casting doubt on whether supply responses can be both quick and sufficient.

Agricultural sectors are highly energy-intensive and largely depend on fossil fuels. Much of today's turmoil dates to 2021, when energy prices began to surge, adding to producer costs. But higher energy prices have far more deleterious effects, raising the cost of key nitrogen fertilizers, which are primarily manufactured from natural gas and are by far the most important agricultural nutrient in raising crop yields. Prices of nitrogen, N, in the form of urea or ammonium nitrate, reached record highs by the end of 2021. This price momentum carried into 2022, and the international prices of other important mineral fertilizers, such as phosphate, P, and potash, K, have

joined suit, reaching record peaks in April 2022. As the world's largest fertilizer exporter, the Russian Federation began tightening supplies to international markets soon after its invasion of Ukraine through the introduction of export restrictions that will be extended through to the 2023/24 season.

The upshot is that with no let-up in the current war, the margins of global food producers (crops and livestock) are being squeezed, now and seemingly into the foreseeable future, by higher input costs. Not only energy and fertilizers for crops and pastures, but seeds, feeds and pesticides are becoming more costly than ever, to the extent that farmers may reduce input applications or switch to crops that are less input-intensive. This, by way of lowering productivity, is likely to suppress exports of key foodstuffs (particularly wheat, rice and maize) to the international market, and to put at risk countries that are heavily dependent on imports to meet their staple food needs.

This Special Feature examines the implications of higher input prices on countries that are forced to import them in large quantities owing to a lack of productive endowments. Nor are major exporting countries immune from higher input costs, which could limit their capacity to supply international markets. That being said, the overall objective of the feature is to assess the prospects of whether a global supply response is possible, and whether it will be sufficient and swift enough to restore equilibrium to food markets. The analysis is facilitated by the Global Input Price Index (GIPI) – a summary metric introduced in the November 2021 edition of the Food Outlook report – and the new compilation of agricultural input import bills.

The main findings from the analysis are as follows:

- An all-time high GIPI, underpinned by record energy and fertilizer prices, points to exceptionally low prices for farmers in real terms and limited incentives to step up production in 2023 (see Section 2).
- For farmers to step-up production, real prices have to rise. This can materialize either through further

rising output prices (FFPI) or falling costs/input prices (GIPI) or, ideally, a combination of the two.

- Either record or high input prices fuelled sharp increases in agricultural input import bills in 2021 and price momentum is forecast to heighten bills further in 2022 (see Section 3).
- Increases in agricultural input import bills do not imply an increased inflow of inputs. The bills are being driven by price rises at the expense of greatly reduced imports of inputs. Again, this bodes ill for a much-needed positive production response in 2023.

The findings do not augur well for a market-led supply response that could conceivably rein in further increases in food prices for the 2022/23 season and possibly the next. To conclude, Section 4 summarizes an FAO initiative to provide immediate respite from the crisis, especially for countries that are most exposed.

High input costs come at a time of record food import bills

Agricultural inputs are instrumental for ensuring that global food supplies meet the needs of a rising population. These inputs include fertilizers (derived from fossil fuels or mined from the earth), energy (mostly fossil fuel derivatives)

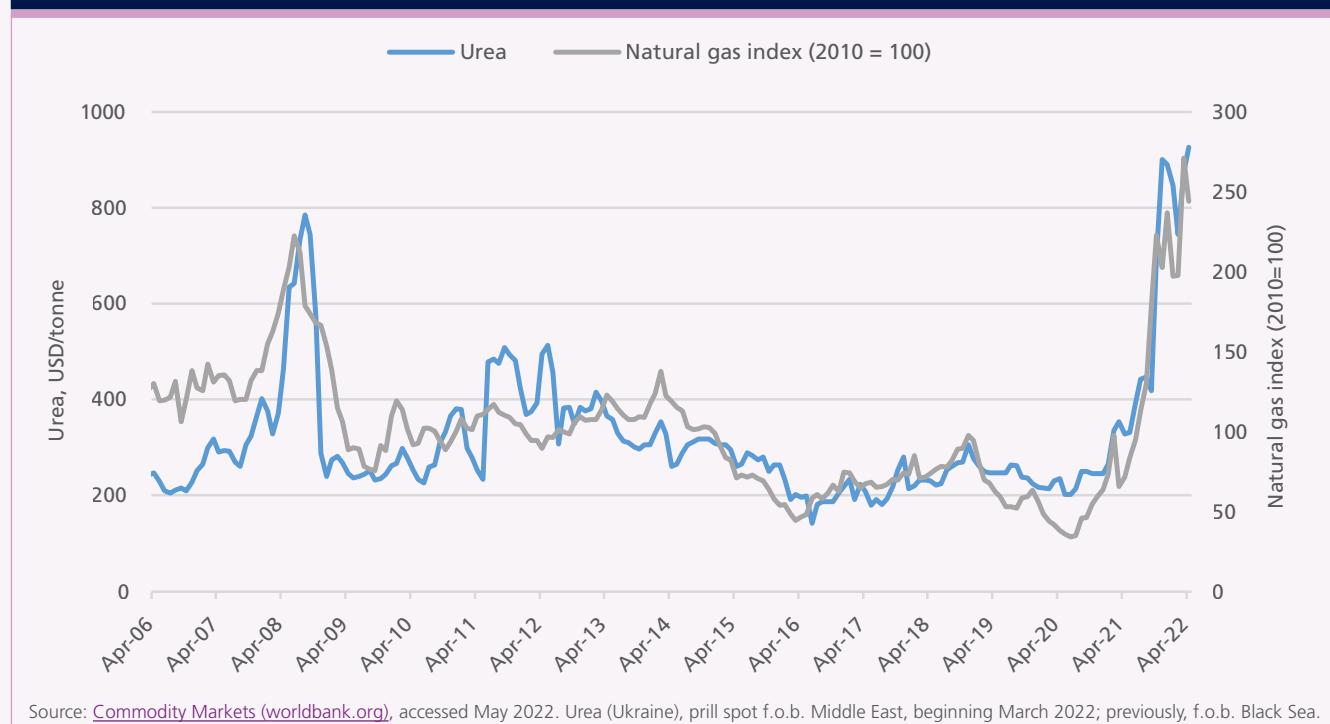
for mechanized cultivation and rudimentary processing of crops for basic consumption, feedstuffs for rearing livestock, pesticides, and seeds (clean or certified to ensure that crop can realize their full yield potential).

A focus on fertilizers

Nitrogen, arguably, is the most important nutrient for raising productivity in cereal crops. In the form of ammonium nitrate or urea, N is mainly derived from natural gas and hence is closely tied to the price of fossil fuel (see Figure 1). Prices of natural gas embarked on a rapid upsurge during early 2021 as countries reopened their economies with the easing of COVID-19 restrictions. When demand surged (mainly but not exclusively due to unusually high demand for electricity from gas-fired electricity plants), and natural gas suppliers failed to ramp-up production, prices for natural gas spiked in the second semester of 2021 and continued to remain at elevated levels in the first months of 2022. The invasion of Ukraine by the Russian Federation in February (the largest gas and fertilizer supplier in the world) put further pressure on prices, with N quotations mirroring the upward trend of natural gas.

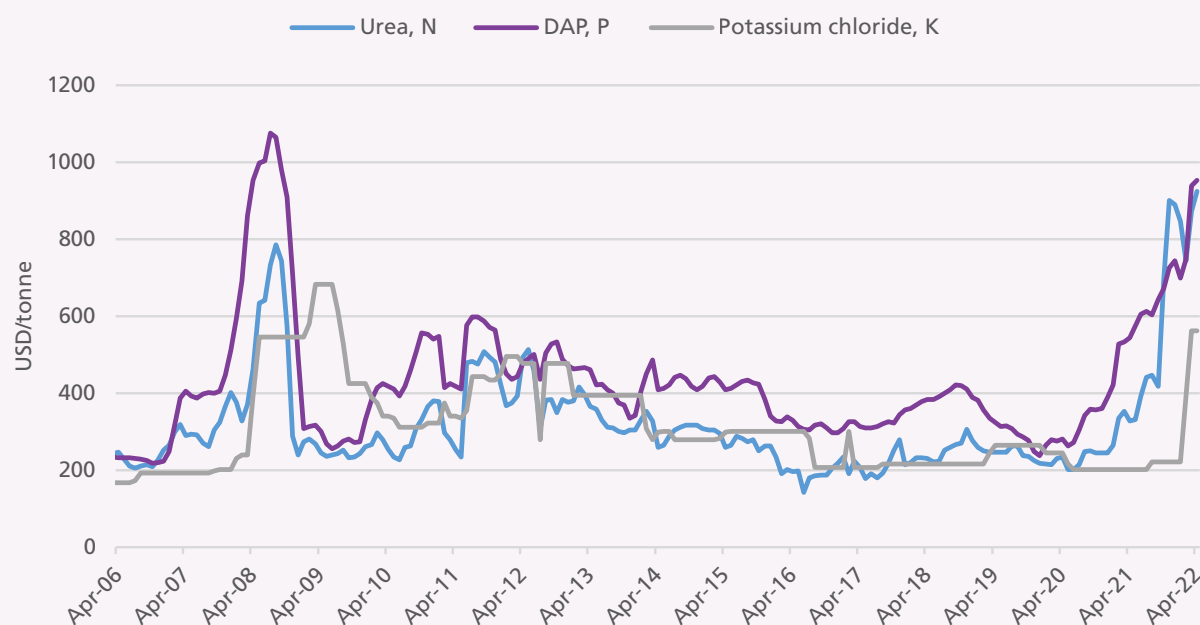
Figure 2 shows the evolution of quotations for other primary nutrients, P and K, which have also reached multiyear highs in recent months. The upshot is that fertilizer prices, notwithstanding the costs of energy,

Figure 1. Natural gas prices driving urea-nitrogen prices



Source: [Commodity Markets \(worldbank.org\)](https://www.worldbank.org), accessed May 2022. Urea (Ukraine), prill spot f.o.b. Middle East, beginning March 2022; previously, f.o.b. Black Sea.

Figure 2. International fertilizer quotations



Source: [Commodity Markets \(worldbank.org\)](https://www.worldbank.org/), accessed May 2022. Urea (Ukraine), prill spot f.o.b. Middle East, beginning March 2022; previously, f.o.b. Black Sea; DAP (diammonium phosphate), spot, f.o.b. US Gulf; Potassium chloride (muriate of potash), f.o.b. Vancouver.

pesticides, feeds and seeds, can significantly erode the margins of producers, making the commercial cultivation of some crops unprofitable, and causing farmers to switch to less input-intensive crops. This scenario is being reported in the United States of America, where plantings of soybean – a crop that does not require nitrogen – is expected to reach record levels in 2022/23, largely at the expense of maize, which is very N-intensive.

Developments in markets for other inputs

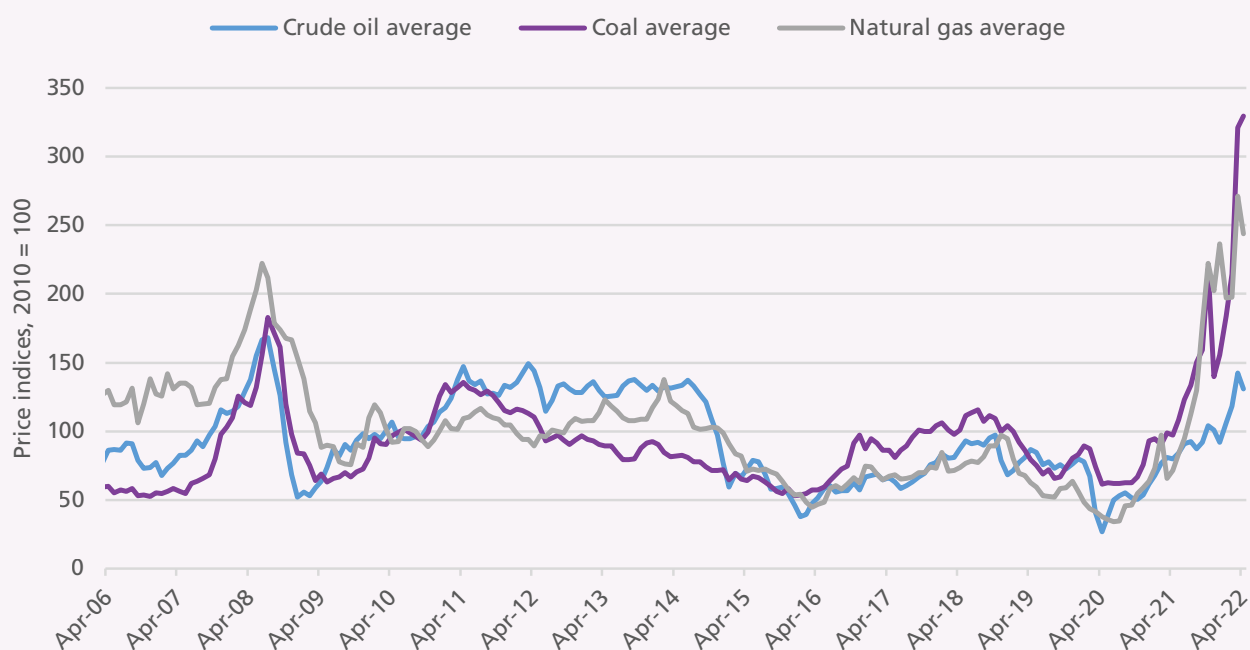
While analysts are paying a great deal of attention to the issue of fertilizers, these are not the only input required to produce crops. The dependence of agricultural sectors on fossil energy sources is increasing globally, either directly in the form of petroleum and petroleum derivatives (gasoline, diesel and lubricants), or indirectly through natural gas and coal to produce agrichemicals and ultimately electricity. In the case of the latter, electricity is the primary source required to manufacture feed ingredients, such as by crushing oilseeds to produce oil meals and milling grains to manufacture feedstuffs (e.g. pellets, flours and compound materials). When it comes to food processing, electricity also features heavily in the cost schedule. Electricity is used to mill cereals into flours, crush oilseeds into vegetable oils, produce processed meat and dairy products (e.g. milk powders) and dry, preserve and refrigerate many perishable foodstuffs. Higher energy prices also lead to higher

transport, distribution and retail costs, which will again be reflected in elevated consumer food prices. Figure 3 shows the upward momentum in fossil fuel prices, yet another reason for higher food prices.

Feed and seed production require the same sort of inputs as crops (fertilizers and energy), which is apparent in the parallel upward trend of their quotations. While indicative prices of seeds are seemingly volatile, much has to do with the seasonal demand that arises during planting periods. By contrast, synthetic pesticides, which require fossil fuels in both their formulation and production to varying degrees, have not shared in the trend of rising input prices. Given their relative high unit cost per hectare, an underlying reason could be a trade-off with pesticides for other inputs that are considered more important for productivity and profitability.

It is by no means a coincidence that the price of food is on the rise, owing to higher costs of production and the prospect of supply scarcity due to lower input use. The war in Ukraine is contributing significantly to both drivers of higher prices – the Russian Federation has imposed export restrictions on fertilizer, while prospects of Ukrainian shipments of grains and sunflower oil are circumscribed by the destruction or blockade of its major Black Sea ports. A growing number of countries have started to shield themselves from the inflationary effects of higher food prices as well as to safeguard their own food security by instigating export restrictions or outright bans,

Figure 3. Prices of non-renewable energy sources



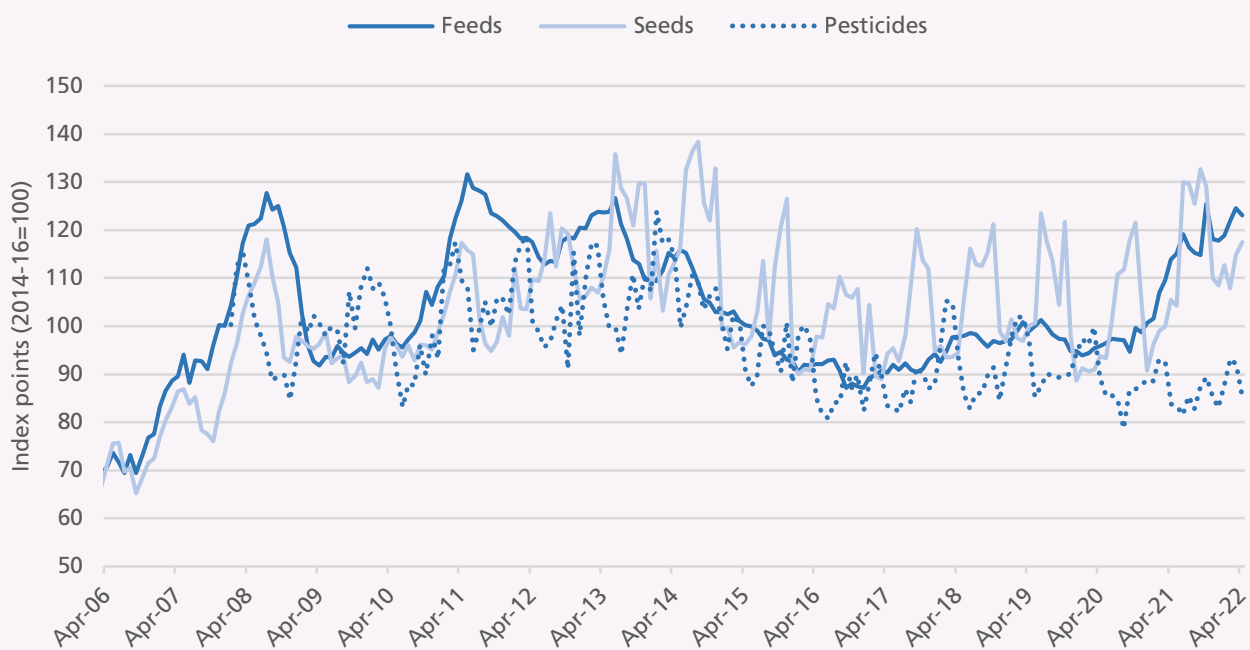
Source: [Commodity Markets \(worldbank.org\)](https://www.worldbank.org), accessed May 2022.

compounding the upward trend in international food prices.

These factors limit the prospects for a substantial downturn in prices of internationally-traded foodstuffs. The benchmark indicator – the FAO Food Price Index (FFPI) – registered its highest monthly jump ever in March

2022, climbing by 13 percent from February to a record 160 points. In April 2022, the FFPI fell by 1 percent, but it remains at a critically high level. It must be stressed that, under normal circumstances, high food prices tend to accord high profit margins to farmers, motivating

Figure 4. Indicative prices of feeds, seeds and pesticides



Source: FAO (EST) and Trade Data Monitor (TDM), authors' calculations.

them to invest in productivity-raising initiatives that ultimately increase supply. However, these are not normal circumstances and a supply response to equilibrate markets can no longer be assured as long as fertilizers and other

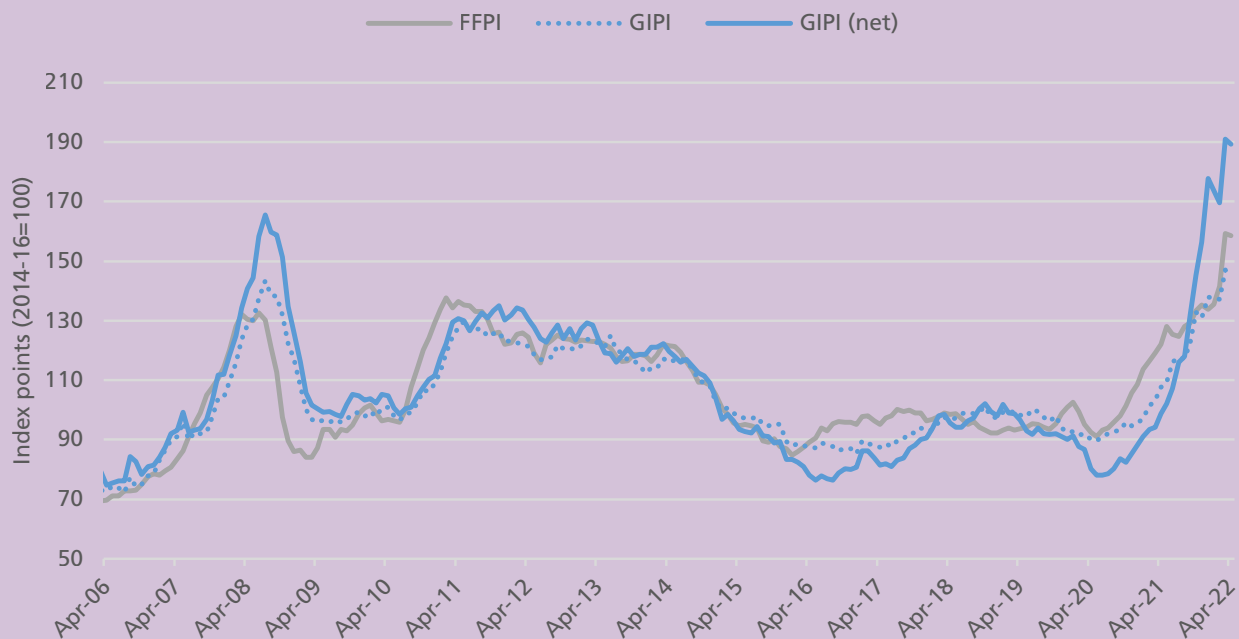
inputs remain too costly and scarce to procure (see Box 1). This situation is expected to pave the way to a largely price-driven record global food import bill of USD 1.8 trillion in 2022, surpassing last year's all-time high by around

Box. Summarizing global trends in agricultural input prices and their implications

The Global Input Price Index of FAO was introduced in the last edition of Food Outlook (November 2021). It is an aggregate input price index, with subcomponents consisting of energy, feeds, fertilizers, seeds, and now pesticides. These subcomponents are weighted by their relative utilization or 'consumption' shares, which in turn are derived from FAOSTAT commodity balances. The initial quantities are converted into values, applying corresponding import unit values (IUVs) from a trade intelligence provider – Trade Data Monitor. Given the time lag in reporting by FAOSTAT and the fact that data are annual, a Laspeyres construct was employed to derive the GIPI.

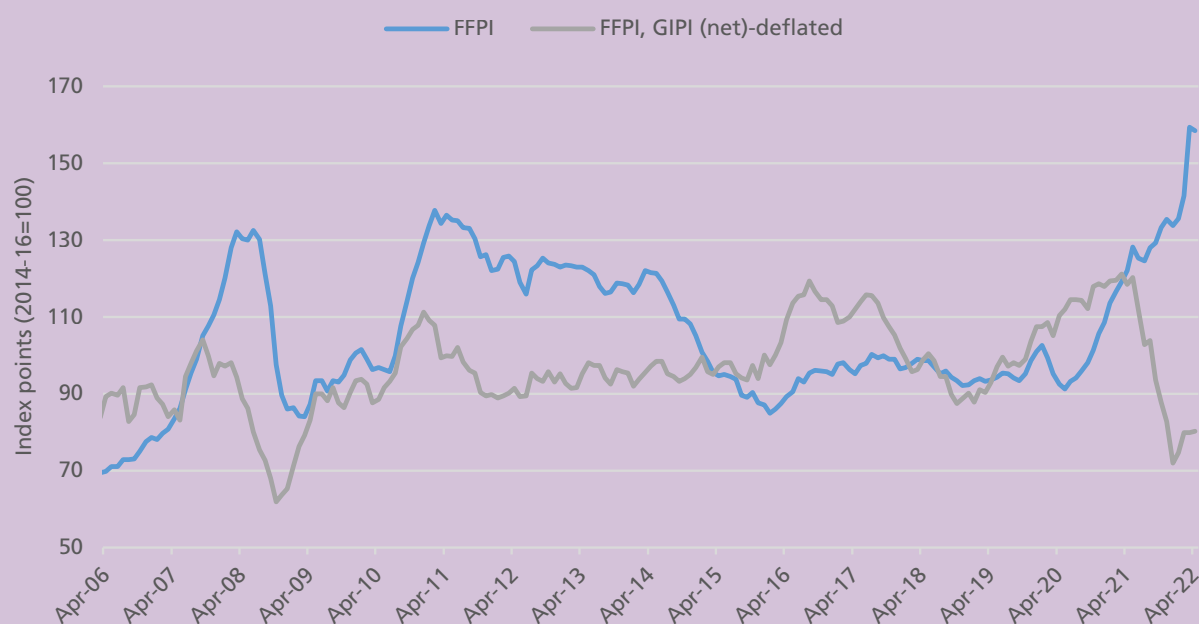
A more holistic picture of the input price trends is provided by the GIPI through the weighted contributions of the index's constituents. A 'net GIPI' has also been constructed in parallel from which feeds and seeds are removed, owing to the fact that these inputs are produced by agriculture, requiring energy, fertilizers and pesticides and thus do not contribute to cost increases in the GIPI.

Box Figure 1. Comparing trends in the FFPI, GIPI and GIPI (net), 2014-2016 = 100



Source: FAO (EST) and Trade Data Monitor (TDM), authors' calculations.

The three indices presented in Box Figure 1 track each another closely. While input prices underpin the cost of food production, growing demand for food from international markets may also translate into growing demand for inputs. A telling development in the past 12 months has been an average **monthly growth rate in the net GIPI that far outstrips the growth rate in food prices** – 6 percent (net GIPI) compared to 2 percent (FFPI). It is worth noting at this stage that the FFPI is also published in real terms, but the deflator employed is the 'manufactures unit value' (MUV). This deflator, while relevant for assessing the terms-of-trade in agriculture with respect to manufactured goods, provides little guidance to farmers on incentives to cultivate less or more and of which crop. By deflating the FFPI with the net GIPI, it is possible to infer the 'real' prices received by farmers. This enables an assessment of whether the much-needed supply response may or may not materialize.

Box Figure 2. 'Real' output prices of food.

'Source: FAO (EST) and Trade Data Monitor (TDM), authors' calculations '.

It can be seen that the real output prices of food fell by more than 20 percent from the index base by April 2022 (2014–2016=100). Despite this fall being less, in relative terms, than during the food (price) crisis of 2006–2008, the slump in real prices then lasted for around six months. Given the circumstances of the world today and the uncertainty that they bring, it is impossible to rule out further and more protracted declines in real output prices. It could be many more months, arguably the entire 2022/23 season and beyond, before input prices, especially for energy and fertilizer fall to a level that bolsters real food prices. Only then can we anticipate a supply response that restores equilibrium to international food markets.

In sum, real prices faced by farmers are not high and rising as the MUV-deflated FFPI series may suggest, but rather low and falling. Farmers are therefore not incentivised to step up production, which points to a prolonged phase of high food prices.

3 percent (see Market Indicators section).

Agricultural input import bills

Not every country can meet food requirements from its productive endowments, necessitating purchases from international markets. The same holds true for inputs. Agricultural input import bills can be constructed using the same methodology as for food input bills and are similarly highly relevant for measuring the global burden, as well as the burden for vulnerable country groups, of importing necessities. Arguably, imports of inputs are of more critical importance, since they can generate enormous savings by bolstering productive capacity. These savings are manifest in the reduced need to expend scarce foreign exchange reserves on food imports and in the

macroeconomic benefits accruing from improved balance of payments positions.

Table 1 presents world agricultural input import bills and the same country groups listing for food imports, for the current year and preceding three years. In reporting on trade, countries are not required to document the activity sector for which the import/export is destined, hence feed inputs (mostly grain-based materials) are excluded since they can be used for direct human consumption as well as for livestock.

The world bill for imported agricultural inputs in 2022 is currently forecast as USD 348 billion, which would represent a 21 percent increase from 2021. In that year, international quotations for inputs, especially for energy and fertilizers, rose sharply, driving the global bill upwards by 58 percent

Table 1. Import bills for total inputs and input type by region (current USD billion)

Input category	World				Developed				Developing			
	2019	2020	2021	2022*	2019	2020	2021	2022*	2019	2020	2021	2022*
EnergyAg	113.4	77.5	125.2	145.8	17.8	11.2	18.8	25.2	95.6	66.3	106.4	120.7
Fertilizers	77.2	70.1	107.4	145.7	30.3	27.1	42.0	56.8	46.9	43.0	65.4	88.9
Pesticides	38.8	44.2	45.7	47.5	19.0	23.0	22.4	23.2	19.8	21.2	23.3	24.4
Seeds	7.1	7.5	8.5	9.1	4.0	4.2	4.2	4.9	3.1	3.3	4.2	4.2
Total	236.4	199.3	286.8	348.1	71.1	65.4	87.4	110.0	165.3	133.9	199.4	238.1
	LDCs				NFIDCs				SSA			
	2019	2020	2021	2022*	2019	2020	2021	2022*	2019	2020	2021	2022*
EnergyAg	5.4	4.0	6.1	6.6	14.8	10.2	16.8	18.3	11.6	6.6	11.6	13.3
Fertilizers	3.4	3.6	4.3	5.0	6.8	6.5	8.6	8.2	3.8	3.7	5.4	5.4
Pesticides	1.2	1.2	1.5	1.5	3.1	3.4	3.5	3.7	2.3	2.6	2.8	2.9
Seeds	0.1	0.1	0.2	0.1	1.2	1.3	2.0	2.1	0.2	0.4	0.2	0.2
Total	10.1	8.9	12.1	13.3	25.8	21.4	30.9	32.4	17.9	13.3	20.0	21.8

Source: FAO (EST) and Trade Data Monitor (TDM), authors' calculations* **Forecast based on early 2022 data.**

from 2020. These two inputs constitute the lion's share of the value of global trade in agri-inputs, accounting for, historically and currently, well over 80 percent of the world bill. Table 1 further shows that developing¹ regions are by far the largest importer of agricultural inputs, led by energy and fertilizers, and dwarfing the value of imported inputs in developed countries.

In developing regions, net food-importing developing countries (NFIDCs), many of which are in Africa (44 out of the 77 classified countries), saw a notable rise in their input bills in 2021. Again, energy and fertilizers dominated their import schedule, leading to a more than 50 percent increase in their total import bill from 2020 to 2022. In percentage terms, sub-Saharan Africa (SSA) saw an even sharper rise in the input bill, with a rise in excess of 60 percent between 2020 and 2022. This represents a double burden for these countries, with higher expenditures on both food and agricultural inputs.

To assess the factors driving higher input import bills – whether greater volume or a rise in prices or their interaction – a decomposition of changes (2022 over 2021) in import bills is presented in Table 2. At the global level, price effects dominate volume effects, meaning that the world is paying much more for agricultural inputs relative to any increase in imported quantities. In many cases, and of concern, countries are paying more in 2022 (green cells in the price column) but receiving less volume of agricultural inputs than they did in 2021 (red cells in the volume column), especially of energy and fertilizers.

Pesticides are an exception, especially in SSA, where

volume effects invariably outweigh price effects, meaning that countries are getting more of the input for a lower price. A plausible explanation for the buck in trend is that the desert locust upsurge, which afflicted Eastern Africa and nearby regions, demanded huge amounts of pesticides, for which the FAO campaign provided assisted procurement in the form of price subsidies. No discernible global trend emerges for seeds, which constitute a minor cost in the import schedule of many countries.

The analysis in this section suggests that higher agricultural input import bills do not necessarily translate to higher domestic availability of inputs. On the contrary, this is clearly a fallacy since countries are generally paying more for fewer inputs.

How to address higher food import bills? FAO's proposal for a Food Import Financing Facility (FIFF)

Rapidly rising costs of imported food could result in lower food availability and compromised access to food in poor and food import-dependent countries, eventually resulting in a further increase in hunger and malnutrition. It is therefore proposed to allow eligible countries to offset some of the extra costs to cope with rapidly rising food import bills. Such an intervention – known as a Food Import Financing Facility (FIFF) – would be particularly important for low-income countries in the context of a probable continuation of the current upward trend in global food prices.

As a first step, eligible countries would be limited to net food importers. Drilling-down, the intersection between net trade positions and income levels identifies the countries eligible for FIFF funding. The resulting list

¹ The aggregates for developed and developing regions have been maintained in this issue of Food Outlook for statistical purposes. Maintaining these particular groupings allows to provide comparable estimates of the size and composition of food import bills to those computed in last year's edition of this report.

Table 2. A decomposition of changes in agricultural import bills for total inputs and input type by region (current USD billion/million), 2022* over 2021.

Input category	World				Developed				Developing			
	Price effect	Volume effect	Mixed effect	Observed change	Price effect	Volume effect	Mixed effect	Observed change	Price effect	Volume effect	Mixed effect	Observed change
<----- USD billion ----->												
EnergyAg	21.5	-0.8	-0.1	20.6	5.9	0.3	0.2	6.4	15.5	-1.1	-0.3	14.2
Fertilizers	44.6	-3.7	-2.7	38.2	19.3	-2.7	-1.8	14.8	25.2	-1.0	-0.8	23.4
Pesticides	-0.6	2.4	-0.1	1.8	-0.5	1.4	-0.1	0.8	-0.1	1.1	0.0	1.0
Seeds	0.2	0.5	0.0	0.6	0.3	0.4	0.0	0.7	-0.1	0.2	-0.1	0.0
Total	65.6	-1.5	-2.8	61.3	24.9	-0.7	-1.6	22.6	40.6	-0.8	-1.2	38.6
<----- USD million ----->												
Input category	LDCs				NFIDCs				SSA			
	Price effect	Volume effect	Mixed effect	Observed change	Price effect	Volume effect	Mixed effect	Observed change	Price effect	Volume effect	Mixed effect	Observed change
EnergyAg	497	-84	94	508	1 219	129	229	1 577	1 000	1 507	-842	1 665
Fertilizers	422	227	23	673	437	-523	-338	-424	678	-382	-211	86
Pesticides	-7	17	-10	0	5	188	-5	188	-24	131	-6	101
Seeds	-24	-20	8	-37	-28	232	-67	136	-3	48	-21	24
Total	888	140	115	1 144	1 633	26	-181	1 478	1 651	1 304	-1 080	1 875

Source: FAO (EST) and Trade Data Monitor (TDM), authors' calculations* **Forecast based on early 2022 data.**

of beneficiary countries is finally ranked by the change in (realized) food imports per capita between 2020 and 2021. Based on their income and net food importing status, 61 countries would be eligible to tap into the FIFF, easing access to food for 1.77 billion people worldwide.

The final design for the practical implementation of the FIFF is likely to be determined by numerous factors that pertain to the nature and the conditionality of the Facility's financing instruments. Conditionality could be designed as an 'automatic stabilizer' to contain the funding needs of the facility. For example, eligibility could be linked to a commitment to devote a certain percentage of

public expenditure to promoting sustainable agricultural productivity to help ensure lower food import requirements in future and cap future funding needs. The FIFF would promote domestic food availability and provide food access and support to the livelihoods of rural communities.

Based on the current design, full compensation of the increase in the food import bill between 2020 and 2021 would require financing of a maximum USD 25.3 billion. While FAO has developed the proposal and can monitor its implementation, the actual funding, however, will be in the hands of an international finance organization, such as the International Monetary Fund (IMF).



MARKET POLICY DEVELOPMENTS

GRAINS: MAJOR POLICY DEVELOPMENTS MID-OCTOBER 2021 TO MID-MAY 2022*

COUNTRY	PRODUCT	DATE	POLICY INSTRUMENT	DESCRIPTION
Albania	Wheat	Mar-22	Import policy	Announced agreement with Serbia to import wheat despite export ban by the latter.
Algeria	Barley and wheat	Jan-22	Government procurement	Increased grain procurement prices, including for durum by 33 percent, to DZD 60 000 (USD 431) per tonne, for common wheat by 43 percent, to DZD 50 000 (USD 359) per tonne, for barley by 36 percent, to DZD 34 000 (USD 244) per tonne and for oats by 89 percent, to DZD 34 000 (USD 244) per tonne.
	Wheat	Jan-22	Import policy	Temporarily halted wheat imports from France.
	Wheat	Mar-22	Import policy	Resumed French wheat imports after disruption of Ukraine shipments.
	Wheat	Mar-22	Export ban	Banned exports of several food commodities, including pasta, semolina and wheat derivatives until the end of 2022.
Argentina	Maize and wheat	Dec-21	Export policy	Issued Decree 852/2021, which sets export taxes for certified organic agricultural products, including maize and wheat, at zero percent.
	Maize and wheat	Dec-21	Export policy	Established a system to regulate maize and wheat exports, with 'equilibrium volumes' to be determined, based on domestic supply, by the Ministry of Agriculture, Livestock and Fisheries. Maize export quota for 2021/22 was set at 41.6 million tonnes, while the 2021/22 wheat export quota was set at 12.5 million tonnes. Initial 2022/23 export quotas for maize and wheat were set at 25 and 2 million tonnes, respectively.
	Wheat	Mar-22	Government market intervention	Agreed with flour mills and exporters to set up a 'trust' mechanism to temper food inflation and control domestic wheat prices. For each tonne of wheat declared for export, agricultural exporters must pay a certain percentage into a trust, which would be capped at 1 percent. The fund will be used to subsidize the industry that produces food for the local market. The price mechanism would remain in place until the end of January 2024 and would focus on domestic sales of wheat flour and dry pasta.
	Wheat	Mar-22	Export quota	Increased its annual wheat export quota for the 2022/23 marketing season from 2 to 10 million tonnes to take advantage of high international prices. The wheat export quota for 2021/22 was revised up to 14.5 million tonnes.
	Wheat	Mar-22	Government procurement	Announced new reference price for bread of a maximum of between ARS 220 and ARS 270 (USD 1.8 to USD 2.3) per kilo for a period of 90 days. The new price came into effect after the wheat price stabilization fund was established (see below).
	Wheat	Apr-22	Government market intervention	Launched a wheat stabilization fund of USD 350 million to be financed by the readjustment of export duties on soybean meal and oil. The measure aims in subsidizing the price of wheat for the millers that manufacture flour.
Azerbaijan	Wheat	Jan-22	Government procurement	Determined the maximum allowed local prices for flour and bread. Wholesale price for a 50 kg bag of flour was set at AZN 35.9 (USD 422 per tonne), the retail price for 500 gr of traditional (round) bread at AZN 0.5 (USD 0.6 per tonne), and for 650 gr traditional (round) bread at AZN 0.65 (USD 0.58 per tonne).
	Wheat	Mar-22	Government market intervention	Allocated up to AZN 75 million (USD 44.1 million) in subsidies to cover the difference in wheat and flour product prices.
Belarus	Wheat	Dec-21	Export ban	Announced a temporary ban, of three months, on wheat flour exports, including Eurasian Economic Union (EAEU) countries and the ones outside of this Union.

COUNTRY	PRODUCT	DATE	POLICY INSTRUMENT	DESCRIPTION
Brazil	Maize	Mar-22	Government market intervention	Launched a national fertilizer plan aimed at reducing dependence on imports. With new incentives for private investment in fertilizer production, the plan seeks to reduce imports to 45 percent of total domestic fertilizer consumption by 2050, from 85 percent currently.
	Maize	Mar-22	Import tariff	Declared duty-free treatment on the importation of several agricultural products, including ethanol and soybean oil to be applied with immediate effect until the end of 2022.
	Maize and wheat	May-22	Import tariff	Cut import tariffs on several food items, including maize, wheat and wheat flour. The measure, which applies to countries outside the MERCOSUR duty-free trade bloc came into effect from 12 May and will be valid until the end of 2022. The aim is to address high food inflation, which surged 13 percent in April 2022 on an annual basis.
Bolivia (Plurinational State of)	Wheat	Apr-22	Government procurement	Increased the wheat procurement price from USD 235 per tonne in 2021 to USD 290 per tonne, and the volume of purchases was agreed at about 211 600 tonnes, a significant increase from 130 000 tonnes in 2021.
	Wheat	Apr-22	Production support	Introduced a credit support scheme under the Crédito para la Sustitución de Importaciones (SIBOLIVIA) programme, providing wheat farmers with loans at an annual interest rate of 0.5 percent. This measure aims to expand main season plantings to 150 000 hectares, more than 15 percent above the average, and to boost domestic supplies amid rising wheat flour prices.
Bulgaria	Maize and wheat	Mar-22	Government intervention	Announced plans to allocate BGN 1.1 billion (USD 616 million) to procure around 1.1 million tonnes of wheat, maize and sunflower seeds in order to increase state reserves.
	Wheat	Mar-22	Government intervention	Announced the procurement of 750 000 tonnes of wheat to support food reserves.
Burkina Faso	Maize and sorghum	Feb-22	Export ban	Announced a ban on exports of millet, maize and sorghum flours. The measures seek to safeguard domestic food supplies and contain upward pressure on cereal prices following a significant year-on-year decline in 2021 cereal production.
Cameroon	Grains	Dec-21	Export ban	Announced the immediate temporary suspension of exports of locally-produced cereals. The measure aims to curb price increases and ensure adequate supplies of these staple commodities in the domestic market.
	Wheat	Apr-22	Export ban	Announced an export ban on several commodities, including wheat flour.
Chile	Wheat	Dec-21	Import tariff	Increased applicable discounts on customs duties on wheat and wheat flour, from USD 191.76 to USD 195.25 per tonne and from USD 299.15 to USD 304.59 per tonne, respectively. The discounts had a two-month validity, from 16 December 2021 until 15 February 2022.
	Wheat	Feb-22	Import tariff	Reduced applicable discounts on customs duties on wheat and wheat flour from USD 195.25 to USD 183.96 per tonne and from USD 304.59 to USD 286.98 per tonne, respectively. The discounts have a two-month validity, from 16 February 2022 to 15 April 2022.
	Wheat	Apr-22	Import tariff	Increased applicable discounts on customs duties on wheat and wheat flour from USD 183.96 to USD 278.78 per tonne and from USD 286.98 to USD 434.9 per tonne, respectively. The discounts have a two-month validity, from 16 April 2022 to 15 June 2022.

COUNTRY	PRODUCT	DATE	POLICY INSTRUMENT	DESCRIPTION
China (mainland)	Maize	Feb-22	Import policy	Allowed maize imports from Myanmar in an attempt to diversify its grain origins
	Grains	Feb-22	Government market intervention	Released a policy document recommending higher subsidies for arable land rotation and incentives for large-oil producing counties. China seeks to concentrate on supporting suitable regions, key varieties and business service entities as well as promoting the belt-like composite of planting of maize and soybeans. The policy also aims to strictly control the processing of ethanol produced from maize biomass.
	Wheat	Feb-22	Import policy	Published Announcement No.21 lifting restrictions on Russian wheat imports. The protocol on phytosanitary requirements was revised to allow imports of spring wheat grown in all producing regions in the Russian Federation where wheat dwarf smut is not prevalent, and for processing purposes exclusively.
	Grains	Mar-22	Government market intervention	An amended Seed Law came into effect, notably to strengthen the provisions relating to intellectual property rights in the seed industry.
	Wheat	Mar-22	Production support	Allocated CNY 6 billion (USD 253 million) to strengthening field management of winter wheat. The money will be used to stabilize winter wheat production in five key regions, including Hebei and Shandong, where planting was delayed because of heavy rains.
	Grains	Mar-22	Government market intervention	Allocated CNY 20 billion (USD 3.16 billion) to stabilize farm incomes and compensate grain producers for the soaring costs of agricultural inputs.
	Wheat	Mar-22	Production support	Allocated CNY 2 billion (USD 315.1 million) to support the cultivation of the winter wheat crop in eleven main production provinces.
	Wheat	Nov-21	Import policy	Approved the EU (Latvia) as a new wheat import origin.
	Wheat	Nov-21	Government procurement	Set the price range for 2022/23 wheat procurement at EGP 800 – EGP 820 per 150 Kg (USD 339 – USD 349 per tonne), depending on purity level.
	Wheat	Jan-22	Government procurement	Increased wheat procurement price by EGP 670 (USD 42.7) per tonne for the harvest season started in April, amid a rise in global prices.
Egypt	Maize and wheat	Feb-22	Government market intervention	The Federation of Egyptian Banks (FEB) excluded imports of some products and commodities, including wheat and maize, from regulations that require importers to use letters of credit as payment instead of a cash-against documents system.
	Wheat	Mar-22	Government intervention	Issued Decree No. 90/2021 extending the moisture limit of 13.5 percent by one year for imported wheat, with effect from 3 April 2022. The decision responds to a request by the Ministry of Supply and Internal Trade to ensure the availability of this strategic commodity to consumers.
	Wheat	Mar-22	Export ban	Temporarily banned exports of several agricultural commodities, including wheat flour and pasta. The ban is effective for three months.
	Maize	Mar-22	Export ban	Temporarily banned exports of maize for three months, with immediate effect from 12 March 2022.
	Wheat	Mar-22	Production support	Increased the wheat production area by 240 feddans (almost 100 hectares) through the state's policy of vertical expansion of wheat growing plots using the best types of seeds, modern irrigation methods and agricultural mechanization.

COUNTRY	PRODUCT	DATE	POLICY INSTRUMENT	DESCRIPTION
Egypt	Wheat	Mar-22	Government procurement	Brought forward the start date of the local wheat procurement season from 1 April to 15 April 2022 and set the wheat procurement target at 6 million tonnes, two-thirds more than last year.
	Wheat	Mar-22	Government market intervention	Increased wheat procurement price by EGY 65 per ardeb (150 kilograms) (USD 27.7 per tonne). Payment to farmers was, therefore, set between EGY 865–885 per ardeb (USD 366–374.6 per tonne), depending on wheat purity level. The measure aims to curb rapidly growing prices in local markets.
	Maize and sorghum	Apr-22	Government procurement	Announced prices of seeds for the summer season, which began in May. The price of a package of 5 kg of yellow or white maize was set at EGY 200 (USD 10.72), while for a 7 kg package of triple hybrids the price was set at EGY 160 (USD 8.58). The price of sorghum, Dorado variety, weighing 5 kilograms, amounted to EGY 50 (USD 2.68).
	Wheat	Apr-22	Import policy	Approved wheat imports from India subject to preshipment inspection and phytosanitary certificate requirements.
European Union	Wheat	Apr-22	Government market intervention	Enforced the regulations concerning the transportation of wheat across governorates without a valid permit. The regulations strictly regulate the collection and distribution of local wheat outside the authorities that are legally authorized to market wheat domestically (Ministerial Resolution No. 51 of 2022).
	Maize	Nov-21	Import tariff	Removed import tariff of 25 percent on maize imported from the United States. The measure came into effect from 1 January and will be valid until 31 December 2023.
	Grains	Mar-22	Import policy	Allowed member states to lift some technical restrictions linked to the existing maximum pesticide residue limit for animal feed, with full guarantee and safety of the agrifood trade, to compensate of loss of Ukraine origin maize meals.
	Grains	Mar-22	Government market intervention	Announced a EUR 500 million (USD 549 million) support package to help the European Union farmers most affected by the war in Ukraine.
	Grains	Mar-22	Government market intervention	Announced a number of short- and medium-term measures aimed at enhancing world food security and supporting farmers and consumers in the EU in light of rising food prices and the cost of essential inputs, including energy and fertilizers.
	Grains	Dec-21	Production support	Approved the extension of the Pradhan Mantri Krishi Sinchayee Yojana scheme for 2021 to 2026. The scheme, which provides grants to state governments to implement irrigation-related projects, was earlier approved for the period 2015 to 2021 with a budget of INR 50 000 crore (USD 6.54 billion). The scheme has now been extended with a budget of INR 93 068 crore (USD 12.18 billion) for the extended period.
India	Wheat	Dec-21	Futures market	Announced the suspension of futures trading for one year in several agricultural products, including wheat in an attempt to curb inflation.
	Wheat	Feb-22	Government procurement	Announced that it will allocate INR 2.37 trillion (USD 31 680 trillion) for the procurement of wheat and paddy rice under the Minimum Support Price (MSP) programme.
	Wheat	Feb-22	Bilateral agreement	Signed an agreement with Pakistan to deliver 2.5 million tonnes of wheat to Afghanistan through the Pakistan border.
	Wheat	Mar-22	Government market intervention	Announced that there will be no tax on exported wheat from Madhya Pradesh state in order to boost international exports.
	Wheat	Mar-22	Government procurement	Announced that the target for wheat procurement for 2022/23 was set at 6 million tonnes. Wheat will be procured from 1 April to 15 June at the fixed MSP of INR 2 015 per quintal (USD 264.8 per tonne).
	Wheat	May-22	Government market intervention	Announced that it revised May-September allocations under the Pradhan Mantri Garib Kalyan Anna Yojana food welfare programme, with the monthly allocation of wheat cut from 1.8 million to 700 000 tonnes.

COUNTRY	PRODUCT	DATE	POLICY INSTRUMENT	DESCRIPTION
India	Wheat	May-22	Export ban	Announced a ban on wheat exports with immediate effect after worries over the heatwave that affected the crop and caused domestic prices to hit a record high. The country, however, stated that exports backed by letters of credit that had already been issued will still be allowed, as will sales to countries that request supplies to meet their food security needs.
	Wheat	May-22	Government procurement	Announced the extension of the 2022/23 wheat procurement period until 31 May in wheat-producing states, where the procurement closing dates were expected in mid-May.
Indonesia	Barley	Jan-22	Import policy	Eased phytosanitary requirements that will allow imports of barley from the Russian Federation.
	Wheat	Mar-22	Import subsidy	Eliminated subsidies for imported wheat, flour and other essential items.
Iran (Islamic Republic of)	Barley, maize and wheat	Mar-22	Bilateral agreement	Signed a deal with the Russian Federation to import 20 million tonnes of basic goods, including wheat, barley and maize to address concerns about shortages of basic goods in the Iranian new year, starting on 21 March.
	Wheat	Mar-22	Government procurement	Increased the government procurement price for wheat for the harvest season from 31 March through 21 November 2022. The price increased to IRR 115 000 per kg (USD 274 per tonne), from IRR 75 000 per kg (USD 178 per tonne) last season.
Iraq	Wheat	Mar-22	Government procurement	Raised the government procurement price to IQD 725 000 (USD 500) per tonne, with potential for further increase, depending on global prices.
	Wheat	Mar-22	Government intervention	Allocated USD 100 million to import 3 million tonnes of wheat to create a strategic reserve.
	Barley and wheat	Mar-22	Import duty	Reduced custom duty to zero for a period of two months on several food commodities, including wheat, flour and barley.
	Wheat	May-22	Government procurement	Announced the increase of wheat procurement price by 13 percent, to IQD 850 000 (USD 583) per tonne.
	Wheat	May-22	Import duty	Lifted customs duties on wheat imports for three months starting in May, as part of measures to temper rising bread prices and preserve the purchasing power of consumers.
Hungary	Wheat	Mar-22	Export ban	Banned all grain exports effective immediately due to price increases.
Kazakhstan	Wheat	Apr-22	Export quota	Announced export quotas on wheat and wheat flour from 15 April to 15 June. The quota for wheat exports was set at 1 million tonnes and for wheat flour exports at 300 000 tonnes.
	Grains	Apr-22	Government market intervention	Outlined measures to safeguard food security in the current unstable international situation. Through Decree No. 847, fuel and lubricants will be supplied to farmers at affordable prices. Support will also be available for agricultural machinery, seeds and fertilizers. To prevent shortages and food price spikes, the government will purchase agricultural products at fixed prices.

COUNTRY	PRODUCT	DATE	POLICY INSTRUMENT	DESCRIPTION
Lebanon	Maize and wheat	Mar-22	Export ban	Banned the export of some locally-produced foods, including milling wheat and bread. The ban also covered animal feed.
	Wheat	May-22	Food security	Signed a USD 150 million food security loan with the World Bank to fund the country's wheat imports and stabilize bread prices.
Mali	Grains	Dec-21	Export ban	Announced a ban on exports of cereals, including rice, maize, millet and sorghum, until further notice.
Mexico	Maize, wheat and sorghum	May-22	Import duty	Announced the suspension of import duties for one-year period on several commodities, including wheat, wheat flour, maize and sorghum.
Moldova	Maize and wheat	Feb-22	Export ban	Introduced a ban on exports of wheat, maize and sugar with effect from 1 March. The measure was taken to curb price increases and will remain in force until the end of the 60-day state of emergency declared on 24 February 2022, following the escalation of the war in Ukraine and influx of Ukrainian refugees to the country.
Morocco	Wheat	Nov-21	Government market intervention	Increased its budget for subsidies on wheat, sugar and cooking gas to MAD 17 billion (USD 1.8 billion), in view of surge in international prices.
	Wheat	Jan-22	Import duty	Extended the suspension of import duties on wheat and wheat products until further notice. This measure is intended to keep the cost of imports at a competitive level and to build stocks.
	Wheat	Feb-22	Government market intervention	Reinstated a restitution system intended to keep common wheat prices below USD 270 per tonne. The baseline price is calculated every two weeks and is based on prices assessed from four origins (the United States, France, Argentina, the Russian Federation and Ukraine). The restitution system is valid until 30 June 2022. The Government of Morocco has set this measure in response to rising wheat prices due to the war in Ukraine and a surge in shipping costs in recent months.
	Barley	Feb-22	Government market intervention	Launched an anti-drought emergency programme through which the government makes subsidized barley available to farmers in hard-hit areas. The programme will distribute 700 000 tonnes of subsidized barley at the fixed price of USD 200 per tonne and will also support the transport of the commodity to remote areas. Additionally, the programme will supply 400 000 tonnes of compound feed to dairy farmers to mitigate the impact of rising animal feed prices.
New Zealand	Wheat	Feb-22	Subsidies support	Increased milling wheat subsidies by MAD 0.5 billion (USD 53.9 million) from last year to MAD 3.8 billion (USD 410 million).
	Grains	Apr-22	Import tariff	Announced plans to introduce an import tariff of 35 percent on all imports, including grains, from the Russian Federation. The measure is part of the government response to the war in Ukraine.
Nigeria	Wheat	Dec-21	Production support	The Central Bank of Nigeria allocated NGN 41 billion (USD 99.7 million) to wheat farmers in 14 states. The fund is aimed at expanding the domestic production of wheat.
North Macedonia	Wheat	Feb-22	Government market intervention	Set a 5 percent limit on wholesale margins and a 10 percent limit on retail margins on basic foodstuffs, including wheat, pasta and flour. The measure came into effect on 1 March for a period of three months with the aim to ease price increases.
	Barley, maize and wheat	Feb-22	Export ban	Announced export restrictions for barley, wheat, wheat flour and maize until 20 March.
	Wheat	Mar-22	Import tariff	Removed the value-added tax (VAT) previously set at 5 percent on several basic food products, including wheat.

COUNTRY	PRODUCT	DATE	POLICY INSTRUMENT	DESCRIPTION
North Macedonia	Barley, maize and wheat	Mar-22	Export ban	Extended the export ban on barley, wheat, wheat flour and maize until 15 April to support the domestic market.
	Wheat	Nov-21	Government procurement	Increased the minimum wheat support price from PKR 1 800 to PKR 1 950 per 40 kg bag (from USD 265.3 to USD 287.4 per tonne), in order to achieve self-sufficiency in wheat production.
	Wheat	Nov-21		Allowed India to send 50 000 tonnes of wheat to Afghanistan through its territory.
Pakistan	Wheat	Mar-22	Government procurement	Increased the minimum wheat support price from PKR 1 950 to PKR 2 200 per 40 kg (USD 279.8 to USD 313.8 per tonne) for the remainder of the 2021/22 season.
	Wheat	Mar-22	Government procurement	Approved a wheat procurement target at 1.4 million tonnes in Sindh province, along with a cash credit limit (CCL) of PKR 77 billion (USD 431.7 million). The target for Baluchistan province was set at 100 000 tonnes along with a CCL of PKR 6.2 billion (USD 34.8 million). The wheat procurement target for Punjab province was approved at 4 million tonnes with a CCL of PKR 220 billion (USD 1.2 billion). Approved a procurement target of 200 000 tonnes in Khyber Pakhtunkhwa province.
	Wheat	Mar-22	Government intervention	Banned wheat purchase by the private sector in the provincial governments of Sindh and Punjab. The measure aims to build stock reserves.
	Wheat	Mar-22	Import quota	Announced plans to import 3 million tonnes of wheat to avoid a shortage of wheat in the country and prevent further price increases.
	Wheat	May-22	Government procurement	Increased wheat procurement targets for the Punjab Food Department and the Pakistan Agricultural Storage & Services Corporation (PASSCO) by 1 million tonne and 500 000 tonnes, respectively, after reaching their wheat procurement target at 1.2 million tonnes and 3.5 million tonnes, respectively, at the end of April. The measure aims to build strategic reserves and stabilize the local wheat market.
	Wheat	May-22	Import quota	Approved 4.5 million tonnes of wheat imports, depending upon the demand of the PASSCO and provincial governments, with the aim to build strategic reserves and to stabilize wheat prices in the country.
	Wheat	Apr-22	Import tariff	Announced the introduction of a temporary deduction on the VAT for sales and imports of several products, including maize and wheat, from 1 May to 31 July 2022. The law aims to stabilize the domestic prices of basic food items amid soaring food prices.
Peru	Maize and wheat	Apr-22	Import tariff	Announced PHP 1.75 billion (around USD 35 million) in assistance to the agricultural workers that were impacted by Typhoon Rai.
Philippines	Grains	Dec-21	Production support	Increased the export duties on wheat from USD 69.9 to USD 77.1 per tonne, on maize from USD 50.1 to USD 62.9 per tonne and on barley from USD 54.8 to USD 66 per tonne. The new duty rates came into effect on 17 November.
Russian Federation	Barley, maize and wheat	Nov-21	Export duty	Increased the export duty on wheat from USD 77.1 to USD 78.3 per tonne. Lowered export duties on barley from USD 66 of USD 65.3 per tonne and on maize from USD 62.9 to USD 53.6 per tonne. These measures came into effect on 24 November.
	Wheat	Nov-21	Export duty	Increased export duties on wheat from USD 78.3 to USD 80.8 per tonne and on barley from USD 65.3 to USD 68.3 per tonne. Increased export duty on maize from USD 53.6 to USD 54.3 per tonne. These measures came into effect on 1 December.
	Wheat	Nov-21	Export duty	

COUNTRY	PRODUCT	DATE	POLICY INSTRUMENT	DESCRIPTION
Russian Federation	Barley and wheat	Dec-21	Export duty	Increased export duties on wheat from 80.8 to 84.9 per tonne and on barley from USD 68.3 to USD 75.1 per tonne. These measures came into effect on 8 December.
	Barley, maize and wheat	Dec-21	Export duty	Increased export duties on wheat from USD 84.9 to 91 per tonne, on barley from 75.1 to USD 78.7 and on maize from USD 54.3 to USD 54.4 per tonne. These measures came into effect on 15 December.
	Grains	Dec-21	Export quota	Set an 11 million tonne quota on cereal exports to countries outside the Eurasian Economic Union between 15 February and 30 June 2022. The quota on exports of wheat and meslin was set at 8 million tonnes, while the quota on exports of barley, maize and rye was set at 3 million tonnes.
	Barley, maize and wheat	Dec-21	Export duty	Increased export duties on wheat from USD 91 to 94 per tonne, on barley from USD 78.7 to USD 84.8 per tonne and on maize from USD 54.4 to 55 per tonne. These measures came into effect on 22 December.
	Barley, maize and wheat	Dec-21	Export duty	Increased export duties on wheat from USD 94 to 94.9 per tonne and on maize from USD 55 to USD 69 per tonne. Lowered export duties on barley from USD 84.4 to USD 83.5 per tonne. These measures came into effect on 29 December 2021.
	Barley, maize and wheat	Dec-21	Export duty	Increased export duties on wheat from USD 94.9 to USD 98.2 per tonne and on barley from USD 83.5 to 86.2 per tonne. Lowered export duty on maize from USD 69 to 67.7 per tonne. These measures came into effect on 12 January.
	Grains	Dec-21	Export policy	Modified the method for calculating grains export tax, which applies to exports of wheat and meslin, barley, rye and maize. The new method introduces progressively higher tax rates. The measure applies to states that are not members of the Eurasian Economic Union.
	Barley, maize and wheat	Jan-22	Export duty	Lowered export duties on wheat from USD 98.2 to 97.5 per tonne, on barley from USD 86.2 to USD 79 per tonne and on maize from USD 67.7 to 46.1 per tonne. These measures came into effect on 19 January.
	Barley, maize and wheat	Jan-22	Export duty	Decreased export duties on wheat from USD 97.5 to 95.8 per tonne and on barley from USD 79 to USD 74.4 per tonne. Increased export duty on maize from 46.1 to USD 50.6 per tonne. These export duties came into effect on 26 January.
	Barley, maize and wheat	Jan-22	Export duty	Decreased export duties on wheat from USD 95.8 to USD 93.9 per tonne and on maize from USD 50.6 to USD 49.2 per tonne. Increased export duty on barley from USD 74.4 to 74.6 per tonne. These measures came into effect on 2 February.
	Barley, maize and wheat	Feb-22	Export duty	Lowered export duties on wheat from USD 93.9 to USD 93.2 per tonne and on barley from USD 74.6 to USD 73.3 per tonne. Increased export duty on maize from USD 49.2 to 52.7 per tonne. These measures came into effect on 9 February.
	Barley and wheat	Feb-22	Export duty	Lowered export duty on wheat from USD 93.2 to USD 92.8 per tonne. Increased export duty on barley from USD 73.3 to USD 74.1 per tonne. These export measures came into effect from 16 February.
	Barley, maize and wheat	Feb-22	Export duty	Lowered export duties on wheat from USD 92.8 to USD 91 per tonne, on barley from USD 74.1 to USD 73.3 per tonne and on maize from USD 52.7 to 52.2 per tonne. These export duties entered into force on 24 February.
	Barley, maize and wheat	Feb-22	Export duty	Lowered export duties on wheat from USD 91 to USD 88.2 per tonne and on barley from USD 73.3 to USD 72.2 per tonne. Increased maize export duty from USD 52.2 to USD 52.7 per tonne. These export duties entered into force on 2 March.

COUNTRY	PRODUCT	DATE	POLICY INSTRUMENT	DESCRIPTION
Russian Federation	Maize and wheat	Mar-22	Export duty	Lowered export duty on wheat from USD 88.2 to USD 86.9 per tonne. Increased export duty on maize from USD 52.7 to USD 53.9 per tonne. These export duties entered into force on 11 March.
	Barley, maize and wheat	Mar-22	Export duty	Lowered export duties on wheat from USD 86.9 to USD 86.3 per tonne and on barley from USD 72.3 to USD 77.4 per tonne. Increased export duty on maize from USD 53.9 to USD 54.1 per tonne. These export duties entered into force on 16 March.
	Barley, maize, wheat and rye	Mar-22	Export ban	Signed Decree 362 providing for the temporary ban of exports of wheat, meslin, rye, barley and maize to the countries in the Eurasian Economic Union, except for Belarus. The ban will remain in force until the end of the 2021/22 marketing year on 30 June 2022.
	Barley, maize and wheat	Mar-22	Export duty	Increased export duties on wheat from USD 86.3 to USD 86.4 per tonne and on barley from USD 77.4 per tonne to 79.6 per tonne. Lowered export duty on maize from USD 54.1 to USD 53.2 per tonne. These export duties entered into force on 23 March.
	Barley, maize and wheat	Mar-22	Export duty	Increased export duties on wheat from USD 86.4 to USD 87 per tonne and on maize from USD 53.2 to USD 58.3 per tonne. Lowered export duty on barley from USD 79.6 to USD 75.6 per tonne. These export duties entered into force on 30 March.
	Barley, maize, wheat and rye	Mar-22	Export ban	Lifted export ban previously introduced for exports of wheat, meslin, rye, barley and maize to the countries in the Eurasian Economic Union.
	Barley, maize and wheat	Apr-22	Export duty	Increased export duties on wheat from USD 87 to USD 96.1 per tonne and on maize from USD 58.3 to USD 65.8 per tonne. Lowered export duty on barley from USD 75.6 to USD 75.4 per tonne. These export duties entered into force on 6 April.
	Barley, maize and wheat	Apr-22	Export duty	Increased export duties on wheat from USD 96.1 to USD 101.4 per tonne and on maize from USD 65.8 to USD 70.6 per tonne. These export duties entered into force on 13 April.
	Barley, maize and wheat	Apr-22	Export duty	Increased export duties on wheat from USD 101.4 to USD 110.7 per tonne and on barley from USD 7.4 to USD 76 per tonne. Lowered export duty on maize from USD 70.6 to USD 66.1 per tonne. These export duties entered into force on 10 April.
	Barley, maize and wheat	Apr-22	Export duty	Increased export duty on wheat from USD 110.7 to USD 119.1 per tonne. Lowered export duties on barley from USD 76 to USD 73.3 per tonne and on maize from USD 66.1 to USD 54.9 per tonne. These export duties came into effect on 27 April.
	Barley, maize and wheat	Apr-22	Export duty	Increased export duties on wheat from USD 119.1 to USD 120.1 per tonne, on barley from USD 73.3 to USD 73.5 per tonne and on maize from USD 54.9 to USD 58.3 per tonne. These export duties came into effect on 6 May.
	Barley, maize and wheat	May-22	Export duty	Increased export duties on maize from USD 58.3 to USD 77.0 per tonne and on barley from USD 73.5 to USD 74.1 per tonne. Lowered export duty on wheat from USD 120.1 to USD 114.3 per tonne. These export duties came into effect on 13 May.
	Barley, maize and wheat	May-22	Export duty	Increased export duties on maize from USD 77 to USD 77.3 per tonne and on barley from USD 74.1 to USD 76.5 per tonne. Lowered export duty on wheat from USD 114.3 to USD 111.9 per tonne. These export duties came into effect on 18 May.
	Maize and wheat	May-22	Export duty	Lowered export duties on maize from USD 77.3 to USD 76.5 per tonne and on wheat from USD 111.9 to USD 110.5 per tonne. These export duties came into effect on 25 May.

COUNTRY	PRODUCT	DATE	POLICY INSTRUMENT	DESCRIPTION
Russian Federation	Wheat	May-22	Government procurement	Approved new prices for purchasing interventions on the 2022 grain crops. The price for Class 3 was set at RUB 15 840 (USD 274.3) per tonne and for Class 4 at RUB 15 070 (USD 261) per tonne. New prices were also set for rye at RUB 11 110 (USD 192.2) per tonne and for barley at RUB 12 980 (USD 224.8) per tonne. These prices will be valid from 31 July 2022 until 30 June 2023.
Saudi Arabia	Wheat	Dec-21	Government procurement	Increased the domestic wheat procurement price by 10 percent to SAR 1 540 (USD 410.2) per tonne.
	Wheat	Mar-22	Government procurement	Raised the wheat procurement price by 10 percent to SAR 1 700 (USD 453.14) per tonne.
Serbia	Wheat	Nov-21	Government market intervention	Introduced price ceiling for several food commodities, including wheat flour, for 60 days. The decree stipulates that producer, wholesale and retail prices of these products cannot exceed their 15 November 2021 levels.
	Wheat	Jan-22	Government market intervention	Extended price ceilings on some basic foodstuffs by 90 days, including wheat flour, initially introduced on 30 November 2021 for 60 days.
	Maize and wheat	Mar-22	Export ban	Banned exports of wheat, wheat flour and maize. The decision was taken to ensure adequate availability of these products in the domestic market and to curb price increases amid rising global food prices.
	Maize and wheat	Mar-22	Export policy	Allowed controlled shipments of wheat and maize following a request from major exporters to fulfil their contractual obligations. Announced that state reserves for both wheat and maize should be kept at 20 percent higher than annual domestic consumption.
	Maize and wheat	Mar-22	Export policy	Resumed maize, wheat and wheat flour exports to North Macedonia, partially relieving the ban on exports of basic foodstuffs caused by the war in Ukraine.
Spain	Maize and wheat	Apr-22	Export quota	Introduced temporary monthly restrictions on export volumes of wheat (150 000 tonnes), wheat flour (20 000 tonnes) and maize (150 000 tonnes).
	Wheat	May-22	Export quota	Increased wheat export quotas – introduced at the end of April – for wheat from 150 000 to 220 000 tonnes.
	Wheat	May-22	Export ban	Lifted export ban on wheat flour previously introduced in mid-March.
	Maize	Mar-22	Import policy	Approved emergency purchases of maize from Argentina and the United States for animal feed to address supply disruptions caused by the war in Ukraine.
Thailand	Barley, maize and wheat	May-22	Import quota	Approved a total of 1.2 million tonnes of wheat, maize and barley imports between May and July to ease control on animal feed imports.
Tunisia	Barley and wheat	Apr-22	Government procurement	Increased minimum purchase prices for 2022/23 common wheat to TND 100 per quintal (USD 337 per tonne), up by 49 percent from last marketing season. Durum prices were increased to TND 130 per quintal (USD 436 per tonne). The price for barley was set at TND 80 per quintal (USD 269 per tonne).
Türkiye	Grains	Feb-22	Bilateral agreement	Entered into a free trade agreement with Ukraine. Around 95 percent of Ukraine's exports, including cereal crops, will enter Türkiye duty-free.
	Grains	Jan-22	Import duty	Extended the import duty on wheat (from 45 percent), maize (25 percent), barley (35 percent), oats (130 percent) and rye (130 percent) until the end of 2022.
	Grains	Jan-22	Import policy	Announced through the Presidential Decree 5251 its intention to continue importing goods from Ukraine. The decree stated that the mandatory official certificates and documents formerly needed to import goods into Türkiye will not be required during official inspections until the Ukrainian authorities begin to issue these certificates and documents again.
	Wheat	Mar-22	Export ban	Temporarily banned exports of several agricultural commodities, including wheat, to stabilize local market conditions and keep prices from increasing further.

COUNTRY	PRODUCT	DATE	POLICY INSTRUMENT	DESCRIPTION
Viet Nam	Maize and wheat	Nov-21	Import duty	Issued Decree 101/2021/ND-CP, revising its most-favoured nation (MFN) tariff rates for maize, wheat and frozen pork. The decree eliminates the MFN tariff on all classes of wheat and lowers the duty on maize from 5 to 2 percent. The tariff reductions for wheat and maize entered into force when the decree took effect on 30 December 2021.
Ukraine	Maize and wheat	Mar-22	Export policy	Introduced exports licensing requirements for several commodities, including wheat, meslin and maize. The export of these products is only allowed with the permission of the Ministry of Economy.
	Grains	Mar-22	Export ban	Banned exports of several agriculture commodities, including rye, oats, millet and buckwheat with immediate effect until the end of 2022. The decision was taken to safeguard domestic food supplies amid the ongoing war.
	Barley	Mar-22	Export ban	Added other products, including barley and rapeseed, to the list of products whose exports are suspended.
	Grains	Mar-22	Production support	Announced plans to finance a loan programme for farmers worth UAH 25 billion (USD 846 million).
	Maize	Mar-22	Export policy	Lifted export license requirements for maize to allow easier exports
	Wheat	Apr-22	Government market intervention	Announced that the state-run Agrarian Fund will buy wheat from the 2022 harvest at USD 181–187 per tonne, depending on milling quality.
United Kingdom of Great Britain and Northern Ireland	Maize	Mar-22	Import tariff	Announced the removal of the 25 percent import tariff on maize imports from the United States. The measure came into effect on 1 June.
	Maize and wheat	Mar-22	Import tariff	Eliminated all import duties and tariff quotas on Ukrainian goods under the existing bilateral trade agreement as part of UK's economic support to Ukraine. The aim was to improve market access opportunities for a range of raw and processed agricultural products, including wheat, flour and maize.
United States of America	Grains	Feb-22	Production support	Granted additional financial support to farmers who are enrolled in the Pandemic Cover Crop Programme. To ensure the continuation of best conservation practices, the total premium bills of farmers will be reduced if cover crops are planted during the current crop year.
	Maize and wheat	Mar-22	Production support	Announced the loan benefits from the Marketing Assistance Loan Programme for 2022 for wheat (USD 124.2 per tonne), maize (USD 89.8 per tonne), barley (USD 114.8 per tonne), sorghum (USD 86.6 per tonne) and oats (USD 116 per tonne).
	Maize and wheat	Apr-22	Futures	Announced the amendment of the daily trading limits for agricultural commodities futures, including maize and wheat, by the CME Group. Trading limits for maize increased from USD 13.8 to USD 19.7 per tonne, while trading limits for wheat were reduced from USD 31.2 to USD 25.7 per tonne. The measure came into effect on 2 May.
	Wheat	Dec-21	Import duty	Adopted Decree PP-73, which exempts from custom duties the imports of several commodities, including wheat flour. The exemption is valid until 31 December 2022.
Zambia	Wheat	Apr-22	Import quota	Announced plans to allow millers to import up to 100 000 tonnes of wheat to ease high prices of wheat flour products in the local market.
Zimbabwe	Maize	Feb-22	Import ban	Lifted the import ban on maize, which was introduced in June 2021. The measure was implemented right before the start of the harvest (starting in March) amid poor prospects for the 2022 domestic maize crop and supply disruptions in the international market due to the war in Ukraine

COUNTRY	PRODUCT	DATE	POLICY INSTRUMENT	DESCRIPTION
Zimbabwe	Maize and wheat	Apr-22	Government procurement	Raised maize and wheat procurement prices to ZWL 75 000 (USD 233.3) per tonne, up respectively from ZWL 58 533 (USD 182) and ZWL 70 263.9 (USD 218.5) per tonne.
	Barley, maize and wheat	May-22	Government market intervention	Announced a policy that requires all producers of controlled products, including wheat, maize and barley, to deliver their products within 14 days of harvesting in order to curb side-marketing.

* A collection of major grain policy developments starting in July 2010 is available at: <https://www.fao.org/markets-and-trade/commodity-policy-archive/en/?groupANDcommodity=grains>

RICE: MAJOR POLICY DEVELOPMENTS MID-OCTOBER 2021 TO MID-MAY 2022*

COUNTRY	DATE	POLICY INSTRUMENT	DESCRIPTION
Bangladesh	Oct-21	Government procurement	Decided to purchase 300 000 tonnes of paddy and 500 000 tonnes of parboiled rice from the 2021 Aman harvest between 7 November 2021 and 28 February 2022. The procurement drive would offer BDT 27 and 40 (USD 305 and 452 per tonne) per kg of paddy and parboiled rice purchased, respectively.
	Feb-22	Government procurement, purchasing prices	Decided to purchase 650 000 tonnes of paddy, 1.1 million tonnes of parboiled rice and 50 000 tonnes of white rice from the 2022 Boro harvest. The supplies would be purchased between 28 April and 31 August 2022 and would offer BDT 27 per kg of paddy (USD 305 per tonne), BDT 40 per kg of parboiled rice (USD 452 per tonne) and BDT 39 per kg (USD 441 per tonne) of white rice.
	Nov-21	Export subsidy	Announced that aromatic rice would no longer be eligible for the export cash subsidy. The subsidy, availed since early 2020, had been set at the equivalent of 15 percent of the FOB value of exports.
Belarus	Apr-22	Export restrictions	Banned exports exceeding one kg of various foodstuffs, including rice, outside the customs territory of the Eurasian Economic Union, effective 15 April 2022.
Benin	Feb-22	Export taxes	Decided to apply a mark-up on the price used in export tax valuations for a set of locally-produced foodstuffs in order to ensure sufficient supplies for local consumption and to contain domestic prices. In the case of paddy, the mark-up was set at XOF 40 per kg (USD 64 per tonne).
	Mar-22	Consumer prices, value added taxes	Decided that imported rice would remain exempt from value-added taxes to lower the price of a 50 kg bag of rice in Cotonou from XOF 20 500 to 18 450 (from USD 0.65 to USD 0.59 per kg). The initiative followed an earlier move to partially exempt imported rice from value-added taxes and suspend all local taxes levied on domestically produced rice. The initiative will be effective for a period of three months and is part of a set of measures geared at taming food inflation, including a 50 percent rebate on the value of sea freight and a two-thirds reduction on the value of airfreight used for the purpose of customs duty calculations for all imported products.
Brazil	Nov-21	Import tariff	Lowered tariffs levied on paddy, husked, broken and non-polished or glazed semi/wholly milled rice from 10 to 9 percent and from 12 to 10.8 percent for polished and glazed semi/wholly milled rice, until 31 December 2022.
Chad	Jan-22	Import tariff	Suspended import duties on rice, along with those levied on other commodities, from 11 January until 31 December 2022.
China (mainland)	Feb-22	Government procurement, support prices	Announced government procurement prices for paddy for the 2022 season. In the case of early Indica paddy, government procurement prices were raised 1.6 percent above the levels set for 2021 to CNY 124 per 50 kg (USD 365 per tonne), while for late/intermediate Indica and for Japonica paddy, they were raised by 0.8 percent to CNY 129 and 131 per 50 kg (USD 380 and 386 per tonne), respectively. The ceiling on publicly-procured volumes for the 2022 season was also set at 50 million tonnes, unchanged from the previous year and consisting of 20 million tonnes of Indica paddy and 30 million tonnes of Japonica paddy.
	Mar-22	Production support	Announced that it had allocated CNY 20 (USD 2.9) billion for one-time subsidies for producers of grains, including rice, to help them cope with increases in prices of agricultural inputs. The assistance will be extended to individual farmers, as well as family farms, farmer cooperatives, agricultural enterprises and related entities.
	Mar-22	Production support, crop insurance, support prices	Outlined a set of measures to support production of grains, including rice, during the 2022 season. Among others, such measures would entail extending subsidies for fertility conservation; providing one-time outlays to grain producers to help them cope with increases in prices of agricultural inputs; supporting the development of 6.67 million hectares of high-standard farmland; revitalizing the seed industry; assisting the purchase and use of agricultural machinery; promoting industrial chains that integrate production, processing, technology, and marketing through the construction of grain and oil production clusters and industrial parks; providing subsidies for rice, maize and soybean output; increases in government purchase prices of rice and wheat; rewards for master grain-producing counties; offering higher subsidies for crop insurance premiums in the central, western and northeastern areas; and introducing full-cost insurance and income insurance for rice, wheat and maize in master grain-producing counties of major grain-producing provinces.

COUNTRY	DATE	POLICY INSTRUMENT	DESCRIPTION
China (mainland)	Mid Oct-21 to May-22	Stock release	Offered 15.18 million tonnes of paddy from state reserves for sale through nine auctions held between 16 October 2021 and 10 May 2022. Out of this volume, a total of 256 276 tonnes was sold.
Costa Rica	Jan-22	Support prices	Raised the reference producer price of paddy by 12.4 percent to CRC 27 253 per 73.6 kg bag (USD 544 per tonne), inclusive of a 1 percent value-added tax, effective 1 February 2022.
	Mar-22	Consumer prices	Adjusted floors/ceilings of wholesale and retail prices of rice. For the widely consumed 80/20 quality, retail prices were set at CRC 702.68 (USD 1.03) per kg, up 4.8 percent from previously applicable levels. The revised rates became effective on 25 March 2022.
Côte d'Ivoire	Mar-22	Export restrictions	Announced that exports of locally-produced rice, along with all other foodstuffs, would be made subject to prior government authorization, as part of a host of measures to contain inflationary pressure.
	Mar-22	Price controls	Announced caps on prices of a set of foodstuffs at various marketing stages. For Abidjan and locales within a 30 kilometre radius, the retail price ceiling for rice ranged from XOF 345 to 574 (USD 0.55 to 0.91) per kg, depending on the products' quality and its origin. Price caps for other localities varied depending on their distance from Abidjan and the quality of the rice. The measure is valid for a period of three months, barring renewals.
Dominican Republic	Mar-22	Production support, support prices	Reached an agreement with sector representatives seeking to safeguard the profitability of the sector, while also stabilizing consumer prices of rice. As part of the deal, it would dedicate DOP 450 (USD 8.1) million to extend a direct outlay of DOP 100 per fanega (USD 15 per tonne) to rice farmers, to be paid on top of the DOP 2 875 per fanega (USD 431 per tonne) that producers would receive from millers as a floor price under the warehouse receipts programme (the Programa Pignoración de Arroz). An additional DOP 25 (USD 0.5) million would go to purchasing certified seeds, while the duration of the Programa Pignoración de Arroz would be extended from 7 to 12 months and arrears to millers under the scheme would be settled.
Ecuador	Apr-22	Production support, support prices	Raised producer prices applicable during the 2022 season by 8.3 percent to USD 32.5 per 200 lb (USD 358 per tonne) for paddy of less than 7 mm in length, 20 percent moisture content and 5 percent impurity, and by 7.8 percent to USD 34.5 per 200 lb (USD 380 per tonne) for paddy of 7.0 mm in length or more and with 20 percent moisture content and 5 percent impurity.
Egypt	Mar-22	Finance and credit facilities	Decided that upfront cash payment requirements for imports of rice, lentils and fava beans would not be re-imposed until 15 March 2023.
El Salvador	Mar-22	Import tariff	Suspended tariffs on paddy, husked, semi/wholly milled and broken rice imported outside of existing trade agreements. The tariff remission also applied to a host of other foodstuffs and basic agricultural inputs and will be effective until 31 March 2023.
Ethiopia	Apr-22	Finance and credit facilities	Announced that imports of rice, among other foodstuffs, would be allowed on a franco-valuta basis, no longer requiring foreign exchange permits, for at least six months.
European Union	Nov-21	Import policy	Suspended the application of the additional 25 percent import duty levied on semi/wholly milled rice originating in the United States of America, from 1 January 2022 until 31 December 2023.
	Mar-22	Import policy	Lowered the import duty on non-basmati husked rice imported outside of existing trade agreements from EUR 42.50 (USD 44.2) per tonne to EUR 30.00 (USD 31.2), effective from 8 March 2022.
Fiji	Dec-21	Production support, finance and credit facilities	Introduced the Rice Mobility Package, consisting of a loan facility to help farmers, joint ventures and cooperatives finance land purchases or development, as well as seed, labour and harvesting costs. Interest rates under the initiative would range from 4.99 to 10.99 percent per annum, with loans to farmers ranging from USD 5 000 to 250 000.
Ghana	Mar-22	Import tariff	According to press reports, announced that it would reduce the discount rate applied on benchmark import values of 43 items, including rice, from 50 percent to 30 percent.
Guatemala	Nov-21	Import quota	Decided that 12 000 tonnes of paddy would be exempted from import duties until 31 December 2021.
Guinea	Mar-22	Import policy	Decided that customs duties on all qualities of imported rice would be applied on a value of USD 100 per tonne, for a period of six months, in order to stabilize consumer prices.
	Apr-22	Export restrictions	According to reports, made exports of foodstuffs, including rice, subject to prior authorization by the Ministry of Trade, Industry and Small-and-Middle-sized Businesses.

COUNTRY	DATE	POLICY INSTRUMENT	DESCRIPTION
Guinea	Apr-22	Price controls	Established a GNF 265 000 (USD 0.58 per kg) ceiling on the retail price of a 50 kg bag of 25 percent broken rice and of GNF 300 000 (USD 0.66 per kg) for a 50 kg bag of 5 percent broken rice.
	Nov-21	Production and marketing, contract farming, stock limits	Announced its intention to repeal the three agricultural reform laws passed in September 2020, which had been met with prolonged protests by farmers, namely the Farmers' Produce Trade and Commerce (Promotion and Facilitation) Act, 2020, the Farmers (Empowerment and Protection) Agreement of Price Assurance and Farm Services Act, 2020, and the Essential Commodities (Amendment) Act, 2020. It aimed to complete the repeal process during the Parliamentary session scheduled to begin in November 2021. In addition, it would constitute a multistakeholder committee to decide on aspects related to the promotion of zero-budget farming, adjustments in cropping patterns and rendering minimum support prices more effective and transparent.
	Nov-21	Food subsidies	Approved the fifth round of implementation of the Pradhan Mantri Garib Kalyan Anna Yojana programme, with a 16.3 million tonne grain allocation. Accordingly, it would continue offer 800 million people covered by the National Food Security Act (NFSA) a per person monthly ration of 5 kg of rice or wheat, free of charge and on top of existing assistance under the NFSA, between December 2021 and March 2022.
India	Dec-21	Futures trade	Instructed stock exchanges to suspend derivative contracts for paddy (non-basmati), along with those of other agricultural commodities, for one year, with immediate effect.
	Mar-22	Food subsidies	Approved a six-month extension of the Pradhan Mantri Garib Kalyan Anna Yojana programme. This sixth implantation phase of the scheme would entail distributing 24.4 million tonnes of grains through per person monthly rations of 5 kg of rice or wheat to 800 million people covered by the National Food Security Act. These rations would be distributed free of charge and on top of existing NFSA assistance, between April and September 2022.
	Apr-22	Production support	Approved a budget of INR 609.4 (USD 7.9) billion to provide subsidies on phosphatic and potassic fertilizers under the Nutrient Based Subsidy scheme during the 2022 Kharif campaign. The funds would allow subsidies on di-ammonium phosphate (DAP) to pass from an existing INR 1 650 per bag (USD 426 per tonne) to INR 2 501 per bag (USD 646 per tonne), applicable from April to September 2022.
	May-22	Food subsidies	Announced that it would allocate an additional 5.5 million tonnes of rice to distribute instead of wheat under the sixth phase of the Pradhan Mantri Garib Kalyan Anna Yojana programme to meet demand from rice-consuming states. In addition, it will scale up the distribution of fortified rice for the entire Public Distribution System next year.
	May-22	Food subsidies	Announced that it had adjusted the share of wheat and rice in allocations under the National Food Security Act (NFSA), lowering the proportion of wheat and raising the proportion of rice in equal measure. The revised allocations would be applicable for twelve States and Union Territories, from June 2022 until March 2023.
	Oct-21	Budgetary allocations, production support	Announced that MYR 1.03 billion (USD 235 million) would go to provide rice price subsidies and rice production incentives, as part of its 2022 budgetary allocations. A further MYR 498 (USD 113) million would go to extend fertilizer and seed subsidies for rice, inclusive of MYR 40 (USD 9.1) million specifically destined for fertilizer support for hill-paddy production.
Malaysia	Nov-21	Production support	According to press reports, announced that it would provide MYR 262 (USD 60) million to help farmers cope with increases in prices of fertilizers and pesticides. MYR 62 (USD 14 million) of this amount would be channeled to rice producers through the National Farmers Organization on top of incentives announced as part of the 2022 budgetary allocations, with the balance consisting of interest-free loans.
	Nov-21	Import policy	Decided that it would apply a 50 percent rebate on the customs duty tax base for up to 300 000 tonnes of imported rice in order to quell upward increases in consumer prices.
Mali	Nov-21	Price controls	Set a XOF 350 (USD 0.56) per kg ceiling on the retail price of non-fragrant broken rice.
	Dec-21	Export ban	Prohibited exports of rice and other cereals until further notice.
	Apr-22	Price controls	Adjusted the retail price ceiling of non-fragrant broken rice to XOF 375 (USD 0.6) per kg.

COUNTRY	DATE	POLICY INSTRUMENT	DESCRIPTION
	Dec-21	Production support, support prices	Adjusted prices offered under the Guaranteed Prices for Basic Foodstuffs Programme (Programa precios de garantía a productos alimentarios básicos) during the 2022 fiscal year. For smallholders cultivating up to eight hectares during the 2021/22 spring-summer and autumn-summer crop cycles, guaranteed prices were set at MXN 7 300 (USD 363) per tonne for up to 80 tonnes, while for other rice producers they would be set at MXN 6 760 (USD 336 per tonne) for up to 120 tonnes. These prices compare to the MXN 6 120 (USD 304) per tonne level applicable during the 2021 run of the programme.
Mexico	May-22	Production support, consumer prices	Unveiled the Programme to Combat Food Price Inflation and Scarcity (Paquete Contra la Inflación y la Carestía - PACIC), designed to stabilize prices of necessities and bolster food production. It further announced that an agreement had been reached with private sector operators to keep consumer prices of staples, including rice, unchanged for six months, with the possibility of an extension. In addition to interventions geared at containing internal transport costs and expediting handling of goods at customs points, among others, the PACIC foresees the temporary suspension of import duties levied on 26 necessities and commodities used in food processing, including paddy. Interventions to support domestic food production contemplate continued state assistance under the Guarantee Prices for Basic Foodstuffs, the Sowing Life (Programa Sembrando Vida) and the Production for Well-being (Programa producción para el bienestar) programmes, as well as expanding the coverage of subsidized fertilizer distribution under the Fertilizer for Wellness Programme (Programa Fertilizantes para el Bienestar) from five to nine states, supporting organic fertilizer production and suspending countervailing quotas on ammonium sulfate imports for one year.
	May-22	Import tariff	Exempted paddy, along with a host of other products, from import duties. The measure is in line with interventions foreseen under the Programme to Combat Food Price Inflation and Scarcity (Paquete Contra la Inflación y la Carestía - PACIC). The exemption would be effective on 17 May 2022 for one year but could be subject to a one-year renewal.
Pakistan	Feb-22	Finance and credit facilities	Amended regulations permitting settlement of exports of rice along with other commodities to Afghanistan and through Afghanistan to Central Asian Republics in Pakistani Rupees.
	Apr-22	Trade agreement, barter trade	Issued procedural guidelines to operationalize barter trade with the Islamic Republic of Iran, as per the agreement on barter trade between the Quetta Chamber of Commerce and Industry and the Zahidan Chamber of Commerce and Industry.
Panama	Jan-22	Production support, finance and credit facilities	Announced that it would provide PAB 50 (USD 50) million through a credit factoring facility in the National Bank of Panama to ease liquidity constraints faced by the rice sector and to help them cope with the impacts of the COVID-19 pandemic and hikes in prices of agricultural inputs. The scheme would be implemented until December 2022, with the possibility of extension.
	Dec-21	Production support	Promulgated Republic Act 11598, the Cash Assistance for Filipino Farmers Act, authorizing the Department of Agriculture to use revenue accrued from import tariffs levied on rice each year, in excess of the PHP 10 billion (USD 191 million) already destined to the Rice Competitiveness Enhancement Fund, to provide direct cash assistance for rice farmers cultivating up to 2 hectares, until 2024. The Act aims to help smallholders to endure the impacts of the COVID-19 pandemic and declining paddy prices. In line with its provisions, successive orders issued the implementing guidelines of the Rice Farmers Financial Assistance Programme, under which paddy producers cultivating up to 2 hectares would receive a direct outlay of PHP 5 000 (USD 95).
Philippines	Mar-22	Production support, government procurement	Approved a set of measures to allay the impact of global economic challenges and the Russian Federation-Ukraine crisis on the country's food security. Among others, these would include providing additional funds to implement the second phase of the Ahon Lahat, Pagkaing Sapat Kontra COVID-19 Programme (ALPAS or "Plant, Plant, Plant Part 2"), the provision of concessional loans to local government units to purchase paddy and maintain buffer stocks of rice, and improving water management and crop scheduling by transferring oversight of the National Irrigation Authority to the Department of Agriculture.
	Mar-22	Production support	Launched Part 2 of the Ahon Lahat, Pagkaing Sapat Kontra COVID-19 Program (ALPAS or "Plant, Plant, Plant Part 2"), with a PHP 24 billion (USD 458 million) budget. The bulk of these funds, some PHP 20 billion (USD 382 million) would be destined to provide farmers with fertilizer subsidies, with the balance equally divided among measures to sustain urban and peri-urban agriculture, local production of animal feed, aquaculture and mariculture fisheries, as well as assisting marketing of supplies at affordable prices.
Republic of Korea	Jan-22	Government procurement	Announced that the government would purchase 200 000 tonnes of rice from the 2021 harvest out of an estimated 270 000 tonnes of surplus production, in order to stabilize prices. It would also monitor market conditions and private sector inventories to determine whether to procure the remaining 70 000 tonnes of surplus rice. These purchases would be in addition to the 350 000 tonnes previously bought from the 2021 harvest.

COUNTRY	DATE	POLICY INSTRUMENT	DESCRIPTION
Senegal	Feb-22	Production support	Decided to extend a XOF 32 per kg (USD 50.88 per tonne) outlay to rice producers in order to bring prices they receive for paddy to XOF 162 per kg (USD 257.58 per tonne).
	Feb-22	Import tariffs, consumption prices	Decided to lower the price of a set of necessities. In the case of non-aromatic broken rice, retail prices would pass from XOF 15 000 for a 50 kg bag (USD 0.48 per kg) to XOF 13 750 (USD 0.44). Unconfirmed reports suggest that the move was accompanied by a reduction in customs duties and charges levied on imported non-aromatic broken rice from a total of 12.7 percent to 2.7 percent.
	Mar-22	Production support	Decided to allocate XOF 70 billion (USD 111.3 million) to support agricultural activities during the 2022/23 season. The support package would include XOF 12.0 billion (USD 19.08 million) for seeds of various crops and a XOF 13 billion (USD 20.670 million) year-to-year increase in funds allocated to fertilizers, to XOF 41 billion (USD 65.19 million).
Sri Lanka	Nov-21	Import tariff	Decided to collect only LKR 250 (USD 0.7) of the LKR 65 000 (USD 179) per tonne Special Commodity Levy imposed on imports of semi-wholly milled raw, Nadu and Samba rice (whether white or red) in October 2021. The tariff reduction would be valid for six months, effective from 2 November 2021.
	Jan-22	Production support, government procurement, tax policy	Approved a plan seeking to allay the negative impacts of increases in prices of goods and services. Among other measures, the initiative envisages the provision of an LKR 25 per kg (USD 69 per tonne) outlay to paddy farmers incurring production losses during the 2022 Maha crop cycle. This outlay would be extended on top of the LKR 50 per kg (USD 138 per tonne) certified price for paddy. In addition, it would waive all taxes on essential foods and medicine.
	Jan-22	Import agreement	Reached a deal with Myanmar under which it would buy 100 000 tonnes of white rice and 50 000 tonnes of parboiled rice between 2022 and 2023.
	Jan-22	Import plan	Approved a plan whereby it would import 200 000 tonnes of Nadu rice and 100 000 tonnes of GR-11 short-grain rice to ensure sufficient rice supplies in the local market.
	Jan-22	Import tariff	Lowered the Special Commodity Levy on imports of husked and non-basmati semi-wholly milled rice (whether white or parboiled) to LKR 250 (USD 0.7) per tonne, effective for six months from 12 January 2022. The move also repealed previous orders setting an LKR 65 000 (USD 179) per tonne Special Commodity Levy on imports of semi-wholly milled raw, Nadu and Samba rice (whether white or red) and outlining a waiver to this Levy.
	Jan-22	Government procurement, purchasing prices	Decided that, under the 2022 Maha procurement drive, the Paddy Marketing Board would purchase supplies at competitive prices. In addition, in the event of reductions in Maha output, a compensation of LKR 25 per kg (USD 69 per tonne) would be provided to paddy farmers to help sustain their income levels. The procurement drive would require an LKR 29.805 billion (USD 82.3 million) allocation to be secured through state banks.
	May-22	Price controls	Reimposed maximum retail prices (MRPs) on various qualities of rice, effective from 2 May 2022. In the case of local Nadu rice (white/red, steamed/boiled, excepting Mottakarupan and Attakari), the MRP was set at LKR 220 (USD 0.61) per kg, while it was set at LKR 230 (USD 0.63) per kg of local Samba (white/red, steamed/boiled, excepting Suduru Samba) and at LKR 260 (USD 0.72) per kg for local Keeri Samba. These MRPs are not applicable to rice sold at concessionary rates by the Paddy Marketing Board.
Thailand	Apr-22	Production support	Approved a budget of THB 1.92 billion (USD 55 million) to implement its subsidized insurance scheme protecting rice producers from losses incurred as a result of natural disasters during the 2022/23 main crop cycle. Up to 4.6 million hectares of paddies nationwide are expected to be covered by the programme.
United States of America	Nov-21	Import tariff	Suspended the additional import duty of 25 percent levied on husked basmati rice originating in India.

* The full collection starting in January 2011 is available at: <https://www.fao.org/markets-and-trade/commodity-policy-archive/en/?groupANDcommodity=rice>

MEAT: MAJOR POLICY DEVELOPMENTS MID-OCTOBER 2021 TO MID-MAY 2022*

COUNTRY	PRODUCT	DATE	POLICY INSTRUMENT	DESCRIPTION
Argentina	Bovine meat	Dec-21	Export policy	Defined bovine meat export rules for 2022 and 2023. Extended the suspension on exports of some bovine meat cuts until the end of 2023 and removed restrictions on exports of meat from older cows, commonly used for processing bovine meat exported to China.
Australia	All	Apr-22	Trade agreement	Concluded an Economic Cooperation and Trade Agreement with India. The agreement removes tariffs on more than 85 percent of the Australian goods exported to India, including sheep meat, rising to almost 91 percent over ten years. In return, 96 percent of Indian goods imports enter Australia duty-free.
Belarus	All	Jan-22	Import ban	Imposed an import ban for six months on some food imports, including meat, from Western countries to retaliate against the sanctions imposed against the country. Affected countries include Albania, Canada, the European Union, Iceland, Montenegro, North Macedonia, Norway, Switzerland, the United Kingdom of Great Britain and Northern Ireland (the United Kingdom) and the United States of America (the United States).
	All	Jan-22	Import ban	Expanded the list of countries subject to the import ban imposed on 1 January 2022 to include Liechtenstein and Serbia.
	All	Mar-22	Government support	Launched BRL 1.2 billion (around USD 241 million) provisional measure establishing an interest payment subsidy scheme to support livestock farmers in the southern regions affected by drought.
Brazil	All	May-22	Import tariff	Lowered import tariffs on several categories of goods to reduce consumer inflation. Tariffs on boneless and frozen beef (HS code: 0202.30.00) have been reduced from 10.8 to 0 percent, and edible parts of chickens, minced, offal and frozen (HS code: 0207.14), from 9 to 0 percent. In November 2021, Brazil reduced import duties on 8 225 products, including meat, until 31 December 2022 to contain the adverse effects of the COVID-19 pandemic.
Canada	All	Mar-22	Market access	Opened its market to bovine and pig meat from Brazil.
Chile	Pig meat	Mar-22	Market access	Allowed imports of pig meat from the United Kingdom.
	Bovine meat	Nov-21	Import ban	Suspended imports of bovine meat and other products from Lithuania on the grounds of lack of documentation.
	Pig meat	Dec-21	Import policy	Recognized zoning for France in the event of African swine fever (ASF) outbreaks.
China (mainland)	Bovine meat	Dec-21	Market access	Resumed bovine meat imports from Brazil and Namibia. Brazil halted shipments to China on 4 September 2021 after confirming two cases of 'atypical' bovine spongiform encephalopathy (BSE). Namibia exports were banned at the end of September due to several cases of contagious bovine pleuropneumonia.
	Pig meat	Jan-22	Import ban	Banned imports of pig meat from Italy and North Macedonia following ASF outbreaks.
	All	Feb-22	Import policy	Updated the list of bovine meat products available for import from Chile, including frozen or chilled deboned or bone-in ovine skeletal muscles along with cattle by-products.
	All	Mar-22	Import ban	Suspended bovine meat imports from a plant in central Brazil. Since the beginning of 2022, meat imports, including pig and poultry meat, have been banned from several other Brazilian plants.
Colombia	Live animals	Apr-22	Import tariff	Exempted import tariff on 39 agricultural inputs, including animal feed, to reduce food production costs for one year.

COUNTRY	PRODUCT	DATE	POLICY INSTRUMENT	DESCRIPTION
Dominican Republic	All	May-22	Government support	Allocated a budget of DOP 700 million (USD 12.6 million) to increase livestock productivity over three years by planting grass to increase the extent and improve pasture quality and insemination to advance livestock genetics.
European Union	All	Dec-21	Market regulation	Adopted the agreement on reforming the common agricultural policy (CAP). The new legislation, which is due to begin in 2023, is expected to pave the way for a fairer, greener and more performance-based CAP.
	All	Mar-22	Government support	Announced a package of measures against the impact of the war in Ukraine to enhance food security and support European Union farmers suffering from high costs of inputs such as energy and fertilizers. The plan provides EUR 500 million (around USD 551 million) in aid to assist farmers affected by market disruptions, input costs and trade restrictions. Other measures include storage assistance for pig meat, flexibility on animal feed imports and an advance on CAP payments.
	All	May-22	Import tariff	Approved a proposal for a one-year suspension of EU import duties on all Ukrainian products, including meat, with the aim of supporting the country's economy.
India	Pig meat	Jan-22	Market access	Allowed pig meat imports from the United States.
Japan	Pig meat	Jan-22	Import ban	Suspended pig meat imports from Italy due to concern over ASF.
	Bovine meat	Mar-22	Trade agreement	Reached an agreement with the United States to implement a new three-trigger safeguard mechanism instead of the one trigger applicable previously under the US-Japan Trade Agreement.
Kazakhstan	All	Dec-21	Tariff rate quota	Announced the first stage of 2022 meat quotas, which included 2 835 tonnes of bovine meat and 31 500 tonnes of poultry meat. The 2022 volumes and rates remained unchanged from those announced in 2021.
Kenya	Poultry meat	Dec-21	Import ban lifted	Lifted a ban on Ugandan poultry products, including chicken and eggs.
Malaysia	Poultry meat	Dec-21	Import policy	Relaxed rules on importing chicken and a temporary ceiling on retail prices to stabilize prices. The government allowed the import of whole chickens from abroad, relaxing the policy for not allowing imports of chicken cuts.
Mexico	All	May-22	Import policy	Suspended import tariffs for one year on a wide range of food products, including meat and livestock.
Peru	Poultry meat	May-22	Import policy	Announced the adoption of Law No. 31452, exempting sales and imports of chicken meat, chicken eggs, sugar, pasta and bread from VAT (Value Added Tax) from 1 May to 31 July 2022.
Philippines	All	Jan-22	Import policy	Extended the validity of SPS (Sanitary and Phytosanitary) import clearance for red and poultry meat from 60 to 90 days through 31 December 2022, in response to the global shipping situation and logistical difficulties brought about by the global COVID pandemic.
Russian Federation	Bovine meat	Mar-22	Import ban lifted	Lifted a ban on bovine meat imports from the United Kingdom. The ban was put in place in October 2021 following the detection of a case of BSE.
	All	Nov-21	Market access	Allowed bovine and pig meat imports from 12 Brazilian facilities. In October 2021, the Russian Federation approved imports from three major Brazilian meat exporters.
	Live animals	May-22	Market access	Agreed to allow imports of rendered animal meals from Brazil as part of an effort to find new suppliers of raw materials for animal feed.
Saudi Arabia	Poultry meat	Mar-22	Import ban lifted	Lifted a ban on chicken and egg imports from Thailand, which had been in place since 2004.
South Africa	Poultry meat	Jan-22	Import tariff	Imposed provisional anti-dumping duties, from January to June 2022, on bone-in chicken meat imports from Brazil and four European Union countries, namely Denmark, Ireland, Poland and Spain. These duties are foreseen to be in place until 14 June 2022.

COUNTRY	PRODUCT	DATE	POLICY INSTRUMENT	DESCRIPTION
Taiwan Province of China	Bovine meat	Feb-22	Import tariff	Announced the reduction of import tariffs on several foodstuffs, including bovine meat. The same measure was previously implemented from 30 November 2021 to 31 March 2022 to stabilize consumer prices amid rising inflation.
Thailand	Live animals	May-22	Import policy	Approved new measures to import up to 1.2 million tonnes of animal feed ingredients, including maize, wheat and barley, to ease a shortage of animal feed.
	All	Feb-22	State market intervention	Reduced VAT from 8 percent to 1 percent on various food products, including meat, effective from 14 February 2022.
Türkiye	All	Mar-22	Export policy	Added bovine and ovine meat to a list of export products that the Ministry of Agriculture and Forestry has authority to restrict, aiming to stabilize local market conditions and domestic prices. Poultry meat was previously added to the list on 27 January 2022. Moreover, to protect domestic producers, tariff rates on meat imports increased for 2022.
United Arab Emirates	Poultry meat	Dec-21	Import ban lifted	Lifted a ban on imports of eggs and other poultry products from India. The ban was put in place five years ago due to concerns over highly pathogenic avian influenza (HPAI).
	All	Dec-21	Trade agreement	Signed an agreement with Australia for a Tariff Rate Quotas (TRQs) system on importing bovine and ovine meat over a transition period. TRQs are set at 35 000 tonnes for bovine and 25 000 tonnes for ovine meat, increasing at regular annual increments over ten years to reach 110 000 tonnes for bovine meat and 75 000 tonnes for ovine meat. Any product exceeding this quantity will be subject to the UK's MFN (most favoured nation) tariffs. From years 10 to 15, there will be product-specific safeguards, which in effect increase the tariff-free bovine imports incrementally to 170 000 tonnes and ovine meat to 125 000 tonnes by Year 15, with a 20 percent tariff on any imports that exceed this quantity.
United Kingdom of Great Britain and Northern Ireland	All	Mar-22	Trade agreement	Announced the agreement to allow tariff-free imports of all New Zealand agricultural food products. Tariffs will be eliminated after 10 years for beef and after 15 years for sheep meat.
	All	Apr-22	Import tariff	Announced the removal of tariffs and quotas on all goods, including meat, from Ukraine under the UK-Ukraine Free Trade Agreement to support the Ukraine's economy for 12 months.
	All	Apr-22	Import policy	Announced the delay of the implementation of further controls on imports from the European Union, which were due to be introduced on meat on 1 July 2022.
United States of America	Ovine meat	Dec-21	Import policy	Published updated import regulations on ovine meat purchases. This rule removes remaining BSE import restrictions on sheep, goats and their products, and aligns the regulations with the current scientific understanding of BSE.
	Poultry meat	Feb-22	Market access	Suspended exports of poultry meat from the state of Indiana after several countries, including Benin, China (mainland), Republic of Korea, Namibia, South Africa and Taiwan Province of China, banned its imports due to the detection of HPAI in a commercial turkey flock in Dubois County.

COUNTRY	PRODUCT	DATE	POLICY INSTRUMENT	DESCRIPTION
United States of America	All	Mar-22	Government support	Announced additional funding to expand meat processing capacity and launched the Meat and Poultry Processing Capacity Technical Assistance Programme to provide technical assistance to meat and poultry grant applicants and grant-funded projects. Processors and applicants involved with the Meat and Poultry Inspection Readiness Grant (MPIRG) program and the Meat and Poultry Processing Expansion Programme can access this technical assistance. The United States Department of Agriculture (USDA) also announced its intention to accept applications for USD 23.6 million in competitive grant funding available through the MPIRG program.
Ukraine	All	Mar-22	Export policy	Introduced export licenses for its key agriculture commodities, including poultry meat, and suspended exports of several agricultural commodities, including some meat and livestock products, following the invasion of the Russian Federation.
Viet Nam	Pig meat	Nov-21	Market regulation	Issued Decision No. 205, with guidelines for small and medium swine farms and households on the biosecurity farming process to prevent ASF outbreaks.
	Pig meat	Nov-21	Import tariff	Issued a decree, revising its MFN tariff rates, including frozen pig meat. Under the revision, MFN rates for frozen pig meat imports will decrease from 15 to 10 percent as from 1 July 2022.

* A collection of major meat policy developments starting in January 2011 is available at: <https://www.fao.org/markets-and-trade/commodity-policy-archive/en/?groupANDcommodity=Meat>

DAIRY: MAJOR POLICY DEVELOPMENTS MID-OCTOBER 2021 TO MID-MAY 2022*

COUNTRY	PRODUCT	DATE	POLICY INSTRUMENT	DESCRIPTION
Algeria	Dairy products	Mar-22	Government support	Decided to allocate annual support of DZD 18 billion (USD 125.8 million) for providing subsidies for the dairy sector, including breeders, dairy farms and milk collectors. Subsidy payments would be distributed to dairy cow breeders at DZD 12 (USD 0.084) per litre, to milk collectors at DZD 5 (USD 0.035) per litre, to dairies at DZD 4 (USD 0.028) per litre. Breeders would be granted DZD 60 000 (USD 419.4) per each dairy cow birth.
Belarus	Dairy products	Jan-22	Import ban	Imposed a ban on importing various foods, including dairy products but excluding lactose-free products from Western countries for six months. The countries affected are Albania, Canada, the European Union, Iceland, Montenegro, North Macedonia, Norway, Switzerland, the United Kingdom of Great Britain and Northern Ireland and the United States of America.
	Dairy products	Jan-22	Import ban	Expanded the list of countries subject to the import ban imposed on 1 January 2022 to include Liechtenstein and Serbia.
	Dairy products	Nov-21	Import tariff	Reduced import tariff on 8 225 products until 31 December 2022, including milk (12 percent to 10.8 percent), and butter, milk cream and yoghurt (16 percent to 14.4 percent).
Brazil	Dairy products	Mar-22	Import tariff	Exempted food items, including cheese, from import tariffs to reduce the impacts of inflation. The exemption is effective until 31 December 2022.
	Dairy products	Mar-22	Government support	Launched BRL 1.2 billion (around USD 241 million) provisional measure establishing an interest payment subsidy scheme to support livestock farmers in the southern regions affected by drought.
	Dairy products	Mar-22	Import tariff	Raised import tariff on mozzarella cheese to its original rate of 28 percent.
Colombia	Dairy products	Jan-22	Market access	Announced the acceptance of the draft Sanitary Certificate by Israel, which would allow exporting dairy products for human consumption to that country.
	Dairy products	Apr-22	Import policy	Exempted import tariff on 39 agricultural inputs, including animal feed, to reduce food production costs for one year.
Dominican Republic	Dairy products	May-22	Government support	Allocated a budget of DOP 700 million (USD 12.6 million) to increase livestock productivity over three years by planting grass to increase the extent and improve pasture quality and insemination to advance livestock genetics.
European Union	Dairy products	Dec-21	Market regulation	Adopted the agreement on reforming the common agricultural policy (CAP). The new legislation, which is due to begin in 2023, is expected to pave the way for a fairer, greener and more performance-based CAP.
	Dairy products	Mar-22	Government support	Announced a package of measures against the impact of the war in Ukraine to enhance food security and support European Union farmers suffering from high costs of inputs such as energy and fertilizers. The plan provides EUR 500 million (around USD 551 million) in aid to assist farmers affected by market disruptions, input costs and trade restrictions. Other measures in the plan include storage assistance, flexibility on animal feed imports, and an advance on CAP payments.

COUNTRY	PRODUCT	DATE	POLICY INSTRUMENT	DESCRIPTION
European Union	Dairy products	Apr-22	Government support	Approved a budget of EUR 169 million (USD 179 million) for a Spanish scheme to support milk producers, under the State Aid Temporary Crisis Framework, adopted by the Commission on 23 March 2022. Under the scheme, the government will provide direct grants to compensate for the increase in electricity, animal feed and fuel costs caused by the current geopolitical crisis and related sanctions. The amount per beneficiary will not exceed EUR 35 000 (USD 37 067) and the measure will be effective until 31 December 2022.
Japan	Dairy products	Apr-22	Tariff rate quota	Announced tariff-rate quota (TRQ) volumes for dairy products for the Japanese fiscal year (JFY) 2022 (April to March). The announcement included quotas for natural cheese for processing, skimmed milk powder, evaporated milk, butter and butter oil, and certain whey products. The quota volume for natural cheese decreased by 1 800 million tonnes from JFY 2021, while TRQs for the other products remained unchanged.
Mexico	Dairy products	Apr-22	Government support	Increased farmgate fresh milk prices from MXN 8.20 (USD 0.41) per litre to MXN 10 (USD 0.5) per litre in order to improve the profit margins of small and medium producers.
	Dairy products	May-22	Import tariff	Suspended customs duties on imported food items, including dairy products, for one year. The measure seeks to contain the inflationary impact on essential goods.
Peru	Dairy products	Apr-22	Government support	Allowed the use of fresh milk to produce evaporated milk to promote raw milk demand and support farmers.
Russian Federation	Dairy products	Jan-22	Import ban	Banned milk and dairy products imported from Kazakhstan that have not undergone heat treatment in a bid to contain Foot-and-Mouth-Disease.
Sri Lanka	Dairy products	May-22	Import tariff	Increased import tariff on cheese to INR 400 (USD 1.1) per kg, yoghurt and butter to INR 1 000 (USD 2.8) per kg effective from 10 March 2022 for a period of six months.
Taiwan Province of China	Dairy products	Feb-22	Import tariff	Announced a temporary reduction in import tariffs on butter from 5 to 2.5 percent, powdered milk from 10 to 5 percent and milk fat, anhydrous, from 8 to 4 percent until 30 April 2022
	Dairy products	Jan-22	Export policy	Approved a plan to regulate exports of some 20 agricultural products, including butter, until 31 December 2022, in a bid to contain domestic inflation. The regulation would enable the government to ban or restrict exports of these products when necessary.
	Dairy products	Feb-22	State market intervention	Reduced value added tax (VAT) from 8 percent to 1 percent on various food products including milk, yoghurt and cheese, effective from 14 February 2022.
Türkiye	Dairy products	Mar-22	Government support	Increased raw milk support payment from TRY 0.80 to TRY 1 per litre (USD 0.057 to USD 0.07 per litre) in a bid to contain the impact of the increasing production costs due to the pandemic and the developments in world markets from lowering producer margins in the dairy sector.
	Dairy products	Apr-22	Export ban	Suspended butter and cream exports to mitigate food supply shortage and consequently inflation. The decision will be applied until further notice.

COUNTRY	PRODUCT	DATE	POLICY INSTRUMENT	DESCRIPTION
United Kingdom of Great Britain and Northern Ireland	Dairy products	Dec-21	Trade agreement	Signed an agreement with Australia to gradually increase tariff-free quotas for dairy products on equal instalments during a period of five years. For cheese and butter, immediate duty-free access will be granted at 24 000 tonnes and 5 500 tonnes, rising to 48 000 tonnes and 11 500 tonnes respectively. For other dairy products, annual duty-free access will be granted at 20 000 tonnes.
	Dairy products	Mar-22	Trade agreement	Announced the agreement to allow tariff-free imports of all New Zealand agricultural food products. For dairy products, tariffs and quotas will be removed within seven years.
	Dairy products	Apr-22	Import policy	Announced removal of import tariffs and quotas for all goods from Ukraine, including flour, dairy products, tomato paste, honey, corn, wheat, juices, mushrooms and sugar for 12 months.
	Dairy products	Apr-22	Import policy	Announced the delay of the implementation of further controls on imports from the European Union that were due to be introduced on dairy products on 1 September 2022.
Uzbekistan	Dairy products	Feb-22	Government support	Increased subsidy payment from UZS 200 (USD 0.018) per litre to UZS 400 (USD 0.036) per litre for farmers to support domestic milk production.

* A collection of major dairy policy developments, starting in January 2012, is available at: <https://www.fao.org/markets-and-trade/commodity-policy-archive/en/?group=ANDcommodity=Milk%20and%20dairy%20products>

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NOTES

GENERAL

- FAO estimates and forecasts are based on official and unofficial sources.
- Unless otherwise stated, all charts and tables refer to FAO data as source.
- Estimates of world imports and exports may not always match, mainly because shipments and deliveries do not necessarily occur in the same marketing year.
- Tonnes refer to metric tonnes.
- All totals are computed from unrounded data.
- Regional totals may include estimates for countries not listed. The countries shown in the tables were chosen based on their importance of either production or trade in each region.
- Estimates for China also include those for the Taiwan Province of China, Hong Kong SAR and Macao SAR, unless otherwise stated.
- Up to 2019/20 the European Union includes 28 member states. From 2020/21 the European Union includes 27 member states.
- ‘-’ means nil or negligible.
- Cereals include wheat, rice and coarse grains. Coarse grains include maize, barley, sorghum, millet, rye, oats and NES (not elsewhere specified).

Production

- **Cereals:** Data refer to the calendar year in which the whole harvest or bulk of harvest takes place.

Utilization

- **Cereals:** Data are on individual

country's marketing year basis.

Trade

- Trade between **European Union** member states is excluded, unless otherwise stated.
- **Wheat:** Trade data include wheat flour in wheat grain equivalent. The time reference period is July/June, unless otherwise stated.
- **Coarse grains:** The time reference period is July/June, unless otherwise stated.
- **Rice, dairy and meat products:** The time reference period is January/December.
- **Oilseeds, oils/fats and meals:** The time reference period is October/September, unless otherwise stated.

Stocks

- **Cereals:** Data refer to carry-overs at the close of national crop seasons ending in the year shown.

Price indices

- The FAO price indices are calculated using the Laspeyres formula; the weights used are based on the average export value of each commodity for the 2014–2016 period.

COUNTRY CLASSIFICATION

In the presentation of statistical material, references are made to special country groupings: low-income food-deficit countries (LIFDCs), Least Developed Countries (LDCs). The LIFDCs include 51 countries that are net importers of basic foodstuffs

with per caput income below the level used by the World Bank to determine eligibility for International Development Aid (IDA). The LDCs group currently includes 47 countries with low income as well as weak human resources and low level of economic diversification. The list is reviewed every three years by the Economic and Social Council of the United Nations.

DISCLAIMER

The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations concerning the legal status of any country, territory, city or area or of its authorities or concerning the delimitation of its frontiers or boundaries.

APPENDIX TABLE 1(A): CEREAL STATISTICS

	Production			Imports			Exports		
	2018-2020 average	2021 <i>estim.</i>	2022 <i>f'cast</i>	18/19-20/21 average	2021/22 <i>estim.</i>	2022/23 <i>f'cast</i>	18/19-20/21 average	2021/22 <i>estim.</i>	2022/23 <i>f'cast</i>
	<i>million tonnes</i>								
ASIA	1 204.5	1 228.1	1 237.1	232.3	263.4	251.1	62.6	77.1	76.2
Bangladesh	41.4	43.6	44.8	9.2	9.1	9.0	0.1	0.2	0.3
China	548.0	565.8	566.6	42.1	65.5	57.6	3.1	3.1	3.2
India	271.1	285.0	283.1	0.3	-	0.1	18.5	34.0	31.1
Indonesia	58.2	57.5	57.9	12.4	12.5	12.4	0.1	0.1	0.1
Iran (Islamic Republic of)	20.8	14.3	19.2	14.7	21.6	16.2	0.1	0.1	0.1
Iraq	6.0	5.1	4.8	4.3	3.5	5.1	-	-	-
Japan	8.6	8.6	8.4	24.1	22.9	23.5	0.3	0.3	0.3
Kazakhstan	18.7	16.0	18.2	0.9	2.1	1.3	9.2	7.9	9.0
Myanmar	18.4	18.0	17.6	0.6	0.6	0.6	3.5	3.6	3.2
Pakistan	40.8	45.2	44.3	1.4	2.1	1.2	4.5	5.0	5.4
Philippines	20.5	21.3	21.4	9.8	10.0	9.8	0.1	0.1	0.1
Republic of Korea	4.0	4.1	4.0	15.7	16.6	16.4	0.1	0.1	0.1
Saudi Arabia	0.5	0.9	1.0	15.1	13.3	14.2	-	-	-
Thailand	25.3	26.9	27.1	5.5	5.5	5.7	6.6	8.1	8.9
Türkiye	34.9	31.6	34.7	13.0	14.6	12.9	5.1	4.5	4.4
Viet Nam	33.0	32.9	32.7	16.1	15.3	15.6	7.3	6.4	6.3
AFRICA	196.8	202.0	193.2	94.7	95.3	103.7	6.3	7.2	6.5
Algeria	5.3	3.5	3.6	13.0	13.0	14.1	-	-	-
Egypt	20.2	21.8	21.5	22.9	22.1	23.8	0.6	0.2	0.2
Ethiopia	29.1	28.6	29.4	1.8	2.0	2.3	1.3	1.3	1.3
Morocco	6.3	10.5	3.2	8.4	6.9	10.4	0.1	0.1	0.1
Nigeria	26.4	26.2	26.5	7.6	8.7	9.2	-	-	-
South Africa	16.1	19.9	18.2	2.9	2.6	2.7	2.0	3.6	2.9
Sudan	8.0	5.1	6.9	2.3	2.4	2.7	0.3	0.2	0.2
CENTRAL AMERICA & THE CARIBBEAN	42.5	42.7	42.5	36.7	36.9	37.4	1.6	1.4	1.5
Mexico	36.1	36.4	36.2	23.5	23.6	23.7	1.4	1.2	1.3
SOUTH AMERICA	219.4	227.2	249.5	32.9	34.6	33.5	89.5	96.5	100.7
Argentina	79.6	93.0	87.4	0.1	0.1	0.1	49.5	62.8	55.5
Brazil	111.3	106.4	134.7	9.8	10.8	9.5	34.4	28.8	39.6
Chile	3.1	2.8	2.7	3.9	3.9	4.4	0.0	0.1	0.1
Colombia	3.3	3.5	3.3	8.2	8.6	8.4	-	-	-
Peru	4.3	4.4	4.0	6.2	6.4	6.2	0.1	-	0.1
Venezuela (Bolivarian Republic of)	1.2	1.1	1.2	2.3	2.5	2.5	-	-	-
NORTHERN AMERICA	490.0	495.9	495.9	9.9	12.1	10.0	123.1	119.1	119.2
Canada	61.7	45.9	60.5	2.9	5.8	2.7	31.5	21.4	27.7
United States of America	428.3	450.0	435.3	6.9	6.3	7.3	91.6	97.7	91.5
EUROPE	521.7	549.6	521.0	33.7	31.1	25.0	141.6	138.6	127.8
European Union	301.3	297.5	299.9	27.3	22.6	16.4	40.5	46.4	50.7
Russian Federation	118.9	117.2	125.7	0.6	0.6	0.6	45.4	39.5	43.7
Ukraine	69.5	85.6	48.1	0.1	0.1	0.1	50.2	47.0	27.8
OCEANIA	36.5	55.2	45.3	2.4	2.0	2.2	18.5	35.5	31.0
Australia	35.5	54.1	44.2	0.6	0.3	0.4	18.5	35.5	31.0
WORLD	2 711.4	2 800.8	2 784.5	442.6	475.4	462.8	443.2	475.4	462.8
LIFDC	189.6	184.8	187.8	59.2	62.2	63.3	4.0	3.6	3.8
LDC	189.4	187.0	189.0	42.3	44.5	45.7	9.3	9.1	8.9

APPENDIX TABLE 1(B): CEREAL STATISTICS

	Total Utilization			Stocks ending in			Per caput food use		
	18/19-20/21 average	2021/22 estim.	2022/23 f'cast	2019-2021 average	2022 estim.	2023 f'cast	18/19-20/21 average	2021/22 estim.	2022/23 f'cast
	million tonnes						Kg/year		
ASIA	1 365.1	1 423.6	1 422.1	557.5	571.2	564.0	157.2	158.1	158.1
Bangladesh	50.7	53.7	54.4	8.5	8.6	8.0	220.9	224.9	225.8
China	590.7	623.8	618.2	386.8	394.9	398.2	153.5	154.0	153.9
India	245.4	257.2	258.3	62.1	65.2	59.7	146.5	148.2	148.2
Indonesia	71.6	69.8	69.9	9.5	7.8	7.7	181.1	177.6	176.0
Iran (Islamic Republic of)	34.8	36.7	36.0	10.1	10.7	10.0	208.1	209.1	209.5
Iraq	9.6	10.3	9.8	1.6	0.9	1.0	192.7	194.7	194.3
Japan	32.1	31.8	31.4	7.0	6.9	7.1	91.6	88.7	88.2
Kazakhstan	10.1	10.1	10.2	4.1	4.9	5.2	158.4	159.3	159.3
Myanmar	15.5	15.4	15.3	3.5	2.9	2.5	201.9	206.7	206.9
Pakistan	38.0	40.7	41.4	3.2	5.7	5.0	140.7	143.0	143.7
Philippines	30.1	31.1	31.5	4.8	4.8	4.6	162.9	167.0	168.1
Republic of Korea	19.3	20.2	20.0	2.7	3.4	3.8	123.2	121.3	120.3
Saudi Arabia	16.1	14.5	14.9	4.7	4.2	4.3	137.5	135.4	135.9
Thailand	22.5	24.7	24.7	9.2	11.2	10.7	119.6	122.2	123.0
Türkiye	41.6	43.7	44.0	9.1	8.6	7.8	240.2	242.9	243.4
Viet Nam	41.4	41.8	42.3	5.3	5.8	6.0	175.3	172.8	170.4
AFRICA	285.3	290.0	294.5	58.9	58.4	54.6	152.9	152.4	152.1
Algeria	18.0	17.6	18.1	6.5	5.2	4.8	226.8	226.7	226.8
Egypt	43.5	43.8	44.9	4.9	4.2	4.3	273.3	274.0	272.5
Ethiopia	29.1	30.3	30.5	6.9	6.4	6.3	196.0	200.3	197.5
Morocco	15.7	15.2	14.7	5.6	5.7	4.5	239.4	239.7	239.5
Nigeria	34.3	34.9	35.3	2.1	1.9	1.8	130.9	129.7	128.2
South Africa	17.3	18.2	17.7	3.4	4.6	4.8	162.8	161.6	160.1
Sudan	9.6	8.9	10.4	3.6	3.4	3.4	177.1	176.6	204.7
CENTRAL AMERICA & THE CARIBBEAN	77.8	79.1	79.2	9.8	8.5	7.6	160.7	160.0	160.0
Mexico	58.1	59.2	59.6	7.3	6.7	5.7	194.2	194.3	194.5
SOUTH AMERICA	166.3	173.9	176.7	37.9	32.2	36.5	112.9	112.9	113.1
Argentina	32.7	31.3	30.9	12.1	9.9	10.4	121.2	121.7	120.6
Brazil	87.4	95.3	99.1	16.5	14.1	19.0	111.7	110.0	110.2
Chile	7.0	6.7	6.8	0.7	0.6	0.6	145.6	145.7	145.5
Colombia	11.4	12.3	11.8	1.4	1.0	0.8	89.5	91.9	91.6
Peru	10.5	10.5	10.5	0.9	0.9	0.7	149.8	149.9	148.5
Venezuela (Bolivarian Republic of)	3.5	3.6	3.7	0.5	0.5	0.5	90.5	98.9	105.5
NORTHERN AMERICA	389.0	393.8	386.3	86.3	64.6	63.6	110.2	110.7	110.7
Canada	34.0	33.4	33.0	9.4	6.5	8.3	96.2	96.2	96.4
United States of America	355.0	360.4	353.3	76.8	58.1	55.3	111.8	112.4	112.4
EUROPE	416.2	412.5	411.0	72.7	103.8	110.6	132.8	133.4	134.0
European Union	288.9	267.3	266.3	39.6	42.3	41.2	134.2	136.9	137.9
Russian Federation	76.1	77.8	78.0	15.5	18.1	22.7	125.5	125.6	125.7
Ukraine	20.3	19.9	19.5	6.4	24.8	25.7	144.3	138.5	137.0
OCEANIA	19.2	18.7	18.3	7.3	11.4	9.8	96.8	96.8	96.8
Australia	16.3	15.9	15.5	6.5	10.7	9.1	104.5	104.8	104.9
WORLD	2 718.9	2 791.6	2 788.2	830.4	850.1	846.6	149.2	149.7	149.8
LIFDC	241.2	249.1	253.2	55.5	55.4	50.7	155.0	155.1	155.3
LDC	220.4	226.5	230.4	47.4	46.8	43.6	158.5	158.8	158.7

APPENDIX TABLE 2(A): WHEAT STATISTICS

	Production			Imports			Exports		
	2018-2020 average	2021 <i>estim.</i>	2022 <i>f'cast</i>	18/19-20/21 average	2021/22 <i>estim.</i>	2022/23 <i>f'cast</i>	18/19-20/21 average	2021/22 <i>estim.</i>	2022/23 <i>f'cast</i>
	<i>million tonnes</i>								
ASIA	336.1	337.1	339.5	94.6	105.3	99.3	16.4	23.5	21.3
Bangladesh	1.0	1.1	1.2	6.5	6.5	6.5	-	-	-
China	133.1	137.0	136.9	8.7	11.4	9.7	0.4	0.2	0.2
China (mainland)	133.1	136.9	136.9	6.9	9.5	7.8	0.3	0.2	0.2
Taiwan Province of China	-	-	-	1.4	1.4	1.4	-	-	-
India	103.8	109.6	105.5	-	-	-	1.6	10.0	7.0
Indonesia	-	-	-	10.8	10.8	10.8	0.1	0.1	0.1
Iran (Islamic Republic of)	14.3	9.0	13.0	1.6	7.9	3.4	0.0	-	-
Iraq	4.2	4.2	4.0	2.5	1.5	3.0	-	-	-
Japan	0.9	0.9	0.9	5.6	5.5	5.5	0.2	0.2	0.2
Kazakhstan	13.2	11.8	13.5	0.8	2.0	1.2	7.7	7.3	8.0
Pakistan	24.9	27.3	26.5	1.2	1.9	1.0	0.2	0.1	0.1
Philippines	-	-	-	6.4	6.2	6.2	-	-	-
Republic of Korea	-	-	-	3.7	4.3	3.9	-	-	-
Saudi Arabia	0.3	0.6	0.6	3.1	3.0	3.3	-	-	-
Thailand	-	-	-	3.2	2.9	3.0	-	-	-
Türkiye	19.8	17.7	19.0	8.9	9.0	9.0	4.4	4.0	4.0
AFRICA	27.1	29.8	24.8	50.7	51.4	54.0	0.9	0.5	0.5
Algeria	3.6	2.5	2.5	7.5	7.8	8.0	-	-	-
Egypt	8.8	9.0	9.1	12.4	12.5	13.0	0.5	0.2	0.2
Ethiopia	5.3	5.5	5.5	1.3	1.3	1.5	-	-	-
Morocco	4.6	7.5	2.5	4.8	4.7	6.2	0.1	-	-
Nigeria	0.1	0.1	0.1	5.4	6.3	6.2	-	-	-
South Africa	1.8	2.3	2.2	1.6	1.6	1.6	0.1	0.1	0.1
Tunisia	1.2	1.2	1.2	2.0	1.9	2.1	-	-	-
CENTRAL AMERICA & THE CARIBBEAN	3.0	3.3	3.3	9.2	9.2	9.2	0.8	0.8	0.9
Cuba	-	-	-	0.7	0.7	0.7	-	-	-
Mexico	3.0	3.3	3.3	5.1	5.0	5.0	0.7	0.7	0.8
SOUTH AMERICA	28.4	33.1	32.8	14.7	14.7	14.7	13.3	19.1	16.8
Argentina	19.0	22.1	21.0	-	-	-	12.0	15.0	14.0
Brazil	5.6	7.7	8.1	6.9	6.5	6.3	0.6	3.2	1.8
Chile	1.3	1.1	1.2	1.2	1.3	1.4	-	-	-
Colombia	-	-	-	1.9	2.0	2.0	-	-	-
Peru	0.2	0.2	0.2	2.1	2.2	2.0	-	-	-
Venezuela (Bolivarian Republic of)	-	-	-	0.7	0.9	1.0	-	-	-
NORTHERN AMERICA	84.6	66.4	78.2	3.2	2.9	3.4	51.5	37.0	42.1
Canada	33.4	21.7	31.2	0.2	0.2	0.1	25.2	15.5	21.0
United States of America	51.2	44.8	47.0	3.0	2.6	3.3	26.3	21.5	21.1
EUROPE	254.5	270.3	263.7	7.8	7.8	7.4	84.4	86.2	85.3
European Union	140.2	138.9	138.7	4.8	3.8	3.5	29.1	32.0	38.0
Russian Federation	77.5	76.1	83.5	0.3	0.3	0.3	36.0	33.0	35.0
Ukraine	25.9	32.2	20.0	0.0	-	-	17.9	19.0	10.0
United Kingdom of Great Britain and Northern Ireland	9.7	14.0	13.5	0.8	1.8	1.7	0.1	0.5	0.5
OCEANIA	22.2	36.8	28.4	1.3	0.9	1.0	13.2	25.0	22.0
Australia	21.8	36.3	28.0	0.4	0.1	0.2	13.2	25.0	22.0
WORLD	756.0	776.8	770.8	181.4	192.1	188.9	180.5	192.1	188.9
LIFDC	23.8	21.8	22.4	35.0	35.0	35.5	0.7	0.5	0.5
LDC	14.2	13.8	14.0	24.5	24.6	25.3	0.1	0.1	0.1

APPENDIX TABLE 2(B): WHEAT STATISTICS

	Total Utilization			Stocks ending in			Per caput food use		
	18/19-20/21 average	2021/22 <i>estim.</i>	2022/23 <i>f'cast</i>	2019-2021 average	2022 <i>estim.</i>	2023 <i>f'cast</i>	18/19-20/21 average	2021/22 <i>estim.</i>	2022/23 <i>f'cast</i>
	<i>million tonnes</i>						<i>Kg/year</i>		
ASIA	403.1	423.4	419.5	194.4	204.6	203.0	66.3	66.8	66.9
Bangladesh	7.7	8.0	8.0	1.8	1.4	1.1	34.8	35.5	35.4
China	134.6	144.7	139.6	124.6	134.2	141.0	64.7	65.3	65.4
China (mainland)	132.8	142.8	137.7	124.1	133.8	140.5	65.0	65.6	65.7
Taiwan Province of China	1.3	1.4	1.4	0.4	0.4	0.4	45.6	45.5	45.6
India	99.3	105.0	105.0	24.2	24.0	18.0	60.1	60.1	60.1
Indonesia	10.7	10.4	10.5	1.1	1.2	1.1	26.2	27.0	27.1
Iran (Islamic Republic of)	15.8	16.2	16.4	6.4	7.0	6.9	168.7	169.4	169.7
Iraq	6.4	6.7	6.8	0.7	0.4	0.6	152.8	152.3	151.8
Japan	6.2	6.1	6.1	1.3	1.1	1.2	40.0	39.4	39.6
Kazakhstan	6.3	6.3	6.3	3.6	4.2	4.5	142.6	142.7	142.7
Pakistan	26.2	27.6	28.2	1.7	3.8	3.2	117.7	118.3	118.5
Philippines	6.3	6.2	6.2	1.5	1.3	1.3	24.4	25.0	24.7
Republic of Korea	3.8	4.2	3.9	1.0	1.0	1.0	47.7	47.9	47.6
Saudi Arabia	3.6	3.8	3.8	2.3	1.9	2.0	98.1	98.5	98.8
Thailand	3.3	3.3	3.0	1.7	1.2	1.2	16.4	15.8	15.9
Türkiye	23.3	24.2	24.4	6.3	5.7	5.4	211.5	214.6	214.5
AFRICA	78.3	80.1	80.6	17.9	15.8	13.5	51.5	51.4	50.7
Algeria	11.0	10.8	11.2	4.4	3.6	3.0	208.8	209.3	209.5
Egypt	21.3	21.4	21.8	2.7	1.9	2.0	188.6	189.0	188.0
Ethiopia	6.6	7.0	7.1	0.8	0.7	0.6	48.8	50.0	49.9
Morocco	10.5	10.2	9.8	3.9	4.0	2.9	207.1	207.5	207.3
Nigeria	5.2	6.2	6.4	0.4	0.8	0.7	24.5	26.3	26.4
South Africa	3.4	3.8	3.7	0.5	0.5	0.5	56.1	55.8	55.3
Tunisia	3.1	3.0	3.1	0.5	0.4	0.6	211.1	211.5	211.7
CENTRAL AMERICA & THE CARIBBEAN	11.4	11.5	11.5	1.7	1.9	1.9	44.2	44.2	44.2
Cuba	0.7	0.7	0.7	0.1	-	-	56.0	56.2	56.3
Mexico	7.4	7.4	7.5	1.1	1.5	1.5	50.8	50.7	50.9
SOUTH AMERICA	29.1	29.0	30.0	6.4	6.2	6.3	57.1	57.1	57.2
Argentina	6.4	6.3	6.5	2.8	3.0	3.0	103.1	103.1	103.2
Brazil	12.3	11.9	12.4	1.4	0.9	1.1	54.0	53.0	53.4
Chile	2.5	2.5	2.6	0.4	0.4	0.4	108.4	108.6	108.4
Colombia	1.9	2.0	1.9	0.1	0.1	0.1	34.8	35.0	34.8
Peru	2.3	2.3	2.3	0.2	0.2	0.2	60.1	59.5	58.9
Venezuela (Bolivarian Republic of)	0.7	0.9	0.9	0.1	0.1	0.1	24.4	30.7	31.1
NORTHERN AMERICA	39.1	38.8	39.0	32.5	21.6	21.5	82.3	82.9	83.1
Canada	8.8	8.2	8.8	5.7	3.8	4.7	80.9	80.8	80.8
United States of America	30.3	30.6	30.2	26.8	17.8	16.8	82.5	83.2	83.3
EUROPE	182.2	178.8	178.5	26.4	40.3	47.3	106.5	106.3	106.7
European Union	117.8	104.5	104.3	12.9	17.1	16.7	108.6	109.8	110.7
Russian Federation	43.5	43.7	43.7	8.7	10.3	15.4	99.4	99.3	99.4
Ukraine	8.4	8.2	8.0	1.8	6.4	8.4	112.4	108.3	106.0
United Kingdom of Great Britain and Northern Ireland	12.9	14.4	14.5	1.4	2.2	2.5	48.3	96.8	96.7
OCEANIA	10.1	10.0	9.4	3.5	6.1	4.1	69.2	68.3	67.9
Australia	8.7	8.7	8.1	3.0	5.7	3.7	83.6	82.6	82.5
WORLD	753.3	771.7	768.6	282.7	296.5	297.8	67.3	67.5	67.4
LIFDC	57.5	59.4	59.7	15.8	14.1	11.9	39.9	39.8	39.3
LDC	38.7	40.1	40.3	9.9	8.6	7.6	32.0	31.9	31.5

APPENDIX TABLE 3(A): COARSE GRAIN STATISTICS

	Production			Imports			Exports		
	2018-2020 average	2021 <i>estim.</i>	2022 <i>f'cast</i>	18/19-20/21 average	2021/22 <i>estim.</i>	2022/23 <i>f'cast</i>	18/19-20/21 average	2021/22 <i>estim.</i>	2022/23 <i>f'cast</i>
	<i>million tonnes</i>								
ASIA	411.1	423.1	429.6	116.8	134.4	129.1	6.8	8.0	8.2
China	268.9	281.9	282.5	29.2	48.8	42.9	0.1	0.1	0.1
China (mainland)	268.7	281.7	282.3	24.5	44.1	38.3	0.1	0.1	0.1
Taiwan Province of China	0.2	0.2	0.2	4.6	4.6	4.6	-	-	-
India	47.4	49.2	50.2	0.3	-	0.1	1.7	3.9	3.7
Indonesia	22.3	22.7	22.7	1.0	1.1	1.1	-	-	-
Iran (Islamic Republic of)	4.0	3.3	4.3	12.0	12.0	11.0	-	-	-
Japan	0.2	0.3	0.2	17.9	16.7	17.3	-	-	-
Malaysia	0.1	0.1	0.1	3.7	3.9	3.9	-	-	-
Pakistan	8.2	9.0	9.0	0.2	0.2	0.2	0.1	0.4	0.4
Philippines	8.0	8.2	8.2	0.6	0.8	0.8	-	-	-
Republic of Korea	0.2	0.2	0.2	11.5	11.9	12.1	-	-	-
Saudi Arabia	0.3	0.3	0.3	10.7	9.0	9.5	-	-	-
Thailand	4.9	5.0	5.4	1.9	2.4	2.6	0.1	-	-
Türkiye	14.5	13.3	15.1	3.9	5.3	3.6	0.6	0.5	0.4
Viet Nam	4.8	4.4	4.4	11.5	9.6	10.9	0.5	0.3	0.4
AFRICA	145.5	147.0	142.9	27.5	24.6	29.1	4.9	6.4	5.6
Algeria	1.7	1.0	1.1	5.4	5.0	5.9	-	-	-
Egypt	7.6	8.5	8.4	10.1	9.0	10.0	-	-	-
Ethiopia	23.7	23.0	23.7	-	-	-	1.3	1.3	1.3
Morocco	1.6	2.9	0.7	3.5	2.1	4.1	-	-	-
Nigeria	21.4	21.1	21.1	0.2	-	0.2	-	-	-
South Africa	14.3	17.6	16.0	0.4	-	0.1	1.9	3.5	2.8
Sudan	7.2	4.5	6.2	0.3	0.3	0.3	0.3	0.2	0.2
United Republic of Tanzania	7.2	7.6	7.4	-	-	-	0.3	0.3	0.3
CENTRAL AMERICA & THE CARIBBEAN	37.6	37.6	37.4	25.1	25.4	25.6	0.8	0.5	0.5
Mexico	32.8	32.9	32.7	17.7	17.8	17.9	0.8	0.5	0.5
SOUTH AMERICA	174.4	176.9	201.0	16.3	17.8	16.8	72.6	73.7	80.4
Argentina	59.9	69.9	65.6	0.1	0.1	0.1	37.2	47.4	41.2
Brazil	98.1	90.8	119.3	2.1	3.6	2.4	32.9	24.5	37.0
Chile	1.7	1.6	1.4	2.6	2.5	2.8	0.0	0.1	0.1
Colombia	1.4	1.5	1.5	6.2	6.4	6.2	-	-	-
Peru	1.8	1.9	1.8	3.8	3.9	3.9	-	-	-
Venezuela (Bolivarian Republic of)	0.8	0.7	0.9	1.0	1.0	1.0	-	-	-
NORTHERN AMERICA	398.7	423.4	411.9	5.2	7.7	4.9	68.7	79.4	74.6
Canada	28.3	24.3	29.4	2.4	5.2	2.1	6.3	5.9	6.7
United States of America	370.4	399.1	382.5	2.8	2.5	2.9	62.3	73.5	67.9
EUROPE	264.7	277.0	255.1	22.9	20.0	14.1	56.5	51.9	41.9
European Union	159.4	156.9	159.7	20.5	16.7	10.6	10.9	14.0	12.3
Russian Federation	40.6	40.4	41.6	0.1	0.1	0.1	9.2	6.4	8.6
Serbia	8.0	6.8	7.2	0.1	0.1	0.1	3.1	1.6	1.6
Ukraine	43.6	53.4	28.1	0.1	0.1	0.1	32.3	28.0	17.8
United Kingdom of Great Britain and Northern Ireland	9.3	8.2	8.1	1.0	2.1	2.3	0.5	1.1	1.1
OCEANIA	14.2	18.1	16.4	0.3	0.2	0.3	5.2	10.3	8.7
Australia	13.5	17.5	15.8	-	-	-	5.2	10.3	8.7
WORLD	1 446.2	1 503.1	1 494.3	214.1	230.1	220.0	215.5	230.1	220.0
LIFDC	107.4	103.5	105.1	8.6	9.7	9.6	2.8	2.9	2.9
LDC	96.4	93.1	94.8	5.6	6.6	6.5	4.9	4.9	5.0

APPENDIX TABLE 3(B): COARSE GRAIN STATISTICS

	Total Utilization			Stocks ending in			Per caput food use		
	18/19-20/21 average	2021/22 estim.	2022/23 f'cast	2019-2021 average	2022 estim.	2023 f'cast	18/19-20/21 average	2021/22 estim.	2022/23 f'cast
	million tonnes						Kg/year		
ASIA	528.5	552.9	556.2	185.5	185.1	179.5	14.5	14.4	14.3
China	307.9	326.1	329.4	157.3	159.5	155.5	12.9	13.0	12.9
China (mainland)	303.1	321.2	324.5	156.8	159.0	154.9	13.1	13.1	13.1
Taiwan Province of China	4.7	4.8	4.8	0.5	0.5	0.5	6.9	6.9	6.9
India	45.8	47.1	47.1	3.9	2.2	1.8	18.0	17.7	17.6
Indonesia	23.3	23.7	23.7	2.0	1.9	1.9	29.4	29.2	28.9
Iran (Islamic Republic of)	15.4	16.9	16.0	3.0	3.2	2.5	1.2	1.2	1.2
Japan	17.9	17.7	17.3	2.5	2.3	2.6	3.3	3.3	3.4
Malaysia	3.8	4.0	4.0	0.2	0.2	0.2	2.0	2.0	1.9
Pakistan	8.3	9.0	8.9	0.9	0.9	0.9	10.0	10.0	10.2
Philippines	8.6	9.0	9.0	1.0	0.9	1.0	18.8	19.0	18.7
Republic of Korea	11.2	12.0	12.2	0.8	1.2	1.4	3.6	3.5	3.5
Saudi Arabia	11.2	9.5	9.8	2.2	1.9	1.9	2.8	2.7	2.7
Thailand	6.7	7.5	8.0	0.8	0.7	0.7	2.7	2.6	2.6
Türkiye	17.4	18.7	18.8	2.8	2.9	2.4	19.5	19.3	19.2
Viet Nam	15.9	14.5	14.9	1.0	0.3	0.4	8.2	8.1	8.0
AFRICA	166.5	166.5	168.8	35.6	36.9	35.2	74.6	73.7	73.4
Algeria	6.9	6.7	6.8	2.2	1.6	1.8	14.9	14.3	14.1
Egypt	17.8	17.6	18.3	1.6	1.6	1.7	44.8	44.1	43.3
Ethiopia	21.8	22.5	22.4	6.0	5.6	5.6	142.4	144.0	140.4
Morocco	5.1	4.9	4.9	1.6	1.6	1.6	30.2	29.7	29.6
Nigeria	21.7	21.4	21.3	1.1	0.6	0.6	75.0	73.5	71.5
South Africa	12.9	13.5	13.1	2.7	4.0	4.2	91.1	90.9	89.8
Sudan	6.6	6.0	7.4	2.4	2.6	2.6	109.5	111.0	139.1
United Republic of Tanzania	7.1	7.4	7.1	1.0	0.7	0.7	90.0	94.6	86.4
CENTRAL AMERICA & THE CARIBBEAN	62.1	63.5	63.4	7.5	6.1	5.1	98.1	98.2	97.9
Mexico	49.8	50.9	51.1	6.1	5.1	4.1	136.4	136.5	136.4
SOUTH AMERICA	122.0	129.7	131.6	29.4	23.5	28.6	24.3	24.4	24.7
Argentina	25.7	24.4	23.9	9.2	6.8	7.4	7.3	7.2	7.2
Brazil	67.7	76.1	79.4	14.7	12.4	17.4	25.8	25.7	25.5
Chile	4.2	3.9	4.0	0.2	0.1	0.1	24.9	24.9	24.9
Colombia	7.5	8.2	7.7	0.7	0.3	0.3	18.5	18.7	18.6
Peru	5.7	5.6	5.7	0.3	0.3	0.3	21.7	22.2	21.6
Venezuela (Bolivarian Republic of)	1.9	1.8	1.9	0.3	0.3	0.3	40.2	42.3	48.3
NORTHERN AMERICA	344.8	349.9	342.2	52.4	41.8	41.0	18.0	17.9	17.8
Canada	24.8	24.8	23.8	3.6	2.7	3.6	4.6	4.5	4.5
United States of America	320.0	325.1	318.4	48.8	39.1	37.4	19.5	19.4	19.3
EUROPE	229.2	228.7	227.5	45.7	62.8	62.6	20.7	21.4	21.5
European Union	167.5	159.6	158.8	26.2	24.9	24.0	19.5	20.9	21.0
Russian Federation	31.8	33.3	33.5	6.7	7.7	7.2	21.1	21.1	21.1
Serbia	4.6	4.8	4.8	1.1	1.6	2.5	22.4	22.5	22.6
Ukraine	11.8	11.7	11.4	4.6	18.4	17.3	28.9	29.1	29.3
United Kingdom of Great Britain and Northern Ireland	10.9	9.6	9.2	1.6	1.3	1.3	9.1	17.8	18.0
OCEANIA	8.2	7.8	7.9	3.6	5.1	5.4	8.0	7.9	7.8
Australia	7.3	6.9	7.0	3.4	4.9	5.2	9.7	9.7	9.6
WORLD	1 461.4	1 498.9	1 497.7	359.7	361.2	357.3	28.4	28.5	28.5
LIFDC	110.6	112.7	114.7	28.6	29.1	27.0	63.0	62.4	62.7
LDC	95.5	96.5	98.6	22.1	22.1	20.8	60.9	60.5	60.7

APPENDIX TABLE 4(A): MAIZE STATISTICS

	Production			Imports			Exports		
	2018-2020 average	2021 <i>estim.</i>	2022 <i>f'cast</i>	18/19-20/21 average	2021/22 <i>estim.</i>	2022/23 <i>f'cast</i>	18/19-20/21 average	2021/22 <i>estim.</i>	2022/23 <i>f'cast</i>
<i>million tonnes</i>									
ASIA	360.4	379.9	380.8	89.3	96.0	95.7	5.1	7.1	7.0
China	259.7	272.7	273.2	17.4	28.1	24.6	-	-	-
China (mainland)	259.6	272.6	273.0	12.8	23.5	20.0	-	-	-
Taiwan Province of China	0.2	0.2	0.2	4.5	4.5	4.5	-	-	-
India	29.4	32.0	32.0	0.2	-	-	1.6	3.7	3.5
Indonesia	22.3	22.7	22.7	0.9	1.0	1.0	-	-	-
Iran (Islamic Republic of)	1.0	1.3	1.3	9.5	9.0	9.0	-	-	-
Japan	-	-	-	16.1	15.0	15.5	-	-	-
Malaysia	0.1	0.1	0.1	3.7	3.9	3.9	-	-	-
Pakistan	7.7	8.5	8.5	-	-	-	0.1	0.4	0.4
Philippines	8.0	8.2	8.2	0.6	0.8	0.8	-	-	-
Republic of Korea	0.1	0.1	0.1	11.4	11.8	12.0	-	-	-
Thailand	4.7	4.8	5.2	1.3	1.5	1.5	0.1	-	-
Türkiye	6.1	6.8	6.3	3.3	2.3	2.8	0.5	0.3	0.3
Viet Nam	4.8	4.4	4.4	11.4	9.5	10.8	0.5	0.3	0.4
AFRICA	86.5	94.7	88.9	23.3	20.4	23.7	3.8	5.5	4.7
Algeria	-	-	-	4.8	4.0	4.8	-	-	-
Egypt	6.7	7.5	7.3	10.0	9.0	10.0	-	-	-
Ethiopia	9.9	10.0	10.1	-	-	-	0.9	0.9	0.9
Kenya	3.9	3.0	3.6	1.0	1.8	1.8	-	-	-
Morocco	0.1	0.1	-	2.7	1.8	2.7	-	-	-
Nigeria	12.6	12.4	12.4	0.1	-	0.2	-	-	-
South Africa	13.6	17.0	15.4	0.3	-	-	1.9	3.5	2.8
United Republic of Tanzania	6.1	6.5	6.3	-	-	-	0.3	0.3	0.3
CENTRAL AMERICA & THE CARIBBEAN	31.8	31.9	31.5	24.3	24.5	24.7	0.8	0.5	0.5
Mexico	27.3	27.5	27.1	16.8	17.0	17.0	0.8	0.5	0.5
SOUTH AMERICA	160.7	159.9	184.4	14.9	16.5	15.5	69.3	68.1	75.0
Argentina	53.0	60.5	57.0	-	-	-	34.0	42.0	36.0
Brazil	94.4	87.1	114.6	1.5	3.0	1.8	32.8	24.5	37.0
Chile	0.9	0.8	0.6	2.4	2.4	2.7	-	-	-
Colombia	1.4	1.5	1.4	5.8	6.1	5.9	-	-	-
Peru	1.5	1.6	1.5	3.7	3.8	3.8	-	-	-
Venezuela (Bolivarian Republic of)	0.8	0.7	0.8	1.0	1.0	1.0	-	-	-
NORTHERN AMERICA	369.8	397.9	380.9	3.0	5.6	2.6	58.6	66.8	61.4
Canada	13.6	14.0	13.6	2.2	5.0	2.0	1.5	1.3	1.4
United States of America	356.2	383.9	367.3	0.8	0.6	0.6	57.2	65.5	60.0
EUROPE	128.7	141.7	120.6	20.9	17.6	11.7	38.9	32.7	25.4
European Union	69.3	72.6	73.7	19.2	15.0	9.0	3.9	6.0	4.4
Russian Federation	13.2	15.2	14.0	-	-	-	3.8	2.5	4.0
Serbia	7.4	6.0	6.6	-	-	-	3.0	1.5	1.5
Ukraine	34.0	42.1	21.0	-	-	-	27.8	22.0	15.0
OCEANIA	0.5	0.6	0.6	0.2	0.1	0.2	0.1	0.1	-
WORLD	1 138.5	1 206.7	1 187.8	175.8	180.8	174.2	176.6	180.8	174.2
LIFDC	59.4	63.7	61.4	7.3	8.4	8.5	1.8	2.0	2.1
LDC	53.3	57.2	55.0	4.8	5.6	5.7	3.8	4.1	4.1

APPENDIX TABLE 4(B): MAIZE STATISTICS

	Total Utilization			Stocks ending in			Per caput food use		
	18/19-20/21 average	2021/22 estim.	2022/23 f'cast	2019-2021 average	2022 estim.	2023 f'cast	18/19-20/21 average	2021/22 estim.	2022/23 f'cast
	million tonnes						Kg/year		
ASIA	453.5	468.7	473.3	173.0	172.6	168.9	9.3	9.3	9.3
China	287.2	296.7	301.2	155.1	156.3	152.9	9.8	9.8	9.8
China (mainland)	282.4	291.9	296.4	154.6	155.8	152.4	10.0	10.0	9.9
Taiwan Province of China	4.7	4.7	4.7	0.5	0.5	0.5	5.5	5.4	5.4
India	28.0	29.0	29.0	2.8	1.7	1.3	6.2	6.2	6.1
Indonesia	23.2	23.6	23.6	2.0	1.9	1.9	29.1	28.9	28.7
Iran (Islamic Republic of)	10.1	11.5	10.8	1.9	2.0	1.5	0.9	0.9	0.9
Japan	15.9	15.9	15.2	2.2	2.0	2.3	0.8	0.8	0.8
Malaysia	3.8	4.0	4.0	0.2	0.2	0.2	2.0	2.0	1.9
Pakistan	7.6	8.3	8.2	0.9	0.9	0.9	8.0	8.1	8.4
Philippines	8.6	8.9	8.9	1.0	0.9	1.0	18.7	18.9	18.7
Republic of Korea	11.0	11.8	12.0	0.7	1.2	1.3	2.0	2.0	2.0
Thailand	5.9	6.4	6.7	0.8	0.7	0.6	1.2	1.2	1.2
Türkiye	8.7	9.2	9.0	1.2	0.8	0.6	16.0	15.9	15.8
Viet Nam	15.8	14.4	14.8	1.0	0.3	0.4	8.2	8.0	8.0
AFRICA	106.0	108.5	108.9	19.6	21.6	20.4	42.0	42.4	41.4
Algeria	4.8	4.3	4.6	1.2	1.0	1.2	3.3	3.1	3.1
Egypt	16.7	16.6	17.2	1.5	1.5	1.6	41.8	41.2	40.5
Ethiopia	8.6	9.2	9.2	1.6	1.9	1.9	49.1	52.0	50.3
Kenya	4.9	5.0	5.4	0.5	0.4	0.4	82.4	81.7	86.8
Morocco	2.7	2.2	2.4	1.2	1.0	1.4	10.4	10.3	10.2
Nigeria	12.8	12.6	12.6	0.4	0.2	0.1	35.4	34.6	33.9
South Africa	12.2	12.9	12.3	2.5	3.7	3.9	88.5	88.3	87.2
United Republic of Tanzania	6.0	6.3	6.0	0.9	0.5	0.5	73.6	78.2	70.9
CENTRAL AMERICA & THE CARIBBEAN	55.5	56.9	56.7	6.9	5.6	4.6	97.5	97.6	97.4
Mexico	43.4	44.6	44.6	5.5	4.6	3.6	136.0	136.1	136.1
SOUTH AMERICA	110.1	117.6	119.3	28.0	22.1	27.3	22.6	22.7	23.0
Argentina	21.8	21.0	20.6	8.5	6.1	6.7	7.1	7.0	7.0
Brazil	63.5	71.9	74.1	14.3	12.0	17.0	24.4	24.3	24.1
Chile	3.3	3.0	3.1	0.2	0.1	0.1	21.0	21.1	21.0
Colombia	7.1	7.9	7.4	0.7	0.3	0.3	18.0	18.1	18.2
Peru	5.3	5.2	5.3	0.3	0.3	0.3	15.1	15.3	15.2
Venezuela (Bolivarian Republic of)	1.8	1.7	1.8	0.3	0.3	0.3	39.6	41.8	47.8
NORTHERN AMERICA	323.4	333.4	323.4	47.7	38.7	36.5	14.8	14.7	14.6
Canada	14.6	17.5	14.4	2.3	2.2	2.0	3.1	3.1	3.0
United States of America	308.8	315.9	309.0	45.5	36.6	34.5	16.1	16.1	16.0
EUROPE	110.2	109.3	107.4	27.0	43.0	42.5	8.3	8.7	8.7
European Union	85.3	81.3	79.4	16.7	14.5	13.5	9.8	10.5	10.6
Russian Federation	9.3	10.8	11.0	1.8	3.8	2.8	1.4	1.4	1.4
Serbia	4.1	4.3	4.3	0.9	1.2	2.0	20.8	20.9	21.0
Ukraine	6.7	6.6	6.6	2.8	16.4	15.8	11.2	11.3	11.4
OCEANIA	0.7	0.5	0.7	0.1	0.1	0.1	2.2	2.2	2.1
WORLD	1 159.2	1 194.8	1 189.7	302.3	303.7	300.3	18.2	18.5	18.4
LIFDC	64.5	69.4	69.2	13.1	14.1	12.5	33.9	34.5	33.7
LDC	54.2	58.0	57.9	9.0	9.6	8.1	30.6	31.4	30.5

APPENDIX TABLE 5(A): BARLEY STATISTICS

	Production			Imports			Exports		
	2018-2020 average	2021 <i>estim.</i>	2022 <i>f'cast</i>	18/19-20/21 average	2021/22 <i>estim.</i>	2022/23 <i>f'cast</i>	18/19-20/21 average	2021/22 <i>estim.</i>	2022/23 <i>f'cast</i>
	<i>million tonnes</i>								
ASIA	22.4	15.7	20.1	22.2	27.3	23.0	1.5	0.6	1.0
China	0.9	0.8	0.9	7.4	10.5	9.0	-	-	-
India	1.7	1.7	1.7	0.1	-	-	-	-	-
Iran (Islamic Republic of)	3.0	2.0	3.0	2.5	3.0	2.0	-	-	-
Iraq	1.2	0.3	0.5	-	-	-	-	-	-
Japan	0.2	0.2	0.2	1.2	1.2	1.2	-	-	-
Kazakhstan	3.8	2.4	3.0	0.0	-	-	1.4	0.4	0.8
Saudi Arabia	0.1	0.1	0.1	6.7	5.7	6.0	-	-	-
Syrian Arab Republic	1.6	0.3	0.5	0.2	-	-	-	-	-
Türkiye	7.6	5.8	8.0	0.7	3.0	0.8	0.1	0.2	0.1
AFRICA	6.8	7.1	5.2	3.2	3.0	4.3	-	-	-
Algeria	1.6	0.9	1.0	0.6	1.0	1.1	-	-	-
Ethiopia	2.2	2.2	2.3	-	-	-	-	-	-
Libya	0.1	0.1	0.1	1.0	1.0	1.0	-	-	-
Morocco	1.6	2.8	0.6	0.8	0.3	1.4	-	-	-
Tunisia	0.6	0.4	0.4	0.7	0.7	0.7	-	-	-
CENTRAL AMERICA & THE CARIBBEAN	1.0	1.0	1.0	0.2	0.1	0.2	-	-	-
Mexico	1.0	1.0	1.0	0.2	0.1	0.2	-	-	-
SOUTH AMERICA	6.0	7.0	6.6	1.1	1.1	1.1	2.7	3.3	3.3
Argentina	4.5	5.2	4.8	-	-	-	2.6	3.2	3.2
NORTHERN AMERICA	13.4	9.5	14.5	0.3	0.4	0.3	2.9	3.1	3.5
Canada	9.8	6.9	10.6	0.1	0.2	0.1	2.7	2.9	3.4
United States of America	3.6	2.6	3.9	0.1	0.2	0.2	0.2	0.2	0.2
EUROPE	91.0	89.7	89.0	1.0	1.4	1.5	16.6	18.1	15.5
Belarus	1.1	1.1	1.1	0.2	0.1	0.1	-	-	-
European Union	58.2	52.4	53.9	0.6	1.0	1.0	6.6	7.5	7.5
Russian Federation	19.5	18.0	20.0	-	-	-	5.1	3.6	4.3
Ukraine	7.9	9.4	5.5	-	-	-	4.3	5.7	2.5
United Kingdom of Great Britain and Northern Ireland	8.1	7.0	6.9	0.0	0.1	0.2	0.4	1.0	1.0
OCEANIA	11.0	14.1	11.4	-	-	-	4.6	8.2	7.1
Australia	10.7	13.7	11.0	-	-	-	4.6	8.2	7.1
WORLD	151.6	144.1	147.9	28.1	33.2	30.3	28.2	33.2	30.3
LIFDC	4.8	3.5	3.9	0.4	0.2	0.1	-	-	-
LDC	2.4	2.5	2.5	-	-	-	-	-	-

APPENDIX TABLE 5(B): BARLEY STATISTICS

	Total Utilization			Stocks ending in			Per caput food use		
	18/19-20/21 average	2021/22 <i>estim.</i>	2022/23 <i>f'cast</i>	2019-2021 average	2022 <i>estim.</i>	2023 <i>f'cast</i>	18/19-20/21 average	2021/22 <i>estim.</i>	2022/23 <i>f'cast</i>
	million tonnes						Kg/year		
ASIA	41.4	44.6	43.8	9.5	9.8	8.2	0.6	0.6	0.6
China	8.1	10.9	10.4	0.9	1.6	1.1	0.1	0.1	0.1
India	1.8	1.7	1.7	-	-	-	1.1	1.0	1.0
Iran (Islamic Republic of)	5.3	5.3	5.2	1.1	1.2	1.0	0.3	0.3	0.3
Iraq	0.8	1.2	0.5	1.0	0.3	0.3	3.5	3.4	3.3
Japan	1.4	1.4	1.4	0.2	0.2	0.2	2.4	2.4	2.4
Kazakhstan	2.3	2.4	2.4	0.3	0.2	0.1	1.1	1.1	1.0
Saudi Arabia	7.1	6.0	6.1	1.8	1.5	1.5	0.8	0.8	0.8
Syrian Arab Republic	1.4	1.2	1.2	1.0	0.7	0.1	16.3	15.3	14.5
Türkiye	7.8	8.8	9.0	1.5	2.0	1.7	1.0	1.0	1.0
AFRICA	9.8	10.1	9.9	2.0	1.8	1.4	2.6	2.5	2.5
Algeria	2.0	2.3	2.1	0.9	0.5	0.5	11.6	11.2	11.0
Ethiopia	2.2	2.2	2.3	-	-	-	17.3	16.9	17.1
Libya	1.1	1.1	1.1	-	-	-	12.7	12.4	12.2
Morocco	2.4	2.6	2.4	0.4	0.6	0.2	19.6	19.3	19.3
Tunisia	1.3	1.2	1.2	0.4	0.4	0.4	7.7	7.5	7.5
CENTRAL AMERICA & THE CARIBBEAN	1.2	1.1	1.2	0.1	0.1	0.1	-	0.0	0.0
Mexico	1.2	1.1	1.2	0.1	0.1	0.1	-	0.0	0.0
SOUTH AMERICA	4.3	4.5	4.3	0.7	0.7	0.7	0.5	0.5	0.5
Argentina	1.7	1.7	1.6	0.5	0.6	0.6	-	0.0	0.0
NORTHERN AMERICA	11.2	7.8	10.1	2.6	1.5	2.7	0.5	0.5	0.5
Canada	7.5	4.9	6.6	0.9	0.3	1.0	0.3	0.3	0.3
United States of America	3.7	2.9	3.5	1.7	1.2	1.7	0.6	0.6	0.6
EUROPE	74.3	73.8	74.1	9.1	9.4	10.3	1.1	1.2	1.2
Belarus	1.4	1.4	1.4	0.5	0.3	0.2	-	0.0	0.0
European Union	50.8	46.4	47.2	4.5	4.1	4.3	0.7	0.8	0.8
Russian Federation	14.5	14.7	14.7	1.9	2.1	3.2	1.8	1.8	1.8
Ukraine	3.7	3.7	3.4	1.4	1.3	0.9	2.6	2.6	2.7
United Kingdom of Great Britain and Northern Ireland	7.2	6.2	6.0	1.1	0.9	1.0	0.7	1.5	1.5
OCEANIA	5.5	5.4	5.4	2.4	4.1	3.2	0.1	0.1	0.1
Australia	5.1	5.0	5.0	2.4	4.1	3.1	0.2	0.2	0.2
WORLD	147.6	147.4	148.9	26.5	27.5	26.6	1.0	1.0	1.0
LIFDC	4.6	4.5	4.5	2.1	2.0	1.5	2.1	2.1	2.1
LDC	2.4	2.5	2.5	0.1	0.1	0.1	2.0	1.9	1.9

APPENDIX TABLE 6(A): SORGHUM STATISTICS

	Production			Imports			Exports		
	2018-2020 average	2021 <i>estim.</i>	2022 <i>f'cast</i>	18/19-20/21 average	2021/22 <i>estim.</i>	2022/23 <i>f'cast</i>	18/19-20/21 average	2021/22 <i>estim.</i>	2022/23 <i>f'cast</i>
	<i>million tonnes</i>								
ASIA	8.3	8.5	8.7	4.5	10.4	9.7	0.1	0.1	0.1
China	3.1	3.2	3.3	4.0	9.9	9.1	-	-	-
India	4.4	4.3	4.5	-	-	-	0.0	-	-
Japan	-	-	-	0.4	0.4	0.5	-	-	-
AFRICA	29.5	26.3	27.6	0.9	1.0	0.8	0.8	0.6	0.6
Burkina Faso	1.9	1.6	1.7	-	-	-	-	-	-
Ethiopia	4.9	4.3	4.7	-	-	-	0.5	0.4	0.4
Nigeria	6.7	6.6	6.6	-	-	-	-	-	-
Sudan	4.8	3.5	4.3	0.3	0.3	0.3	0.1	0.1	0.1
CENTRAL AMERICA & THE CARIBBEAN	4.8	4.6	4.8	0.4	0.6	0.6	-	-	-
Mexico	4.5	4.3	4.5	0.4	0.6	0.6	-	-	-
SOUTH AMERICA	5.2	7.1	7.1	0.0	-	-	0.5	2.2	2.0
Argentina	1.7	3.3	3.0	-	-	-	0.5	2.2	2.0
Brazil	2.3	2.1	3.1	-	-	-	-	-	-
Venezuela (Bolivarian Republic of)	-	-	-	-	-	-	-	-	-
NORTHERN AMERICA	9.2	11.4	9.7	-	-	-	4.8	7.7	7.6
United States of America	9.2	11.4	9.7	-	-	-	4.8	7.7	7.6
EUROPE	1.2	1.2	1.1	0.3	0.2	0.2	0.1	0.1	0.1
European Union	1.0	0.9	0.9	0.3	0.2	0.2	-	-	-
OCEANIA	1.0	1.5	2.6	0.0	-	-	0.3	1.6	1.1
Australia	1.0	1.5	2.6	-	-	-	0.3	1.6	1.1
WORLD	59.2	60.6	61.6	6.3	12.2	11.4	6.6	12.2	11.4
LIFDC	22.1	19.0	20.3	0.9	0.9	0.8	0.7	0.6	0.6
LDC	20.4	17.0	18.4	0.7	0.8	0.6	0.7	0.5	0.5

APPENDIX TABLE 7(A): OTHER COARSE GRAIN STATISTICS: MILLET - RYE
- OATS AND OTHER GRAINS

	Production			Imports			Exports		
	2018-2020 average	2021 <i>estim.</i>	2022 <i>f'cast</i>	18/19-20/21 average	2021/22 <i>estim.</i>	2022/23 <i>f'cast</i>	18/19-20/21 average	2021/22 <i>estim.</i>	2022/23 <i>f'cast</i>
	<i>million tonnes</i>								
ASIA	20.0	19.0	20.0	0.8	0.7	0.7	0.1	0.2	0.1
AFRICA	22.7	18.9	21.2	0.2	0.2	0.3	0.3	0.3	0.3
CENTRAL AMERICA & THE CARIBBEAN	0.1	0.1	0.1	0.2	0.8	0.1	-	-	-
SOUTH AMERICA	2.5	2.9	2.9	0.2	0.2	0.2	0.1	0.1	0.1
NORTHERN AMERICA	6.2	4.6	6.8	1.9	1.7	2.0	2.3	1.8	2.1
EUROPE	43.7	44.4	44.4	0.7	0.8	0.7	0.9	1.0	0.9
OCEANIA	1.6	1.9	1.8	0.1	0.1	0.1	0.2	0.4	0.5
WORLD	96.9	91.7	97.0	4.0	3.9	4.1	4.1	3.9	4.1

APPENDIX TABLE 6(B): SORGHUM STATISTICS

	Total Utilization			Stocks ending in			Per caput food use		
	18/19-20/21 average	2021/22 <i>estim.</i>	2022/23 <i>f'cast</i>	2019-2021 average	2022 <i>estim.</i>	2023 <i>f'cast</i>	18/19-20/21 average	2021/22 <i>estim.</i>	2022/23 <i>f'cast</i>
	<i>million tonnes</i>						<i>Kg/year</i>		
ASIA	13.2	18.9	18.4	1.2	1.5	1.4	1.2	1.1	1.1
China	7.3	13.2	12.4	0.8	1.1	1.1	0.4	0.5	0.5
India	4.3	4.3	4.4	0.1	0.1	0.1	3.1	2.9	3.0
Japan	0.5	0.3	0.5	0.1	0.1	0.1	-	0.0	0.0
AFRICA	29.8	28.4	29.2	3.5	2.7	2.5	18.3	17.5	17.6
Burkina Faso	1.7	1.8	1.8	0.3	0.2	-	50.4	49.2	49.3
Ethiopia	4.5	4.2	4.3	0.7	0.2	0.2	31.1	29.5	30.0
Nigeria	7.0	6.7	6.6	0.4	0.1	0.1	32.0	30.9	29.4
Sudan	5.0	4.8	5.6	0.3	0.3	0.3	94.9	96.4	111.7
CENTRAL AMERICA & THE CARIBBEAN	5.2	5.2	5.3	0.5	0.4	0.4	0.3	0.3	0.3
Mexico	4.9	5.0	5.0	0.4	0.4	0.4	-	0.0	0.0
SOUTH AMERICA	5.1	4.6	5.1	0.6	0.5	0.4	-	0.0	0.0
Argentina	1.5	0.8	0.8	0.1	0.1	0.1	-	0.0	0.0
Brazil	2.3	2.1	3.1	0.2	0.2	0.2	-	0.0	0.0
Venezuela (Bolivarian Republic of)	0.1	-	-	-	-	-	-	0.0	0.0
NORTHERN AMERICA	4.4	3.4	2.7	1.0	0.8	0.6	0.1	0.1	0.1
United States of America	4.4	3.4	2.7	1.0	0.8	0.6	0.1	0.1	0.1
EUROPE	1.2	1.4	1.4	1.5	1.2	1.1	0.2	0.2	0.2
European Union	1.1	1.2	1.2	1.5	1.2	1.0	0.3	0.3	0.3
OCEANIA	0.7	0.3	0.3	0.8	0.3	1.6	0.2	0.2	0.2
Australia	0.7	0.2	0.2	0.7	0.3	1.6	-	0.0	0.0
WORLD	59.4	62.3	62.3	9.2	7.5	8.0	3.8	3.7	3.8
LIFDC	22.2	21.0	21.8	3.3	2.5	2.3	15.0	14.3	14.7
LDC	20.2	19.0	19.8	3.0	2.2	2.0	15.1	14.4	14.8

APPENDIX TABLE 7(B): OTHER COARSE GRAIN STATISTICS: MILLET - RYE - OATS AND OTHER GRAINS

	Total Utilization			Stocks ending in			Per caput food use		
	20/21 average	2021/22 <i>estim.</i>	2022/23 <i>f'cast</i>	2019-2021 average	2022 <i>estim.</i>	2023 <i>f'cast</i>	18/19-20/21 average	2021/22 <i>estim.</i>	2022/23 <i>f'cast</i>
	<i>million tonnes</i>						<i>Kg/year</i>		
ASIA	20.5	20.7	20.7	1.8	1.2	1.0	3.4	3.4	3.3
AFRICA	20.9	19.5	20.8	10.5	10.8	10.9	11.6	11.3	11.9
CENTRAL AMERICA & THE CARIBBEAN	0.3	0.3	0.2	-	-	-	0.2	0.3	0.2
SOUTH AMERICA	2.6	3.0	2.9	0.2	0.2	0.2	1.2	1.2	1.2
NORTHERN AMERICA	5.8	5.3	6.0	1.1	0.8	1.2	2.6	2.6	2.6
EUROPE	43.4	44.2	44.6	8.0	9.2	8.7	11.0	11.3	11.4
OCEANIA	1.3	1.6	1.5	0.3	0.6	0.5	5.5	5.4	5.4
WORLD	95.1	94.4	96.8	21.7	22.5	22.4	5.3	5.3	5.3

APPENDIX TABLE 8(A): RICE STATISTICS

	Production			Imports			Exports		
	2018-2020 average	2021 f'cast	2022 f'cast	2018-2020 average	2021 estim.	2022 f'cast	2018-2020 average	2021 estim.	2022 f'cast
	<i>million tonnes, milled equivalent</i>								
ASIA	457.3	467.9	468.0	20.5	24.8	23.7	38.1	44.4	45.6
Bangladesh	36.8	37.8	38.4	0.6	2.6	0.2	-	-	-
China	146.0	146.9	147.3	4.3	5.5	5.3	2.5	2.6	2.8
China (mainland)	144.7	145.8	146.1	3.8	5.1	4.9	2.4	2.4	2.7
Taiwan Province of China	1.3	1.1	1.2	0.1	0.1	0.1	0.1	0.2	0.1
India	119.9	126.2	127.4	-	-	-	12.1	21.2	20.1
Indonesia	36.0	34.8	35.2	1.1	0.6	0.6	-	-	-
Iran (Islamic Republic of)	2.5	2.0	1.9	1.3	0.9	1.8	-	-	-
Iraq	0.3	0.3	-	1.1	1.2	1.4	-	-	-
Japan	7.4	7.4	7.2	0.7	0.7	0.7	0.1	0.1	0.1
Malaysia	1.6	1.6	1.6	1.1	1.2	1.3	-	0.1	-
Myanmar	15.7	15.0	14.5	-	-	-	2.4	1.8	2.2
Pakistan	7.7	8.8	8.8	-	-	-	4.1	3.9	4.6
Philippines	12.5	13.1	13.2	2.6	3.0	3.0	-	-	-
Republic of Korea	3.7	3.9	3.8	0.4	0.4	0.4	0.1	0.1	0.1
Saudi Arabia	-	-	-	1.4	1.2	1.3	-	-	-
Sri Lanka	3.1	3.5	2.9	0.1	0.1	0.6	-	-	-
Thailand	20.4	22.0	21.7	0.4	0.1	0.1	8.2	6.1	8.0
Viet Nam	28.2	28.5	28.4	0.5	2.0	1.1	6.9	6.4	6.0
AFRICA	24.1	25.2	25.5	16.1	17.6	19.4	0.6	0.5	0.3
Cote d'Ivoire	1.1	1.0	1.1	1.6	1.8	1.9	-	-	-
Egypt	3.8	4.3	4.0	0.4	0.3	0.6	-	-	-
Madagascar	2.5	2.9	3.0	0.5	0.6	0.5	-	-	-
Nigeria	5.0	5.0	5.3	2.2	2.0	2.4	-	-	-
Senegal	0.8	0.9	1.0	1.2	1.5	1.6	-	0.1	-
South Africa	-	-	-	0.9	0.9	1.0	-	-	-
United Republic of Tanzania	2.4	2.6	2.5	0.2	0.1	0.2	0.2	0.3	0.2
CENTRAL AMERICA & THE CARIBBEAN	1.9	1.8	1.8	2.5	2.3	2.4	0.1	0.1	-
Cuba	0.3	0.2	0.2	0.5	0.4	0.4	-	-	-
Mexico	0.2	0.2	0.2	0.7	0.7	0.7	-	-	-
SOUTH AMERICA	16.6	17.2	15.7	2.0	1.7	2.1	3.7	3.0	3.7
Argentina	0.8	1.0	0.8	-	-	-	0.4	0.4	0.4
Brazil	7.6	8.0	7.3	0.7	0.7	0.7	1.1	0.8	1.1
Peru	2.3	2.4	2.0	0.3	0.2	0.4	0.1	-	-
Uruguay	0.8	0.9	1.0	-	-	-	0.9	0.7	1.0
NORTHERN AMERICA	6.7	6.1	5.8	1.5	1.4	1.5	2.9	2.9	2.7
Canada	-	-	-	0.4	0.4	0.4	-	-	-
United States of America	6.7	6.1	5.8	1.0	1.0	1.1	2.9	2.9	2.7
EUROPE	2.5	2.3	2.2	2.8	3.0	3.3	0.5	0.5	0.6
European Union	1.7	1.6	1.5	2.0	1.9	2.2	0.4	0.4	0.5
Russian Federation	0.7	0.7	0.7	0.2	0.2	0.2	0.1	0.1	0.1
United Kingdom of Great Britain and Northern Ireland	-	-	-	0.2	0.6	0.6	-	-	-
OCEANIA	0.3	0.3	0.4	0.8	0.8	0.8	0.1	0.1	0.2
Australia	0.4	0.3	0.4	0.2	0.2	0.2	0.1	0.1	0.2
WORLD	509.4	520.8	519.5	46.1	51.5	53.1	46.1	51.5	53.1
LIFDC	58.3	59.5	60.3	14.6	18.8	17.5	0.5	0.5	0.3
LDC	78.8	80.1	80.3	11.4	14.9	13.3	4.5	4.2	4.0

APPENDIX TABLE 8(B): RICE STATISTICS

	Total Utilization			Closing stocks			Per caput food use		
	18/19-20/21 average	2021/22 f'cast	2022/23 f'cast	18/19-20/21 average	2021/22 f'cast	2022/23 f'cast	18/19-20/21 average	2021/22 f'cast	2022/23 f'cast
	<i>million tonnes, milled equivalent</i>						<i>Kg/year</i>		
ASIA	433.6	447.3	446.4	177.5	181.4	181.5	76.4	76.9	76.9
Bangladesh	37.6	38.7	39.0	6.4	6.9	6.6	182.0	185.6	186.5
China	148.2	153.0	149.3	104.8	101.1	101.8	75.9	75.7	75.6
China (mainland)	146.5	151.5	147.7	104.2	100.6	101.2	76.6	76.4	76.4
Taiwan Province of China	1.3	1.2	1.3	0.5	0.5	0.5	46.6	45.5	46.2
India	100.3	105.1	106.2	34.0	39.0	39.9	68.4	70.5	70.5
Indonesia	37.5	35.8	35.8	6.4	4.7	4.7	125.5	121.3	119.9
Iran (Islamic Republic of)	3.6	3.6	3.7	0.7	0.5	0.6	38.2	38.5	38.6
Iraq	1.4	1.6	1.6	0.2	0.2	0.1	34.1	36.8	37.0
Japan	7.9	8.0	8.0	3.2	3.5	3.3	48.3	46.0	45.2
Malaysia	2.7	2.7	2.8	0.3	0.3	0.3	78.6	76.7	77.9
Myanmar	13.6	13.2	13.1	3.2	2.8	2.3	183.4	186.5	186.6
Pakistan	3.5	4.1	4.3	0.6	1.0	0.8	13.1	14.7	15.0
Philippines	15.1	16.0	16.3	2.3	2.6	2.4	119.8	123.0	124.7
Republic of Korea	4.3	4.0	3.9	1.0	1.2	1.4	71.9	69.8	69.1
Saudi Arabia	1.3	1.2	1.3	0.3	0.4	0.4	36.6	34.2	34.5
Sri Lanka	3.0	3.5	3.7	0.4	0.6	0.4	124.2	132.3	139.4
Thailand	12.6	13.9	13.7	6.7	9.3	8.8	100.6	103.8	104.4
Viet Nam	22.1	23.2	23.3	3.5	4.0	4.2	150.1	147.1	144.9
AFRICA	40.4	43.4	45.1	5.4	5.8	5.9	26.7	27.4	28.0
Cote d'Ivoire	2.7	2.8	2.9	0.5	0.5	0.6	91.2	92.6	93.8
Egypt	4.4	4.7	4.9	0.6	0.7	0.6	39.8	40.9	41.3
Madagascar	3.0	3.4	3.5	0.3	0.6	0.6	98.8	102.3	103.8
Nigeria	7.3	7.3	7.6	0.6	0.4	0.6	31.4	29.9	30.3
Senegal	2.2	2.4	2.5	0.3	0.4	0.5	120.6	123.7	126.1
South Africa	0.9	0.9	0.9	0.1	0.1	0.1	15.5	15.0	15.0
United Republic of Tanzania	2.2	2.6	2.7	0.4	0.4	0.2	31.8	35.5	36.8
CENTRAL AMERICA & THE CARIBBEAN	4.3	4.2	4.3	0.6	0.5	0.6	18.4	17.6	17.8
Cuba	0.8	0.6	0.6	0.1	-	-	63.4	50.5	51.8
Mexico	0.9	0.9	1.0	0.1	0.1	0.1	7.0	7.1	7.1
SOUTH AMERICA	15.1	15.2	15.1	2.2	2.5	1.6	31.5	31.4	31.2
Argentina	0.6	0.6	0.5	0.1	0.1	-	10.8	11.4	10.2
Brazil	7.3	7.3	7.3	0.4	0.8	0.5	31.9	31.3	31.3
Peru	2.5	2.5	2.5	0.4	0.4	0.2	68.1	68.3	68.0
Uruguay	0.1	0.1	0.1	0.1	0.1	0.1	7.9	7.4	7.6
NORTHERN AMERICA	5.1	5.1	5.1	1.3	1.2	1.1	9.9	9.9	9.9
Canada	0.4	0.4	0.4	0.1	-	-	10.7	10.9	11.2
United States of America	4.7	4.7	4.7	1.2	1.2	1.1	9.8	9.7	9.7
EUROPE	4.9	4.9	5.0	0.7	0.7	0.7	5.6	5.6	5.7
European Union	3.5	3.2	3.2	0.5	0.4	0.4	6.1	6.2	6.3
Russian Federation	0.8	0.8	0.8	0.1	0.1	0.1	5.0	5.2	5.2
United Kingdom of Great Britain and Northern Ireland	0.6	0.6	0.6	0.1	0.1	0.1	3.3	6.6	6.7
OCEANIA	0.9	1.0	1.0	0.3	0.2	0.3	19.7	20.6	21.0
Australia	0.3	0.4	0.4	0.2	0.1	0.2	11.2	12.5	12.8
WORLD	504.2	521.0	522.0	188.0	192.4	191.6	53.5	53.8	53.9
LIFDC	73.0	77.1	78.7	11.2	12.2	11.8	52.1	53.0	53.3
LDC	86.2	89.9	91.5	15.5	16.1	15.3	65.6	66.4	66.5

Note: Totals and percentage change computed from unrounded data.

APPENDIX TABLE 9: CEREAL SUPPLY AND UTILIZATION IN SELECTED EXPORTERS (*million tonnes*)

	Wheat ¹			Coarse Grains ²			Rice (milled basis)		
	2020/21	2021/22 <i>estim.</i>	2022/23 <i>f'cast</i>	2020/21	2021/22 <i>estim.</i>	2022/23 <i>f'cast</i>	2020/21	2021/22	2022/23 <i>f'cast</i>
	UNITED STATES of AMERICA (Jun/May)			UNITED STATES of AMERICA			UNITED STATES of AMERICA (Aug/Jul)		
Opening Stocks	28.0	23.0	17.8	51.8	34.0	39.1	0.9	1.4	1.2
Production	49.8	44.8	47.0	373.2	399.1	382.5	7.2	6.1	5.8
Imports	2.7	2.6	3.3	2.5	2.5	2.7	1.1	1.1	1.2
Total Supply	80.5	70.4	68.1	427.5	435.6	424.3	9.2	8.6	8.2
Domestic use	30.5	30.6	30.2	315.9	325.1	318.4	4.8	4.7	4.7
Exports	27.0	21.9	21.1	77.6	71.5	68.5	3.0	2.7	2.4
Closing stocks	23.0	17.8	16.8	34.0	39.1	37.4	1.4	1.2	1.1
	CANADA (August/July)			CANADA			THAILAND (Aug/July)		
Opening Stocks	5.5	5.7	3.8	4.0	3.6	2.7	6.1	9.0	9.3
Production	35.2	21.7	31.2	29.8	24.3	29.4	21.0	22.0	21.7
Imports	0.1	0.2	0.1	2.0	5.2	2.1	0.2	0.1	0.2
Total Supply	40.8	27.6	35.1	35.8	33.1	34.2	27.3	31.1	31.2
Domestic use	8.7	8.2	8.8	24.8	24.8	23.8	13.3	13.9	13.7
Exports	26.4	15.6	21.6	7.3	5.6	6.8	5.0	7.9	8.6
Closing stocks	5.7	3.8	4.7	3.6	2.7	3.6	9.0	9.3	8.8
	ARGENTINA (Dec./Nov.)			ARGENTINA			INDIA (Oct./Sept.)		
Opening Stocks	3.0	2.7	3.0	9.6	8.2	6.8	35.3	37.6	39.0
Production	17.6	22.1	21.0	65.5	69.9	65.6	124.4	126.2	127.4
Imports	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
Total Supply	20.6	24.8	24.0	75.2	78.2	72.5	159.7	163.8	166.4
Domestic use	6.4	6.3	6.5	27.8	24.4	23.9	101.9	105.1	106.2
Exports	11.5	15.5	14.5	39.1	46.9	41.2	20.2	19.7	20.3
Closing stocks	2.7	3.0	3.0	8.2	6.8	7.4	37.6	39.0	39.9
	AUSTRALIA (Oct./Sept.)			AUSTRALIA			PAKISTAN (Sept./Aug.)		
Opening Stocks	1.7	2.9	5.7	3.8	4.0	4.9	0.4	1.0	1.0
Production	33.3	36.3	28.0	15.7	17.5	15.8	8.4	8.8	8.8
Imports	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Total Supply	35.0	39.3	33.9	19.5	21.5	20.7	8.8	9.8	9.8
Domestic use	8.3	8.7	8.1	6.5	6.9	7.0	4.1	4.1	4.3
Exports	23.8	25.0	22.0	9.0	9.7	8.6	3.7	4.8	4.6
Closing stocks	2.9	5.7	3.7	4.0	4.9	5.2	1.0	1.0	0.8
	EUROPEAN UNION (July/June)			EUROPEAN UNION			VIET NAM (Jan./Dec.)		
Opening Stocks	11.3	11.1	17.1	24.9	24.7	24.9	3.4	3.1	4.0
Production	126.7	138.9	138.7	157.1	156.9	159.7	27.8	28.5	28.4
Imports	4.6	3.8	3.5	15.4	16.8	10.6	0.6	2.0	1.1
Total Supply	142.6	153.8	159.3	197.4	198.4	195.2	31.8	33.6	33.5
Domestic use	103.7	104.5	104.3	162.7	159.6	158.8	22.1	23.2	23.3
Exports	27.8	32.2	38.3	10.8	14.0	12.3	6.6	6.4	6.0
Closing stocks	11.1	17.1	16.7	24.7	24.9	24.0	3.1	4.0	4.2
	TOTAL OF ABOVE			TOTAL OF ABOVE			TOTAL OF ABOVE		
Opening Stocks	49.5	45.4	47.4	94.1	74.5	78.4	46.1	52.1	54.5
Production	262.6	263.8	265.9	641.3	667.7	653.0	188.8	191.6	192.1
Imports	7.4	6.7	7.1	20.0	24.6	15.5	1.9	3.2	2.5
Total Supply	319.5	315.9	320.4	755.4	766.8	746.9	236.8	246.9	249.1
Domestic use	157.6	158.3	157.9	537.7	540.8	531.9	146.2	151.0	152.2
Exports	116.5	110.2	117.5	143.8	147.7	137.4	38.5	41.5	41.9
Closing stocks	45.4	47.4	44.9	74.5	78.4	77.6	52.1	54.5	54.8

¹ Trade data include wheat flour in wheat grain equivalent. For the EU semolina is also included

² **Argentina** (December/November) for rye, barley and oats, (March/February) for maize and sorghum. **Australia** (November/October) for rye, barley and oats, (March/February) for maize and sorghum. **Canada** (August/July), **EU** (July/June), **United States** (June/May) for rye, barley and oats, (September/August) for maize and sorghum

APPENDIX TABLE 10: TOTAL OILCROPS STATISTICS (*million tonnes*)

	Production ¹			Imports			Exports		
	17/18-19/20 average	2020/21 <i>estim.</i>	2021/22 <i>f'cast</i>	17/18-19/20 average	2020/21 <i>estim.</i>	2021/22 <i>f'cast</i>	17/18-19/20 average	2020/21 <i>estim.</i>	2021/22 <i>f'cast</i>
ASIA	144.3	151.1	151.2	133.2	141.9	132.6	3.8	4.0	3.6
China	62.3	67.0	63.9	99.5	107.1	98.9	1.0	1.2	1.0
China (mainland)	62.2	66.9	63.8	96.9	104.3	96.2	1.0	1.2	1.0
Taiwan Province of China	0.1	0.1	0.1	2.7	2.8	2.7	-	-	-
India	41.8	44.9	46.9	0.4	0.7	0.5	1.2	1.5	1.4
Indonesia	12.9	13.1	13.7	2.9	2.9	2.9	0.1	0.1	0.1
Iran (Islamic Republic of)	0.9	0.9	0.9	2.4	2.2	2.4	0.1	-	-
Japan	0.2	0.2	0.3	6.0	6.0	5.7	-	-	-
Malaysia	5.0	4.6	4.8	1.0	1.1	1.0	-	-	-
Pakistan	4.2	3.4	3.3	3.2	3.5	3.1	-	-	-
Republic of Korea	0.2	0.2	0.2	1.6	1.5	1.5	-	-	-
Thailand	1.2	1.2	1.2	3.3	3.9	3.9	-	-	-
Türkiye	3.6	3.1	3.6	3.9	3.8	3.8	0.2	-	-
AFRICA	21.4	21.2	22.8	5.6	6.0	5.9	1.4	1.6	1.5
Nigeria	4.7	4.8	4.9	0.1	0.1	0.1	0.1	0.2	0.2
CENTRAL AMERICA & THE CARIBBEAN	2.1	2.0	2.1	8.3	8.6	8.4	0.2	0.2	0.2
Mexico	1.4	1.2	1.3	7.5	7.9	7.7	-	-	-
SOUTH AMERICA	196.8	210.6	187.1	7.3	7.2	4.5	97.7	97.1	91.7
Argentina	52.5	51.0	46.8	5.3	5.0	2.9	7.9	6.1	4.7
Brazil	127.8	143.1	129.0	0.4	0.9	0.3	81.5	82.1	82.0
Paraguay	9.9	9.9	4.6	-	-	0.1	5.9	6.4	2.5
Uruguay	2.5	2.4	2.5	-	-	-	2.2	2.2	2.2
NORTHERN AMERICA	152.5	152.2	151.2	2.4	2.3	1.9	68.8	73.2	70.4
Canada	28.9	27.1	19.9	1.0	0.9	0.7	15.7	15.2	10.5
United States of America	123.6	125.1	131.3	1.4	1.4	1.2	53.1	58.0	59.8
EUROPE	77.8	73.5	81.5	25.7	29.0	26.9	9.2	9.0	6.9
European Union	33.4	29.2	31.0	22.1	23.6	22.1	1.0	1.1	0.8
Russian Federation	19.5	20.9	23.5	2.4	2.5	2.2	2.2	2.8	1.3
Ukraine	22.0	19.5	23.1	0.1	-	-	5.2	4.2	3.9
OCEANIA	4.2	5.8	8.3	-	-	-	2.1	3.8	5.9
Australia	3.8	5.4	7.9	-	-	-	2.0	3.7	5.8
WORLD	599.1	616.4	604.2	182.4	194.9	180.3	183.2	188.9	180.3
LIFDC	16.7	16.7	16.9	2.4	2.7	2.4	1.3	1.6	1.4
LDC	14.6	14.4	15.0	1.8	2.3	2.0	1.1	1.4	1.2

¹ The split years bring together northern hemisphere annual crops harvested in the latter part of the first year shown, with southern hemisphere annual crops harvested in the early part of the second year shown; for tree crops which are produced throughout the year, calendar year production for the second year shown is used.

APPENDIX TABLE 11: TOTAL OILS AND FATS STATISTICS¹ (million tonnes)

	Imports			Exports			Utilization		
	17/18-19/20 average	2020/21 <i>estim.</i>	2021/22 <i>f'cast</i>	17/18-19/20 average	2020/21 <i>estim.</i>	2021/22 <i>f'cast</i>	17/18-19/20 average	2020/21 <i>estim.</i>	2021/22 <i>f'cast</i>
ASIA	52.1	54.9	50.3	54.9	54.1	52.0	128.9	133.1	133.0
Bangladesh	2.4	2.1	2.2	-	-	-	2.9	2.6	2.7
China	12.7	15.4	12.5	0.6	0.5	0.6	44.1	46.1	45.0
China (mainland)	12.3	14.9	12.0	0.6	0.5	0.6	43.1	45.1	44.0
Taiwan Province of China	0.5	0.5	0.5	-	-	-	1.0	1.0	1.0
India	15.1	14.5	13.6	0.3	0.4	0.2	26.2	25.8	25.6
Indonesia	0.1	0.2	0.1	31.3	31.5	29.4	17.2	19.6	20.8
Iran (Islamic Republic of)	1.3	2.1	1.3	-	0.2	-	2.2	2.5	2.4
Japan	1.4	1.3	1.3	-	-	-	3.3	3.3	3.1
Malaysia	1.6	2.2	2.0	18.7	17.4	17.3	5.3	5.2	5.3
Pakistan	3.5	3.4	3.3	0.1	0.1	-	5.4	5.5	5.3
Philippines	1.3	1.4	1.3	1.0	0.9	1.1	2.2	2.4	2.4
Republic of Korea	1.4	1.5	1.5	-	-	-	1.7	1.8	1.9
Singapore	1.0	0.9	0.9	0.2	0.2	0.2	0.8	0.7	0.7
Türkiye	1.8	1.9	2.2	0.6	0.6	0.7	3.4	3.5	3.7
AFRICA	12.1	11.4	11.5	2.1	2.1	2.2	19.6	19.5	19.8
Algeria	1.0	1.0	1.0	0.1	0.1	0.1	1.0	1.1	1.1
Egypt	2.1	1.8	1.8	0.2	0.2	0.2	2.7	2.6	2.6
Nigeria	1.5	1.3	1.3	0.1	-	0.1	3.4	3.5	3.6
South Africa	0.9	0.8	0.8	-	-	-	1.6	1.4	1.5
CENTRAL AMERICA & THE CARIBBEAN	2.6	2.5	2.7	1.7	1.7	1.7	5.7	5.8	5.8
Mexico	1.5	1.5	1.6	-	-	-	3.8	3.9	4.0
SOUTH AMERICA	3.2	3.6	3.4	10.2	11.2	11.7	19.0	19.4	19.3
Argentina	0.1	0.1	0.1	6.1	7.2	7.0	3.9	3.6	3.5
Brazil	0.6	0.9	0.8	1.6	1.7	2.4	10.1	10.8	10.7
Paraguay	-	-	-	0.7	0.6	0.5	0.1	0.1	0.1
Uruguay	0.1	0.1	0.1	-	-	-	0.1	0.1	0.2
NORTHERN AMERICA	5.6	5.6	5.7	7.7	7.4	6.6	22.7	23.9	24.6
Canada	0.4	0.5	0.5	4.1	4.1	3.4	1.6	2.1	2.1
United States of America	5.2	5.2	5.2	3.6	3.3	3.2	21.1	21.8	22.4
EUROPE	16.9	16.3	16.5	14.6	14.8	14.6	41.7	42.3	41.7
European Union	13.8	12.8	13.0	3.5	3.9	3.8	34.5	33.5	32.8
Russian Federation	1.6	1.7	1.5	4.1	4.6	5.2	4.5	4.7	4.7
Ukraine	0.3	0.3	0.3	6.4	5.6	4.8	0.9	1.0	1.1
OCEANIA	0.8	0.8	0.8	2.0	2.0	2.2	1.4	1.4	1.3
Australia	0.6	0.7	0.7	0.8	0.8	0.9	1.0	1.0	0.9
WORLD	93.3	95.2	91.0	93.2	93.4	91.0	239.0	245.3	245.5
LIFDC	9.5	9.2	9.2	1.2	1.4	1.4	14.4	14.2	14.3
LDC	8.6	8.1	8.1	0.8	0.8	0.8	12.3	11.8	11.9

¹ Includes oils and fats of vegetable, marine and animal origin.

APPENDIX TABLE 12: TOTAL MEALS AND CAKES STATISTICS¹ (million tonnes)

	Imports			Exports			Utilization		
	17/18-19/20 average	2020/21 <i>estim.</i>	2021/22 <i>f'cast</i>	17/18-19/20 average	2020/21 <i>estim.</i>	2021/22 <i>f'cast</i>	17/18-19/20 average	2020/21 <i>estim.</i>	2021/22 <i>f'cast</i>
ASIA	42.4	45.6	45.0	14.6	15.3	14.7	181.9	191.1	191.1
China	5.5	7.6	7.2	1.5	1.5	1.3	99.7	105.7	104.8
China (mainland)	5.0	7.1	6.7	1.5	1.5	1.3	97.1	103.0	102.1
Taiwan Province of China	0.5	0.5	0.5	-	-	-	2.6	2.7	2.7
India	0.6	0.6	1.4	3.0	3.4	2.9	17.1	18.4	19.7
Indonesia	4.9	5.6	5.3	5.3	5.5	5.6	5.4	6.0	6.1
Iran (Islamic Republic of)	2.0	2.5	2.2	0.1	-	-	4.3	4.6	4.5
Japan	2.3	2.4	2.4	-	-	-	6.5	6.7	6.6
Malaysia	1.6	1.4	1.4	2.5	2.6	2.6	2.5	2.3	2.2
Pakistan	0.5	0.5	0.5	0.1	0.1	0.1	4.5	4.4	4.4
Philippines	3.0	2.8	3.0	0.4	0.3	0.4	3.8	3.7	3.8
Republic of Korea	3.6	3.5	3.4	0.1	0.1	0.1	4.7	4.7	4.6
Saudi Arabia	1.7	1.6	1.6	0.1	-	-	2.3	2.4	2.3
Thailand	3.6	3.5	3.1	0.2	0.2	0.2	6.9	7.3	7.2
Türkiye	2.4	2.3	2.2	0.1	0.2	0.1	6.6	6.6	6.6
Viet Nam	6.2	6.2	6.0	0.3	0.3	0.3	8.0	8.0	8.1
AFRICA	5.0	4.2	4.0	1.2	1.2	1.3	14.7	14.8	14.6
Egypt	0.6	0.4	0.4	-	-	-	3.7	4.0	3.8
South Africa	0.6	0.7	0.7	0.1	0.1	0.1	2.1	2.2	2.3
CENTRAL AMERICA & THE CARIBBEAN	4.0	4.0	4.0	0.2	0.2	0.2	10.8	11.3	11.3
Mexico	2.2	2.2	2.2	0.1	0.1	0.1	8.2	8.7	8.6
SOUTH AMERICA	5.9	6.5	6.4	50.9	51.4	52.6	34.9	35.4	35.8
Argentina	-	-	-	28.6	29.3	29.1	7.2	7.3	7.7
Bolivia (Plurinational State of)	-	-	-	1.7	1.9	1.9	0.4	0.3	0.3
Brazil	-	-	-	16.7	16.8	18.4	19.1	19.1	19.2
Chile	1.1	1.1	1.2	0.2	0.3	0.3	1.5	1.5	1.5
Paraguay	-	-	-	2.4	1.9	1.6	0.5	0.5	0.5
Peru	1.4	1.4	1.4	1.0	1.1	1.1	1.9	1.9	1.8
Uruguay	0.2	0.2	0.1	-	-	-	0.2	0.3	0.2
Venezuela (Bolivarian Republic of)	0.7	0.6	0.6	-	-	-	0.9	0.8	0.7
NORTHERN AMERICA	5.3	5.9	5.5	18.8	19.3	18.5	42.4	43.9	44.3
Canada	1.1	1.3	1.4	5.6	6.2	5.0	3.1	3.4	3.4
United States of America	4.1	4.6	4.1	13.1	13.1	13.4	39.3	40.5	40.9
EUROPE	29.9	29.6	29.1	9.8	10.2	10.2	72.4	73.5	71.4
European Union	27.7	25.1	24.7	1.6	2.0	1.9	59.8	56.4	55.1
Russian Federation	0.2	0.2	0.2	2.4	2.7	3.1	7.2	7.8	8.2
Ukraine	-	-	-	5.1	4.9	4.6	2.0	2.2	1.2
OCEANIA	3.6	3.8	3.8	0.2	0.2	0.4	4.4	4.5	4.6
Australia	1.3	1.5	1.5	0.1	0.1	0.2	2.1	2.1	2.1
WORLD	96.2	99.6	97.8	95.7	97.9	97.8	361.4	374.6	373.1
LIFDC	2.3	2.7	2.7	0.8	0.8	0.8	8.2	9.1	8.9
LDC	1.1	1.4	1.4	0.6	0.6	0.6	6.2	6.9	7.0

¹ Expressed in product weight; includes meals and cakes derived from oilcrops as well as fish meal and other meals from animal origin.

APPENDIX TABLE 13: SUGAR STATISTICS

(million tonnes - raw value)

	Production		Imports		Exports		Utilization	
	2020/21 <i>estim.</i>	2021/22 <i>f'cast</i>	2020/21 <i>estim.</i>	2021/22 <i>f'cast</i>	2020/21 <i>estim.</i>	2021/22 <i>f'cast</i>	2020/21 <i>estim.</i>	2021/22 <i>f'cast</i>
ASIA	66.0	72.0	35.4	33.8	13.6	19.0	86.0	87.6
China	10.7	9.2	7.1	5.8	0.2	0.1	16.6	16.6
India	31.1	35.0	1.3	1.0	7.2	9.0	26.5	27.2
Indonesia	2.4	2.4	5.2	5.2	-	-	7.4	7.6
Japan	0.8	0.8	1.1	1.0	-	-	1.9	1.9
Malaysia	-	-	2.2	2.2	0.3	0.1	1.9	2.0
Pakistan	5.7	6.5	0.4	0.2	-	-	5.8	5.9
Philippines	2.1	2.1	0.1	0.2	0.1	0.1	2.2	2.3
Republic of Korea	-	-	1.9	2.0	0.3	0.3	1.6	1.7
Thailand	7.1	10.0	0.1	-	3.2	7.0	2.8	2.8
Türkiye	3.1	2.8	0.1	0.3	0.3	0.2	2.7	2.7
Viet Nam	0.7	0.9	1.2	1.0	-	-	1.7	1.7
AFRICA	10.7	11.3	15.0	15.4	4.7	4.2	20.9	21.5
Algeria	-	-	2.3	2.4	0.4	0.2	1.8	1.9
Egypt	2.8	2.9	0.8	0.8	0.3	0.3	3.3	3.4
Eswatini	0.7	0.7	-	-	0.6	0.6	0.1	0.1
Ethiopia	0.4	0.4	0.5	0.5	-	-	0.7	0.7
Kenya	0.6	0.7	0.4	0.4	-	-	1.0	1.1
Morocco	0.4	0.5	1.4	1.4	0.6	0.6	1.2	1.2
Mozambique	0.4	0.4	-	-	0.2	0.2	0.2	0.2
Nigeria	-	-	1.9	1.9	-	-	1.7	1.7
South Africa	1.9	2.0	0.4	0.4	1.0	0.7	1.7	1.7
Sudan	0.3	0.5	1.3	1.3	-	-	1.8	1.8
United Republic of Tanzania	0.4	0.4	0.2	0.2	-	-	0.6	0.6
Zambia	0.4	0.4	-	-	0.2	0.1	0.2	0.2
CENTRAL AMERICA & THE CARIBBEAN	12.5	13.1	0.6	0.5	4.9	5.3	7.7	7.8
Cuba	0.8	0.8	0.1	-	0.4	0.4	0.5	0.5
Dominican Republic	0.6	0.6	-	-	0.2	0.2	0.4	0.4
Guatemala	2.6	2.6	-	-	1.5	1.8	0.9	0.9
Mexico	5.7	6.2	0.1	0.1	1.2	1.3	4.2	4.2
SOUTH AMERICA	45.4	40.6	1.5	1.5	31.5	25.0	17.3	17.4
Argentina	1.8	1.6	-	-	0.3	0.3	1.4	1.4
Brazil	38.5	34.0	-	-	30.1	23.7	10.2	10.3
Colombia	2.1	2.1	0.3	0.2	0.6	0.6	1.8	1.8
Peru	1.3	1.3	0.2	0.2	0.1	0.1	1.4	1.4
Venezuela (Bolivarian Republic of)	0.3	0.3	0.2	0.2	-	-	0.5	0.5
NORTHERN AMERICA	7.8	7.9	4.3	4.1	0.1	0.1	11.9	12.1
Canada	0.1	0.1	1.4	1.4	0.1	0.1	1.3	1.3
United States of America	7.7	7.8	2.9	2.8	-	-	10.6	10.8
EUROPE	22.6	25.1	3.1	3.3	1.8	1.7	25.3	25.0
European Union	14.4	15.9	1.4	1.6	0.9	1.1	14.5	14.7
Russian Federation	5.2	5.7	0.2	0.2	0.4	0.2	5.9	5.7
Ukraine	1.0	1.4	0.2	-	0.1	-	1.3	1.1
United Kingdom of Great Britain and Northern Ireland	0.9	1.0	0.7	0.8	0.1	0.1	2.0	2.1
OCEANIA	4.5	4.5	0.3	0.3	3.5	3.7	1.4	1.4
Australia	4.3	4.3	-	-	3.3	3.6	1.0	1.0
Fiji	0.2	0.2	-	-	0.1	0.1	-	-
WORLD	169.5	174.6	60.1	58.9	60.1	59.0	170.5	172.8
LIFDC	5.1	5.5	11.9	12.2	1.8	1.8	15.4	15.8
LDC	4.1	4.4	10.6	11.0	1.8	1.7	12.7	13.0

APPENDIX TABLE 14: TOTAL MEAT STATISTICS¹
(thousand tonnes - carcass weight equivalent)

	Production		Imports		Exports		Utilization	
	2021 <i>estim.</i>	2022 <i>f'cast</i>	2021 <i>estim.</i>	2022 <i>f'cast</i>	2021 <i>estim.</i>	2022 <i>f'cast</i>	2021 <i>estim.</i>	2022 <i>f'cast</i>
ASIA	151 422	156 249	22 555	22 170	5 058	5 289	168 922	173 130
China	91 818	95 834	10 512	9 732	871	907	101 459	104 659
India	7 628	7 775	2	2	1 350	1 423	6 279	6 354
Indonesia	4 792	4 848	274	289	6	6	5 060	5 131
Iran (Islamic Republic of)	3 086	3 056	100	121	41	30	3 145	3 148
Japan	4 175	4 196	3 571	3 616	21	28	7 740	7 793
Malaysia	1 874	1 897	356	408	81	77	2 149	2 227
Pakistan	4 985	5 177	1	2	78	75	4 908	5 103
Philippines	2 786	2 823	935	948	9	7	3 712	3 764
Republic of Korea	2 735	2 797	1 399	1 487	61	68	4 093	4 209
Saudi Arabia	1 199	1 222	854	819	61	63	1 992	1 978
Thailand	2 854	2 574	39	43	1 372	1 384	1 487	1 233
Türkiye	4 258	4 482	46	46	729	867	3 576	3 662
Viet Nam	5 786	6 021	657	659	23	21	6 420	6 660
AFRICA	20 177	20 241	3 136	3 238	280	287	23 033	23 192
Algeria	798	801	10	11	1	1	807	812
Angola	339	345	367	371	-	-	706	715
Egypt	2 234	2 265	353	365	2	2	2 585	2 629
Nigeria	1 432	1 425	10	12	-	-	1 442	1 437
South Africa	3 503	3 509	474	475	145	150	3 832	3 834
CENTRAL AMERICA & THE CARIBBEAN	10 748	10 974	3 909	4 026	1 002	1 025	13 654	13 975
Cuba	220	217	369	394	-	-	588	611
Mexico	7 716	7 935	2 493	2 554	714	730	9 495	9 759
SOUTH AMERICA	46 719	47 765	1 634	1 665	10 909	11 612	37 444	37 821
Argentina	6 106	6 088	69	78	1 003	952	5 171	5 214
Brazil	29 657	30 633	71	70	8 353	9 195	21 375	21 508
Chile	1 575	1 600	821	799	472	464	1 925	1 935
Colombia	2 938	3 000	268	276	69	63	3 138	3 213
Uruguay	751	718	105	116	559	537	296	300
NORTHERN AMERICA	54 160	53 903	3 227	3 489	10 962	10 582	46 487	46 819
Canada	5 325	5 266	772	786	2 272	2 215	3 799	3 875
United States of America	48 835	48 638	2 456	2 703	8 690	8 367	42 689	42 944
EUROPE	65 812	64 703	5 167	5 186	10 954	10 425	60 029	59 466
Belarus	1 255	1 282	91	85	484	486	862	881
European Union	44 948	44 238	1 321	1 376	8 356	8 215	37 912	37 399
Russian Federation	11 233	11 413	623	472	647	528	11 215	11 357
Ukraine	2 455	1 820	195	103	511	162	2 140	1 761
United Kingdom of Great Britain and Northern Ireland	4 163	4 182	2 349	2 545	852	929	5 660	5 798
OCEANIA	6 440	6 706	509	521	2 890	3 039	4 058	4 218
Australia	4 379	4 687	239	241	1 797	2 012	2 821	2 920
New Zealand	1 497	1 457	91	98	1 090	1 023	498	556
WORLD	355 478	360 541	40 137	40 296	42 054	42 260	353 628	358 622
LIFDC	13 848	13 843	1 984	2 055	236	245	15 596	15 653
LDC	14 106	14 194	1 645	1 696	57	58	15 695	15 833

¹ includes bovine, ovine, pig, poultry and other meats all expressed in carcass weight equivalents

APPENDIX TABLE 15: BOVINE MEAT STATISTICS (thousand tonnes - carcass weight equivalent)

	Production		Imports		Exports		Utilization	
	2021 <i>estim.</i>	2022 <i>f'cast</i>	2021 <i>estim.</i>	2022 <i>f'cast</i>	2021 <i>estim.</i>	2022 <i>f'cast</i>	2021 <i>estim.</i>	2022 <i>f'cast</i>
ASIA	19 986	20 426	6 953	7 158	1 693	1 770	25 234	25 813
China	6 995	7 138	3 455	3 552	56	61	10 394	10 630
India	2 498	2 594	-	-	1 336	1 408	1 162	1 186
Indonesia	459	457	269	283	1	1	727	740
Iran (Islamic Republic of)	551	560	29	35	9	8	571	587
Japan	480	485	804	797	11	15	1 262	1 267
Malaysia	46	47	207	224	14	10	239	261
Pakistan	2 372	2 439	1	1	67	65	2 306	2 374
Philippines	180	190	194	202	5	3	370	389
Republic of Korea	304	321	598	604	6	6	896	918
AFRICA	6 463	6 437	501	513	87	90	6 876	6 860
Algeria	142	144	10	11	-	-	151	155
Angola	105	105	14	14	-	-	119	119
Egypt	584	585	339	345	1	1	922	929
South Africa	1 026	1 028	5	5	58	60	974	973
CENTRAL AMERICA & THE CARIBBEAN	2 963	3 019	381	391	607	629	2 738	2 780
Mexico	2 129	2 177	207	212	368	383	1 968	2 006
SOUTH AMERICA	15 846	16 135	629	636	4 132	4 319	12 344	12 451
Argentina	2 977	2 937	7	6	750	702	2 235	2 241
Brazil	9 500	9 850	59	58	2 327	2 640	7 232	7 268
Chile	210	216	445	436	20	24	635	628
Colombia	767	789	9	9	68	62	708	737
Uruguay	668	639	41	47	528	504	181	182
NORTHERN AMERICA	14 169	14 074	1 695	1 790	2 226	2 166	13 657	13 707
Canada	1 439	1 395	237	246	589	572	1 085	1 077
United States of America	12 730	12 679	1 458	1 544	1 637	1 594	12 572	12 630
EUROPE	10 447	10 304	1 314	1 295	1 439	1 424	10 322	10 175
European Union	6 883	6 821	310	325	901	915	6 291	6 232
Russian Federation	1 635	1 612	317	255	103	93	1 850	1 774
Ukraine	322	251	10	5	39	5	293	250
United Kingdom of Great Britain and Northern Ireland	885	895	505	539	139	152	1 252	1 282
OCEANIA	2 654	2 840	55	53	1 899	2 007	810	886
Australia	1 888	2 105	22	18	1 245	1 393	665	730
New Zealand	754	724	11	13	651	611	114	126
WORLD	72 528	73 235	11 529	11 837	12 083	12 406	71 982	72 673
LIFDC	5 776	5 755	142	148	184	191	5 735	5 712
LDC	4 622	4 618	100	106	14	14	4 708	4 710

APPENDIX TABLE 16: OVINE MEAT STATISTICS (thousand tonnes - carcass weight equivalent)

	Production		Imports		Exports		Utilization	
	2021 <i>estim.</i>	2022 <i>f'cast</i>	2021 <i>estim.</i>	2022 <i>f'cast</i>	2021 <i>estim.</i>	2022 <i>f'cast</i>	2021 <i>estim.</i>	2022 <i>f'cast</i>
ASIA	10 192	10 319	661	699	20	24	10 833	10 994
Bangladesh	238	239	-	-	-	-	238	239
China	5 142	5 179	439	457	2	2	5 579	5 634
India	839	840	-	-	8	9	831	831
Iran (Islamic Republic of)	341	344	-	-	-	-	342	344
Pakistan	765	783	-	-	4	3	761	780
Saudi Arabia	148	152	23	24	-	-	171	176
Türkiye	480	519	-	-	1	3	480	516
AFRICA	3 385	3 385	9	10	40	43	3 355	3 352
Algeria	355	355	-	-	-	-	355	355
Nigeria	408	405	-	-	-	-	409	405
South Africa	175	169	2	2	3	6	174	165
CENTRAL AMERICA & THE CARIBBEAN	131	132	8	8	2	2	138	139
Mexico	107	108	1	1	2	2	106	107
SOUTH AMERICA	349	346	3	3	33	32	318	321
Brazil	142	143	3	3	-	-	145	146
NORTHERN AMERICA	90	88	191	199	3	3	278	290
United States of America	74	72	166	172	2	3	238	246
EUROPE	1 164	1 158	169	176	115	121	1 217	1 215
European Union	588	576	113	117	37	39	664	654
Russian Federation	194	181	-	-	-	-	194	181
United Kingdom of Great Britain and Northern Ireland	265	290	48	52	70	74	243	268
OCEANIA	1 122	1 171	26	27	854	896	294	332
Australia	678	739	2	2	458	528	221	218
New Zealand	444	432	3	3	396	368	51	92
WORLD	16 434	16 599	1 067	1 122	1 066	1 120	16 432	16 642
LIFDC	3 076	3 082	3	4	36	37	3 042	3 050
LDC	2 503	2 520	2	2	22	22	2 483	2 500

APPENDIX TABLE 17: PIG MEAT STATISTICS (thousand tonnes - carcass weight equivalent)

	Production		Imports		Exports		Utilization	
	2021 <i>estim.</i>	2022 <i>f'cast</i>	2021 <i>estim.</i>	2022 <i>f'cast</i>	2021 <i>estim.</i>	2022 <i>f'cast</i>	2021 <i>estim.</i>	2022 <i>f'cast</i>
ASIA	65 018	69 126	7 694	6 886	257	235	72 511	75 775
China	53 901	58 090	4 770	3 854	125	129	58 546	61 814
India	330	325	1	1	2	2	329	324
Indonesia	324	330	4	4	-	-	328	334
Japan	1 318	1 315	1 424	1 457	4	4	2 764	2 777
Malaysia	217	215	23	24	3	3	237	236
Philippines	1 188	1 192	332	341	2	2	1 518	1 531
Republic of Korea	1 407	1 415	579	655	11	5	2 006	2 054
Thailand	892	593	1	1	44	21	848	573
Viet Nam	3 728	3 922	238	219	11	10	3 954	4 131
AFRICA	1 605	1 614	284	292	32	33	1 857	1 873
Madagascar	26	26	-	-	-	-	26	26
Nigeria	287	285	8	9	-	-	295	294
South Africa	326	335	34	34	27	27	333	342
Uganda	131	130	1	1	-	-	131	130
CENTRAL AMERICA & THE CARIBBEAN	2 141	2 169	1 538	1 612	355	355	3 324	3 426
Cuba	126	125	19	22	-	-	145	147
Mexico	1 693	1 737	1 191	1 242	333	334	2 551	2 645
SOUTH AMERICA	7 362	7 459	537	548	1 745	1 729	6 154	6 278
Argentina	695	701	50	60	20	13	725	749
Brazil	4 891	4 951	3	3	1 452	1 463	3 442	3 491
Chile	590	596	189	171	267	248	511	519
Colombia	461	473	152	156	-	-	613	629
NORTHERN AMERICA	14 868	14 519	946	1 070	4 536	4 314	11 264	11 281
Canada	2 309	2 251	298	295	1 493	1 466	1 089	1 110
United States of America	12 559	12 268	649	774	3 043	2 848	10 175	10 171
EUROPE	30 926	30 105	1 311	1 388	5 749	5 494	26 488	26 000
Belarus	396	413	48	50	43	43	401	420
European Union	23 615	22 905	105	114	5 198	4 990	18 522	18 029
Russian Federation	4 389	4 418	44	30	206	141	4 227	4 307
Serbia	300	299	57	60	19	18	338	341
Ukraine	723	585	57	33	8	1	772	617
United Kingdom of Great Britain and Northern Ireland	1 023	999	857	952	259	283	1 621	1 668
OCEANIA	592	601	310	319	42	42	860	878
Australia	444	451	211	215	40	40	615	626
Papua New Guinea	84	85	7	8	-	-	91	93
WORLD	122 512	125 593	12 621	12 115	12 716	12 202	122 458	125 510
LIFDC	997	992	172	175	3	5	1 166	1 162
LDC	2 317	2 337	172	178	1	1	2 488	2 513

APPENDIX TABLE 18: POULTRY MEAT STATISTICS (thousand tonnes - carcass weight equivalent)

	Production		Imports		Exports		Utilization	
	2021 <i>estim.</i>	2022 <i>f'cast</i>	2021 <i>estim.</i>	2022 <i>f'cast</i>	2021 <i>estim.</i>	2022 <i>f'cast</i>	2021 <i>estim.</i>	2022 <i>f'cast</i>
ASIA	54 055	54 186	7 193	7 375	3 002	3 175	58 204	58 390
China	24 585	24 220	1 821	1 843	678	704	25 727	25 358
India	3 767	3 822	-	-	4	4	3 764	3 819
Indonesia	3 889	3 939	-	-	2	2	3 887	3 937
Iran (Islamic Republic of)	2 183	2 141	70	86	33	21	2 220	2 205
Japan	2 369	2 388	1 316	1 335	6	9	3 679	3 714
Kuwait	58	60	146	151	9	9	195	202
Malaysia	1 607	1 631	97	125	63	63	1 641	1 693
Republic of Korea	1 018	1 055	198	201	45	57	1 161	1 204
Saudi Arabia	910	930	632	591	47	47	1 495	1 474
Thailand	1 827	1 845	2	2	1 219	1 253	576	593
Türkiye	2 305	2 452	41	41	666	796	1 679	1 697
AFRICA	6 821	6 888	2 328	2 410	119	120	9 030	9 178
Angola	53	54	276	277	-	-	330	331
South Africa	1 924	1 926	433	434	56	56	2 301	2 304
CENTRAL AMERICA & THE CARIBBEAN	5 415	5 557	1 970	2 003	38	38	7 347	7 522
Cuba	16	16	340	362	-	-	357	378
Mexico	3 707	3 833	1 092	1 096	10	10	4 789	4 919
SOUTH AMERICA	23 010	23 672	464	477	4 810	5 331	18 664	18 818
Argentina	2 296	2 315	11	11	216	219	2 091	2 108
Brazil	15 098	15 662	5	6	4 407	4 919	10 696	10 749
Chile	752	763	187	191	178	185	761	769
NORTHERN AMERICA	24 722	24 909	383	418	4 183	4 086	20 978	21 230
Canada	1 535	1 577	210	216	183	171	1 561	1 621
United States of America	23 187	23 332	173	202	4 000	3 915	19 417	19 608
EUROPE	22 146	21 995	2 106	2 061	3 607	3 347	20 650	20 709
European Union	13 298	13 361	598	626	2 178	2 235	11 717	11 753
Russian Federation	4 499	4 683	256	181	338	292	4 422	4 572
Ukraine	1 383	964	128	64	464	155	1 047	873
United Kingdom of Great Britain and Northern Ireland	1 980	1 988	880	943	384	419	2 476	2 512
OCEANIA	1 604	1 628	117	120	81	80	1 639	1 669
Australia	1 345	1 369	3	4	52	50	1 296	1 324
New Zealand	226	228	1	1	29	30	198	199
WORLD	137 772	138 836	14 561	14 865	15 839	16 178	136 512	137 516
LIFDC	2 393	2 403	1 657	1 718	12	13	4 037	4 109
LDC	3 723	3 772	1 361	1 400	20	20	5 064	5 152

APPENDIX TABLE 19: MILK AND MILK PRODUCTS STATISTICS (thousand tonnes - milk equivalent)

	Production			Imports			Exports		
	2018-2020 average	2021 <i>estim.</i>	2022 <i>f'cast</i>	2018-2020 average	2021 <i>estim.</i>	2022 <i>f'cast</i>	2018-2020 average	2021 <i>estim.</i>	2022 <i>f'cast</i>
ASIA	375 390	399 835	411 301	47 700	51 713	52 013	8 553	9 099	9 396
China	33 790	38 251	40 349	15 843	20 695	20 936	98	112	112
India ¹	196 910	210 483	217 218	95	92	101	435	596	635
Indonesia	1 604	1 649	1 652	3 083	3 348	3 540	51	59	57
Iran (Islamic Republic of)	7 549	7 749	7 790	292	103	104	821	1 220	1 401
Japan	7 347	7 592	7 740	2 213	1 940	1 923	13	31	40
Malaysia	48	51	52	2 397	2 426	2 490	631	460	418
Pakistan	55 957	59 570	61 416	468	325	328	27	9	9
Philippines	15	14	14	2 665	2 560	2 622	93	89	88
Republic of Korea	2 059	2 034	2 020	1 297	1 460	1 504	35	40	40
Saudi Arabia	2 652	2 905	2 900	2 659	2 454	2 500	1 576	1 357	1 372
Singapore	-	-	-	1 530	1 473	1 465	423	398	389
Thailand	1 311	1 399	1 420	1 635	1 713	1 834	285	304	311
Türkiye	22 862	23 200	23 250	214	81	89	1 031	1 364	1 543
AFRICA	49 342	49 776	49 665	10 238	10 133	9 856	1 367	1 102	1 044
Algeria	3 189	3 403	3 490	3 253	3 003	3 096	6	1	1
Egypt	5 179	5 140	5 175	1 229	1 143	1 152	615	272	256
Kenya	5 328	5 422	5 280	198	149	149	2	3	2
South Africa	3 816	3 794	3 825	365	371	364	367	394	383
Tunisia	1 433	1 507	1 520	137	96	91	45	18	18
CENTRAL AMERICA & THE CARIBBEAN	18 233	18 744	19 044	6 507	6 133	6 115	1 162	825	824
Costa Rica	1 199	1 227	1 235	64	58	58	141	137	135
Mexico	12 502	13 103	13 392	4 157	3 911	3 986	651	267	285
SOUTH AMERICA	81 269	82 360	81 511	3 244	3 281	3 097	4 074	4 359	4 386
Argentina	10 981	11 900	11 860	28	17	17	1 952	2 269	2 287
Brazil	36 090	35 996	35 600	1 046	885	799	74	126	142
Colombia	22 890	22 930	22 480	440	442	421	22	42	42
Uruguay	2 103	2 263	2 290	39	51	49	1 517	1 521	1 495
NORTHERN AMERICA	109 224	112 402	112 744	2 774	2 913	2 914	12 629	14 472	14 449
Canada	9 550	9 798	9 935	746	898	913	1 018	744	728
United States of America	99 675	102 604	102 809	2 028	2 015	2 001	11 611	13 728	13 721
EUROPE	232 479	233 763	232 628	8 437	12 032	11 812	30 079	34 656	34 738
Belarus	7 502	7 822	7 860	54	79	80	4 045	4 510	4 539
European Union	168 796	159 665	159 825	1 905	3 028	3 036	22 793	25 279	25 492
Russian Federation	31 399	32 289	32 390	3 787	3 732	3 604	283	426	387
Ukraine	9 661	8 719	7 410	207	421	132	649	466	247
United Kingdom of Great Britain and Northern Ireland	-	15 445	15 300	-	3 558	3 746	-	2 878	2 984
OCEANIA	31 013	30 921	30 452	1 771	1 605	1 582	22 485	23 620	22 927
Australia	9 123	9 015	8 750	1 208	1 166	1 171	2 838	3 108	3 034
New Zealand	21 868	21 884	21 680	314	208	204	19 642	20 507	19 888
WORLD	896 950	927 800	937 343	80 671	87 811	87 389	80 349	88 133	87 763
LIFDC	55 696	56 814	56 793	4 976	4 879	4 612	625	712	642
LDC	37 186	37 628	37 537	4 665	4 574	4 332	262	358	330

¹ For production, the annual dairy cycle starting in April is applied

Note: Trade values that refer to milk equivalents were derived by applying the following weights: butter (6.60), cheese (4.40), skim/whole milk powder (7.60), whole condensed/evaporated milk (2.10), yoghurt (1.0), cream (3.60), casein (7.40), skim milk (0.70), liquid milk (1.0), whey dry (7.6). The conversion factors cited refer to the solids content method. Refer to IDF Bulletin No. 390 (March 2004)

APPENDIX TABLE 20: FISH AND FISHERY PRODUCTS STATISTICS¹

	Capture fisheries production		Aquaculture fisheries production		Exports			Imports		
	2019	2020	2019	2020	2020	2021	2022	2020	2021	2022
	<i>Million tonnes (live weight equivalent)</i>				<i>estim. USD billion</i>			<i>estim. USD billion</i>		
ASIA²	48.8	47.6	75.3	77.4	55.4	62.5	64.9	51.2	56.8	60.3
China	14.9	14.0	48.5	49.9	20.4	22.7	23.5	19.7	22.7	24.4
China, Hong Kong SAR	0.1	0.1	-	-	0.4	0.5	0.5	3.0	3.6	3.4
Taiwan Province of China	0.8	0.6	0.3	0.3	1.5	1.7	1.7	1.7	1.8	1.9
India	5.5	5.5	7.9	8.6	5.8	7.3	7.7	0.2	0.2	0.2
Indonesia	7.3	6.9	5.6	5.2	4.8	5.2	5.5	0.4	0.5	0.5
Japan	3.2	3.2	0.6	0.6	2.0	2.5	2.6	13.2	14.0	14.6
Philippines	1.8	1.9	0.9	0.9	0.8	0.9	0.9	0.5	0.6	0.7
Republic of Korea	1.4	1.4	0.6	0.6	1.6	2.0	2.2	5.4	5.9	6.3
Thailand	1.5	1.7	1.0	1.0	5.7	5.4	5.5	3.7	3.8	3.9
Viet Nam	3.4	3.4	4.5	4.6	8.5	9.8	10.0	1.9	2.2	2.3
AFRICA	10.1	9.8	2.3	2.3	6.9	7.8	8.1	4.9	5.6	5.8
Egypt	0.4	0.4	1.6	1.6	-	0.1	0.1	0.9	0.8	0.8
Morocco	1.5	1.4	-	-	2.3	2.8	3.0	0.2	0.3	0.3
Namibia	0.5	0.3	-	-	0.6	0.7	0.7	0.1	0.1	0.1
Nigeria	0.8	0.8	0.3	0.3	-	0.1	0.1	0.7	0.9	0.9
Senegal	0.5	0.5	-	-	0.5	0.6	0.6	0.1	0.1	0.1
South Africa	0.4	0.6	-	-	0.6	0.7	0.7	0.3	0.4	0.4
CENTRAL AMERICA & THE CARIBBEAN	2.3	2.1	0.5	0.5	2.5	2.9	3.0	1.7	2.1	2.2
Mexico	1.6	1.5	0.3	0.3	1.2	1.4	1.4	0.7	1.0	1.1
Panama	0.2	0.2	-	-	0.1	0.1	0.1	0.1	0.1	0.1
SOUTH AMERICA	9.6	10.1	3.1	3.3	16.9	20.7	22.4	2.6	3.1	3.3
Argentina	0.8	0.8	-	-	1.6	1.9	1.8	0.2	0.2	0.2
Brazil	0.7	0.7	0.6	0.6	0.3	0.4	0.5	1.0	1.3	1.3
Chile	2.0	1.8	1.4	1.5	5.9	6.8	7.2	0.4	0.5	0.5
Ecuador	0.6	0.6	0.7	0.8	5.4	6.8	8.1	0.1	0.2	0.3
Peru	4.8	5.6	0.2	0.1	2.8	4.0	3.9	0.3	0.3	0.3
NORTHERN AMERICA	5.9	5.2	0.7	0.6	10.7	12.8	13.5	24.5	31.8	33.4
Canada	0.8	0.7	0.2	0.2	4.9	6.2	6.6	2.9	3.6	3.8
United States of America	4.8	4.2	0.5	0.4	4.7	5.3	5.6	21.6	28.2	29.6
EUROPE	13.9	13.8	3.3	3.3	54.8	63.4	62.9	60.9	69.4	68.7
European Union ²	4.2	3.9	1.1	1.1	32.7	37.2	36.0	50.8	57.8	56.9
of which extra-EU	-	-	-	-	7.4	7.4	7.5	27.3	30.2	29.9
Iceland	1.0	1.0	-	-	2.2	2.6	2.8	0.1	0.1	0.1
Norway	2.3	2.5	1.5	1.5	11.1	13.4	14.0	1.3	1.4	1.5
Russian Federation	5.0	5.1	0.2	0.3	4.8	5.8	5.3	2.1	2.6	2.2
OCEANIA	1.6	1.5	0.2	0.2	2.8	3.1	3.2	1.8	1.9	1.9
Australia	0.2	0.2	0.1	0.1	0.9	0.9	1.0	1.4	1.5	1.5
New Zealand	0.4	0.4	0.1	0.1	1.1	1.3	1.3	0.2	0.2	0.2
WORLD³	92.2	90.3	85.2	87.5	150.1	173.3	178.1	147.6	170.8	175.7
Excl. intra-EU	-	-	-	-	124.8	143.5	149.7	124.2	143.1	148.6
LIFDC	7.9	7.8	3.0	3.2	17.4	20.5	21.3	4.0	4.7	4.8
LDC	10.0	9.7	4.3	4.6	3.5	4.1	4.2	1.2	1.4	1.5

¹ Production and trade data exclude whales, seals, other aquatic mammals and aquatic plants. Trade data include fishmeal and fish oil

² EU-27. Including intra-trade. Cyprus is included in Asia as well as in the European Union

³ For capture fisheries production, the aggregate includes also 1 060 tonnes in 2019 and 1 030 tonnes in 2020 of not identified countries these data are not included in any other aggregates. Totals may not match due to rounding

APPENDIX TABLE 21: SELECTED INTERNATIONAL PRICES FOR WHEAT AND COARSE GRAINS

Period	Wheat			Maize		Barley		Sorghum
	US No. 2 Hard Red Winter Ord. Prot. ¹	US Soft Red Winter No. 2 ²	Argentina Trigo Pan ³	US No. 2 Yellow ²	Argentina ³	France feed Rouen	Australia feed Southern States	US Gulf ²
..... (USD/tonne)								
Annual (July/June)								
2010/11	316	289	311	254	260	266	248	258
2011/12	300	259	264	281	269	270	249	286
2012/13	348	310	336	311	277	297	298	304
2013/14	318	265	335	216	219	243	241	244
2014/15	266	221	246	173	177	205	243	247
2015/16	211	194	208	166	170	174	185	192
2016/17	197	170	190	156	172	159	162	172
2017/18	230	188	203	159	165	193	222	192
2018/19	232	210	233	166	166	219	286	183
2019/20	220	219	231	163	163	184	215	190
2020/21	269	254	263	219	224	242	218	308
2021 – May	296	292	279	304	269	278	239	398
2021 – June	286	263	274	293	248	261	249	389
2021 – July	294	255	276	278	236	241	239	355
2021 – August	325	274	286	257	238	276	245	327
2021 – September	338	273	292	236	240	277	254	296
2021 – October	355	303	303	240	247	295	267	298
2021 – November	379	330	315	249	252	312	282	306
2021 – December	378	328	317	265	260	300	271	317
2022 – January	374	324	304	277	272	298	269	324
2022 – February	390	339	320	293	288	307	280	344
2022 – March	486	447	410	336	336	417	326	404
2022 – April	495	427	421	348	316	428	345	402
2022 – May	521	441	467	346	315	427	374	389

¹ Delivered United States f.o.b Gulf; ² Delivered United States Gulf; ³ Up River f.o.b.
Sources: International Grain Council and USDA.

APPENDIX TABLE 22: TOTAL WHEAT AND MAIZE FUTURES PRICES

	July		September		December		March	
	July 2022	July 2021	Sept 2022	Sept 2021	Dec 2022	Dec 2021	Mar 2022	Mar 2021
..... (USD/tonne)								
Wheat								
April 20	403	243	403	244	402	246	401	247
April 27	401	269	400	269	399	270	399	271
May 4	396	267	397	267	397	268	398	269
May 11	409	273	411	272	412	273	413	274
May 18	432	256	433	257	434	258	428	260
May 25	425	243	428	245	429	247	424	246
Maize								
April 20	319	233	302	215	295	208	296	211
April 27	320	258	302	231	295	221	296	223
May 4	313	274	296	240	290	229	291	230
May 11	310	284	296	250	290	241	291	243
May 18	308	259	297	225	291	214	293	216
May 25	304	244	291	213	285	203	286	206

Source: Chicago Board of Trade (CBOT)

APPENDIX TABLE 23: SELECTED INTERNATIONAL PRICES FOR RICE AND PRICE INDICES

Period	International prices				FAO indices				
	Thai 100% B ¹	Thai broken ²	US long grain ³	Pakistan Basmati ⁴	FAO All Rice Price Index	Indica	Japonica	Aromatic	Glutinous
Annual (Jan/Dec)(USD per tonne) (2014-2016=100)				
2015	395	327	490	849	96	97	102	94	96
2016	407	348	438	795	91	96	79	77	102
2017	415	334	456	1131	99	100	80	101	88
2018	445	365	531	1023	106	108	91	108	89
2019	435	385	500	982	101	101	80	106	124
2020	515	431	597	970	110	114	90	98	124
2021	476	415	570	778	106	112	101	87	87
Monthly									
2021 – May	509	447	605	774	111	119	99	88	91
2021 – June	490	421	598	842	108	115	101	88	88
2021 - July	434	387	557	792	101	107	104	84	82
2021 - August	418	357	560	735	98	103	103	82	76
2021 – September	416	361	566	698	99	104	103	83	78
2021 – October	415	370	571	738	100	105	105	85	79
2021 – November	415	376	573	744	100	104	108	86	80
2021 – December	415	370	576	735	98	102	109	85	81
2022 – January	442	392	575	856	101	104	113	90	89
2022 - February	443	404	589	897	103	105	114	92	87
2022 - March	436	407	600	873	103	106	117	91	84
2022 – April	445	421	621	879	105	108	120	96	85
2022 – May	479	437	650	986	109	111	125	103	90

¹ White rice - 100% second grade - f.o.b. Bangkok - indicative traded prices.

² A1 super - f.o.b. Bangkok - indicative traded prices.

³ US No.2 - 4% broken f.o.b.

⁴ Up to May 2011: Basmati ordinary - f.o.b. Karachi; from June 2011 onwards: Super Kernel White Basmati Rice 2%.

Note: The FAO Rice Price Index is based on 21 rice export quotations. 'Quality' is defined by the percentage of broken kernels, with higher (lower) quality referring to rice with less (equal to or more) than 15 percent broken. The sub-index for Aromatic Rice follows movements in prices of Basmati and Fragrant rice.

Sources: FAO for indices. Rice prices: Creed Rice Market Report, Livericeindex.com, Thai Department of Foreign Trade (DFT), Viettraders and other public sources.

APPENDIX TABLE 24: SELECTED INTERNATIONAL PRICES FOR OILCROP PRODUCTS AND PRICE INDICES

Period	International prices ¹					FAO indices ⁸		
	Soybeans ²	Soybean oil ³	Palm oil ⁴	Soybean cake ⁵	Rapeseed meal ⁶	Oilseeds	Vegetable oils	Oilcakes/meals
 (USD per tonne) (2014-2016=100)		
Annual (Oct/Sept)								
2008/09	437	849	682	409	206	97	90	89
2009/10	429	924	806	388	220	100	109	92
2010/11	549	1308	1147	418	279	133	159	102
2011/12	562	1235	1051	461	295	133	143	111
2012/13	563	1099	835	539	345	132	120	129
2013/14	521	949	867	534	324	120	116	128
2014/15	407	777	658	406	270	95	93	99
2015/16	396	773	655	351	232	93	95	85
2016/17	404	806	729	336	225	95	103	81
2017/18	402	820	648	381	258	94	94	93
2018/19	370	744	523	328	247	88	80	81
2019/20	379	783	668	338	243	90	93	84
2020/21	561	1272	1075	464	347	133	149	115
Monthly								
2021 - January	576	1074	1026	535	382	134	139	131
2021 - February	580	1136	1086	526	380	136	147	130
2021 - March	568	1296	1135	472	364	137	159	117
2021 - April	594	1388	1155	442	352	142	162	111
2021 - May	639	1590	1229	454	409	152	175	116
2021 - June	619	1563	1061	436	400	146	158	112
2021 - July	571	1448	1119	447	308	136	155	110
2021 - August	561	1443	1229	439	312	134	166	109
2021 - September	554	1411	1256	444	319	135	169	109
2021 - October	548	1495	1368	448	343	138	185	112
2021 - November	557	1461	1365	447	363	140	185	112
2021 - December	567	1458	1316	478	391	142	179	119
2022 - January	610	1512	1360	505	405	151	186	125
2022 - February	678	1635	1528	552	425	163	202	136
2022 - March	722	1982	1827	590	555	181	252	153
2022 - April	727	1980	1733	553	534	183	238	144
2022 - May ⁷	711	1955	1673	497	470	176	229	129

¹ Spot prices for nearest forward shipment

² Soybeans: US, No.2 yellow, c.i.f. Rotterdam

³ Soybean oil: Dutch, fob ex-mill

⁴ Palm oil: Crude, c.i.f. Northwest Europe

⁵ Soybean cake: Pellets, 44/45 percent, Argentina, c.i.f. Rotterdam

⁶ Rapeseed meal: 34 percent, Hamburg, f.o.b. ex-mill

⁷ The international prices shown represent averages for three out of four quotations for the month.

⁸ The FAO indices are based on the international prices of five selected seeds, ten selected oils and five selected cakes and meals. The indices are calculated using the Laspeyres formula; the weights used are derived from the export values of each commodity for the 2014–2016 period.

Sources: Oil World (ISTA Mielke GmbH); FAO for the indices.

APPENDIX TABLE 25: SELECTED INTERNATIONAL PRICES FOR SUGAR AND SUGAR PRICE INDEX

Annual (Jan/Dec)	I.S.A. daily price average ¹	FAO Sugar Price Index (2014/16 = 100)
	Raw sugar	
	(US Cents/lb)	(2014/16=100)
2010	21.3	131.7
2011	26.0	160.9
2012	21.5	133.3
2013	17.7	109.5
2014	17.0	105.2
2015	13.4	83.2
2016	18.0	111.6
2017	16.0	99.1
2018	12.5	77.4
2019	12.7	78.6
2020	12.9	79.5
2021	17.7	109.3
2022	18.8	116.6
Monthly		
2020 - June	12.1	74.9
2020 - July	12.3	76.0
2020 - August	13.1	81.1
2020 - September	12.8	79.0
2020 - October	13.7	84.7
2020 - November	14.1	87.5
2020 - December	14.1	87.1
2021 - January	15.2	94.2
2021 - February	16.2	100.2
2021 - March	15.5	96.2
2021 - April	16.2	100.0
2021 - May	17.3	106.8
2021 - June	17.4	107.7
2021 - July	17.7	109.6
2021 - August	19.5	120.5
2021 - September	19.6	121.2
2021 - October	19.2	119.1
2021 - November	19.4	120.2
2021 - December	18.8	116.4
2022 - January	18.2	112.7
2022 - February	17.9	110.5
2022 - March	19.1	117.9
2022 - April	19.6	121.5
2022 - May	19.4	120.3

¹ International Sugar Agreement (ISA) prices: simple average of the closing quotes for the first three future positions of the New York Intercontinental Exchange (ICE) Sugar Contract No. 11.

Source: International Sugar Organization (ISO). FAO for the sugar index.

APPENDIX TABLE 26: SELECTED INTERNATIONAL PRICES FOR MILK PRODUCTS AND DAIRY PRICE INDEX

Period	International prices				FAO dairy price index
	Butter ¹	Skim milk powder ²	Whole milk powder ³	Cheddar cheese ⁴	
Annual (Jan/Dec) (USD per tonne) (2014-2016=100) ...
2011	5 023	3 408	3 962	4 380	130
2012	3 740	3 063	3 336	3 877	112
2013	4 784	4 148	4 730	4 563	141
2014	4 278	3 606	3 854	4 542	130
2015	3 306	2 089	2 537	3 076	87
2016	3 473	1 986	2 481	2 807	83
2017	5 641	2 011	3 163	3 664	108
2018	5 587	1 834	3 060	3 736	107
2019	4 443	2 440	3 186	3 435	103
2020	3 844	2 606	3 041	3 506	102
2021	4 995	3 181	3 855	3 816	119
Monthly					
2021– May	5 003	3 240	4 061	3 840	121
2021 – June	4 848	3 228	3 993	3 829	120
2021 – July	4 624	3 048	3 868	3 792	117
2021 – August	4 651	2 985	3 687	3 846	116
2021 – September	4 834	3 124	3 731	3 861	118
2021 – October	5 222	3 314	3 887	3 854	121
2021 – November	5 769	3 524	4 067	3 869	126
2021 – December	6 072	3 681	4 169	3 892	129
2022 – January	6 326	3 859	4 243	3 976	133
2022 – February	6 634	4 097	4 604	4 246	142
2022 – March	6 923	4 370	4 869	4 249	146
2022 – April	7 223	4 482	4 725	4 251	147
2022 – May	6 922	4 233	4 389	4 221	142

¹ Butter - 82% butterfat - f.o.b. Oceania and EU; average indicative traded prices.

² Skim Milk Powder - 1.25% butterfat - f.o.b. Oceania and EU - averaged indicative traded prices.

³ Whole Milk Powder - 26% butterfat - f.o.b. Oceania and EU - average indicative traded prices.

⁴ Cheddar Cheese, 39% max. moisture, f.o.b. Oceania and EU, indicative traded prices

Note: The FAO Dairy Price Index is derived from a trade-weighted average of a selection of representative internationally-traded dairy products from the European Union and Oceania.

APPENDIX TABLE 27: SELECTED INTERNATIONAL MEAT PRICES

Period	Bovine meat prices			Ovine meat price		Pig meat prices			Poultry meat prices	
	Australia	United States of America	Brazil	New Zealand	Australia	United States of America	Brazil	Germany	United States of America	Brazil
Annual (Jan/Dec) (USD per tonne)									
2011	3 944	5 093	5 078	5 531	5 547	3 036	2 941	2 169	1 149	1 977
2012	4 176	5 885	4 765	4 656	4 486	2 952	2 700	2 233	1 228	1 889
2013	4 009	6 314	4 527	4 130	4 132	2 981	2 797	2 311	1 229	1 972
2014	5 016	7 361	4 712	4 701	4 686	3 233	3 411	2 106	1 205	1 886
2015	4 699	7 195	4 320	3 643	4 042	2 669	2 482	1 582	1 002	1 604
2016	4 171	6 390	4 053	3 578	3 978	2 648	2 129	1 682	914	1 501
2017	4 463	6 676	4 196	4 488	4 710	2 687	2 475	1 871	1 000	1 631
2018	4 198	7 118	4 045	5 244	4 979	2 587	1 959	1 728	970	1 537
2019	4 873	7 119	4 119	5 127	5 097	2 626	2 245	1 989	972	1 618
2020	4 676	6 898	4 336	4 561	5 071	2 569	2 370	1 834	962	1 407
2021	5 544	8 313	5 032	5 643	5 898	2 756	2 432	1 655	1 164	1 626
Monthly										
2021 – May	5 605	7 735	4 934	5 209	5 934	2 863	2 605	1 884	1 143	1 554
2021 – June	5 772	8 167	5 181	5 596	5 804	2 907	2 612	1 898	1 172	1 609
2021 – July	5 698	8 663	5 443	5 922	5 815	3 019	2 498	1 783	1 272	1 717
2021 – August	5 782	8 802	5 680	6 334	5 988	2 822	2 403	1 651	1 214	1 748
2021 – September	5 784	8 987	5 788	6 576	6 172	2 707	2 378	1 559	1 206	1 714
2021 – October	5 889	9 284	5 167	6 680	6 177	2 667	2 293	1 485	1 200	1 757
2021 – November	6 043	9 598	4 932	6 593	5 828	2 707	2 256	1 452	1 217	1 768
2021 – December	6 218	9 267	4 826	6 116	5 758	2 694	2 237	1 472	1 207	1 720
2022 – January	6 265	9 717	5 178	5 763	5 761	2 541	2 217	1 464	1 283	1 704
2022 – February	6 472	9 575	5 591	5 588	5 558	2 618	2 152	1 550	1 181	1 719
2022 – March	6 500	9 548	5 900	5 667	5 719	2 656	2 143	2 098	1 265	1 805
2022 – April	6 332	9 615	6 209	5 547	5 742	2 644	2 219	2 193	1 236	1 921
2022 – May	6 121	9 683	6 376	5 309	5 489	2 671	2 386	2 006	1 242	2 064

Notes:

Bovine meat prices:

Australia: Cow 90CL export prices to the USA (FAS)

United States of America: Meat of bovine (Fresh, Chilled or Frozen), export unit value

Brazil: Meat of bovine (Fresh, Chilled or Frozen), export unit value

Ovine meat prices:

New Zealand: Lamb 17.5kg NZ\$/kg

Australia: Medium trade lamb 18-20kg A\$/kg

Pig meat prices:

United States of America: Meat of Swine (Fresh, Chilled or Frozen), export unit value

Brazil: Meat of Swine (Fresh, Chilled or Frozen), export unit value

Germany: Monthly market price for pig carcass grade E

Poultry meat prices:

United States of America: Chicken Cuts and Edible Offal (Fresh, Chilled or Frozen), export unit value

Brazil: Meat and Edible Offal of Poultry (Fresh, Chilled or Frozen), export unit value

Prices for the two most recent months may be estimates and subject to revision.

APPENDIX TABLE 28: SELECTED INTERNATIONAL MEAT PRICES AND FAO MEAT PRICE INDICES

FAO indices

Period	Total meat	Poultry meat	Pig meat	Bovine meat	Ovine meat
Annual (Jan/Dec) (2014-2016=100)				
2011	105	117	112	88	135
2012	105	115	111	93	111
2013	106	118	113	93	101
2014	112	114	117	107	114
2015	97	96	92	102	94
2016	91	90	92	91	92
2017	98	98	98	96	112
2018	95	93	91	96	124
2019	100	96	98	101	124
2020	96	87	94	100	117
2021	108	102	94	118	141
Monthly					
2021 – May	107	98	102	115	136
2021 – June	111	101	103	120	139
2021 – July	114	108	102	124	143
2021 – August	113	108	95	127	150
2021 – September	113	107	91	129	155
2021 – October	112	108	89	127	157
2021 – November	113	109	89	129	151
2021 – December	111	107	89	128	145
2022 – January	112	108	86	133	140
2022 – February	113	106	89	136	136
2022 – March	119	112	100	138	139
2022 – April	121	116	102	139	137
2022 – May	122	123	100	139	132

Notes:

The **FAO Meat Price Indices** consist of 2 poultry meat product quotations (the average weighted by assumed fixed trade weights), 3 bovine meat product quotations (average weighted by assumed fixed trade weights), 3 pig meat product quotations (average weighted by assumed fixed trade weights), 2 ovine meat product quotation (average weighted by assumed fixed trade weights): the four meat group average prices are weighted by world average export trade shares for 2014/2016.

Prices for the two most recent months may be estimates and subject to revision.

APPENDIX TABLE 29: FISH PRICE INDICES

Period	Total	Whitefish	Salmon	Shrimp	Tuna	Pelagic excl. tuna
Annual (Jan/Dec) (2014-2016=100)					
2011	104	114	100	97	104	105
2012	97	111	78	87	115	119
2013	104	104	99	99	107	119
2014	107	105	102	113	100	108
2015	92	97	84	92	99	91
2016	102	97	114	94	101	101
2017	106	108	117	96	92	112
2018	106	118	119	88	96	105
2019	102	121	108	86	92	100
2020	95	107	97	86	92	93
2021	102	116	109	92	99	87
Monthly						
2020 - January	106	122	134	86	92	80
2020 - February	101	119	116	86	82	89
2020 - March	95	103	97	85	90	97
2020 - April	90	97	86	85	80	101
2020 - May	91	94	96	82	93	97
2020 - June	97	96	108	88	108	90
2020 - July	94	103	93	90	96	91
2020 - August	94	103	89	90	95	99
2020 - September	92	103	86	88	92	93
2020 - October	92	108	83	87	95	92
2020 - November	91	112	83	83	93	88
2020 - December	94	120	88	81	89	95
2021 - January	96	117	90	84	93	94
2021 - February	96	115	96	84	94	89
2021 - March	101	111	115	84	94	92
2021 - April	102	112	120	86	90	90
2021 - May	107	120	128	90	104	84
2021 - June	105	124	112	90	118	80
2021 - July	103	113	112	94	109	81
2021 - August	100	111	102	95	107	83
2021 - September	99	114	98	96	98	86
2021 - October	103	116	108	97	94	87
2021 - November	102	117	105	98	96	84
2021 - December	108	122	119	98	96	93
2022 - January	111	119	127	97	101	106
2022 - February	117	125	146	97	91	106
2022 - March	128	177	147	97	93	97
2022 - April	134	178	170	97	101	93

Source of the raw data for the FAO Fish Price Index: EUMOFA, INFOFISH, INFOPESCA, INFOYU, Statistics Norway.

APPENDIX TABLE 30: SELECTED INTERNATIONAL COMMODITY PRICES

	Currency and unit	Effective date	Latest quotation	One month ago	One year ago	Average 2017-2021
Sugar (ISA daily price)	US cents per lb	16-05-22	19.82	20.08	17.26	14.35
Coffee (ICO daily price)	US cents per lb	17-05-22	192.49	197.31	134.77	119.09
Cocoa (ICCO daily price)	US cents per lb	17-05-22	108.28	111.90	109.45	103.97
Tea (FAO Tea Composite Price)	USD per kg	30-04-22	2.85	2.63	2.26	2.64
Cotton (COTLOOK A index)	US cents per lb	30-04-22	155.32	141.13	90.73	85.19
Jute "BTD" (Fob Bangladesh Port)	USD per tonne	30-04-22	1140.00	1150.00	1850.00	934.92

MARKET INDICATORS

Futures markets

Contributed by Alexis Poullain

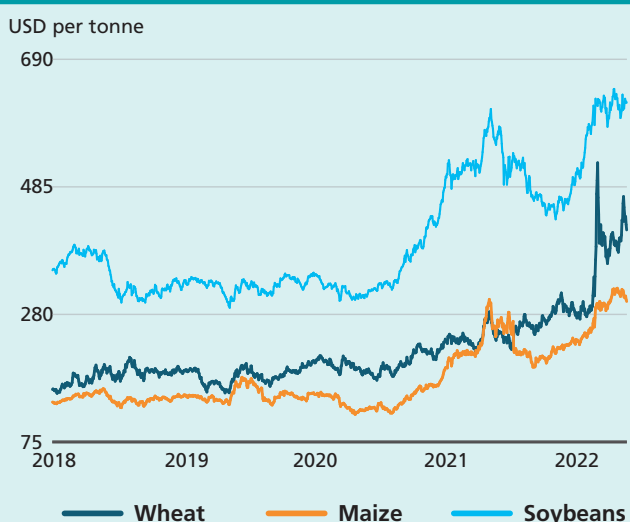
PRICES

Futures prices for wheat, maize and soybeans shot to historical highs over the past 6 months as the war in Ukraine, export restrictions and various other protectionist measures, and worsening weather conditions in the United States of America and the European Union have reduced the prospect availability of global grain supplies. Maize and soybean futures prices soared to about USD 320 and USD 640 per tonne, respectively, just below their previous record in 2012. Wheat futures prices peaked at USD 495 per tonne on 7 March 2022, above the previous record high of

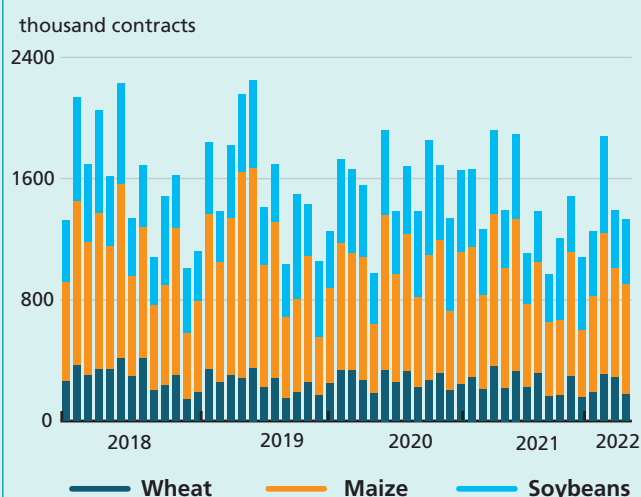
2008, and have stayed firm, trading at above USD 400 per tonne since then. Prices fell at the end of May on reports of a tentative establishment of a naval corridor allowing safe movement of Ukrainian grain through the Black Sea.

In external markets, West Texas Intermediate (WTI) oil price reached its highest level since 2014 at USD 110 per barrel since mid-May, while gas and diesel prices also reached record high levels, increasing fertilizer and transport costs, which in turn drove grain markets up. As a result, inflation soared, prompting US Federal Reserve to raise the interest rates. This inflation is driving up the United States dollar index, increasing commodity prices in

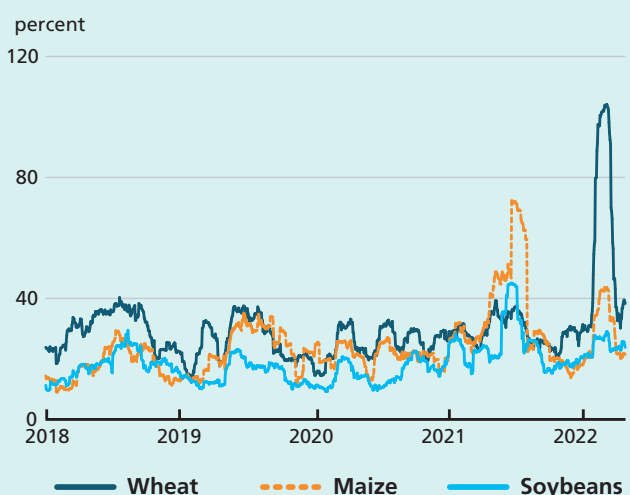
CME futures prices



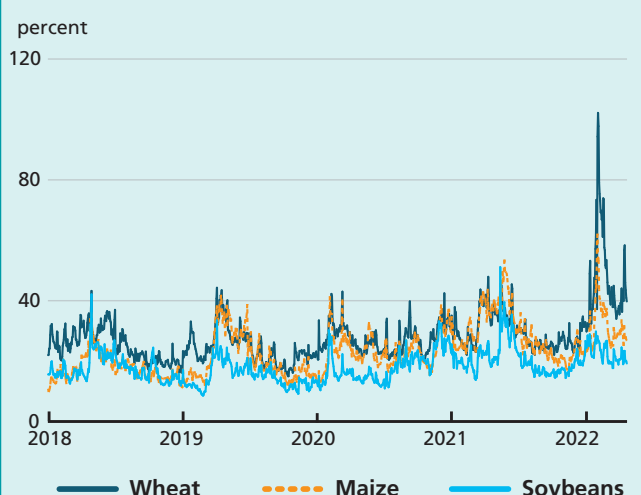
CME futures volumes



Historical volatility (30 days)



Implied volatility



foreign currencies and curbing demand from importing countries. A firm US dollar has likely prevented an even greater increase of grain prices. Concurrently, China has experienced a slowdown in food demand mostly because of renewed COVID-19 restrictions.

VOLUMES AND OPEN INTEREST

The environment of elevated prices and high volatility, coupled with unforeseeable geopolitical events, seems to have deterred market participants to step into futures markets, leading to muted trade volumes for CME soybeans, maize and wheat. Volumes from January to April 2022 decreased by about 11 percent for maize and soybeans and 13 percent for wheat, compared to the same period a year ago. High volatility made risk management more costly for commercials, given the record high margin calls. Conversely, the environment of high volatility and high margin calls pushed option trading up, as options offer less costly opportunities in terms of margin requirements than futures for traders to hedge their risks or place their investment strategies.

VOLATILITY

Historical volatility (based on 30 days of futures prices) reached a record high in March, as grain futures prices attained multiyear highs due to the war in Ukraine. Historical volatility declined thereafter, demonstrating a typical 'overshooting' in the immediate market reaction to the unexpected geopolitical turmoil, but remained at historic high levels. Implied volatility (calculated by the level of option premiums on underlying futures contracts) declined after reaching record high levels in March; a sign that market participants anticipated a drop in the magnitude of price changes.

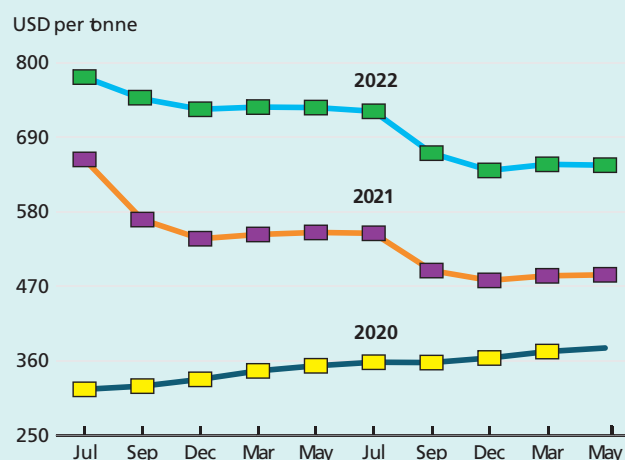
FORWARD CURVES

The forward curves of soybean and maize flipped from an upward to a downward sloping configuration ('backwardation'), where prices are lower in succeeding delivery months than the nearby or spot months. Backwardation is a market signal that traders have priced a tight production-consumption balance. In wheat markets, the front-end part of the curve flattened after April, as fears of an immediate shortage of wheat diminished when India softened its stance on export restrictions.

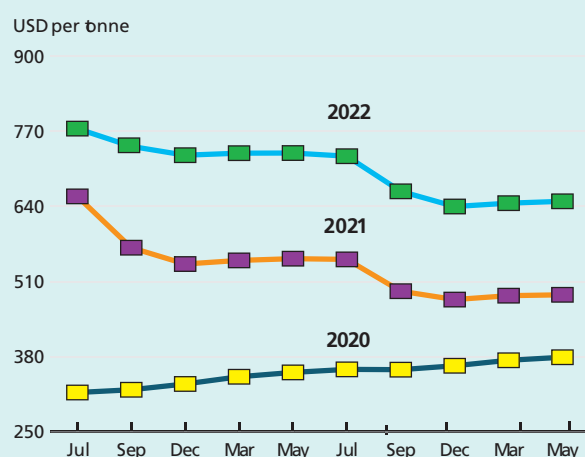
Soybeans, maize and wheat all show a backwardation for far dated futures contracts, as market participants anticipate that the fundamental balance adjustment in the

Forward curves snapshots as of May 2020, 2021 and 2022

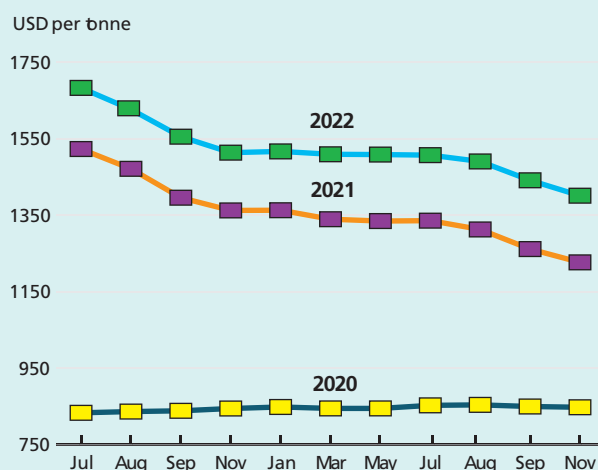
Wheat



Maize



Soybeans



medium term might be constrained by logistics bottlenecks. Indeed, supply chains are under pressure, with fuel prices historically high and freight availabilities limited. In this environment of inflated prices due to scarce supplies, the market sends a signal for demand to be rationed in the short term and for additional supplies to come in over the longer run. Indeed, wheat prices seem to have already reached a level of “demand destruction”¹ as wheat now proves too expensive for feed use. On the supply side, high prices should bring low quality grain surpluses or those constrained by India’s export ban back to the market, as importers have gradually adjusted their requirement specifications or have entered into government-to-government (G2G) deals permitted as an exception to India’s export ban.

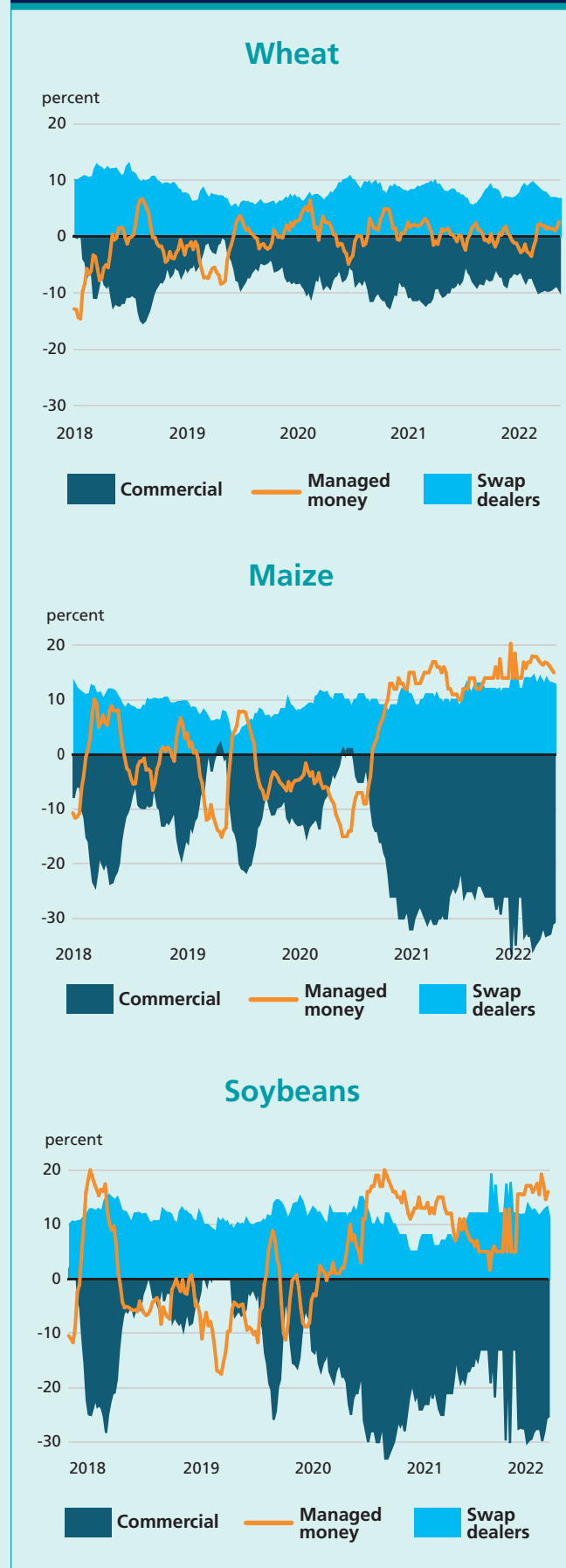
INVESTMENT FLOWS

Money managers have been bullish on all grain and oilseed futures since early March when they reversed their Chicago wheat short. Their net long position even reached a record high in April 2022 on combined soybeans, maize and wheat. Although their cumulative positions retreated slightly in May, they have retained a noticeable bullish stance on grain futures markets. In a context of rampant inflation, money managers and funds are likely to maintain a sizeable net long position in commodities as investors seek an inflation hedge. Commercial participants have maintained their perennial net short position to hedge against any price drop, although their open interest has decreased.

Both commercials and money managers will closely monitor planting progress for spring wheat and the early growing season for maize and soybeans in the United States over the next months, as well as crop rating developments in Western Europe and in the United States for winter wheat. In its May 2022 World Agricultural Supply and Demand Estimates (WASDE) report, the United States Department of Agriculture (USDA) projected lower ending stocks for maize, soybeans and wheat. Crop progress reports from the United States and Western Europe (especially France) indicate worsening conditions of winter crops on both sides of the Atlantic.

¹ A stage where high prices or limited supply trigger a response of sustained decline of demand.

CME net-length as % of open interests (Jan 2018 - May 2022)



Ocean freight rates

Contributed by the International Grains Council (IGC)

www.igc.int

OCEAN FREIGHT MARKET (NOV 2021 - MAY 2022)

The dry bulk freight complex witnessed two major fluctuations during the past six months: a drop in the first half of the period followed by a rebound. As a result, the Baltic Dry Index (BDI) – a benchmark indicator for dry bulk timecharter values – declined to a 13-month low by the end of January 2022, with seasonal factors exacerbated by worries about potentially slowing Chinese (mainland) demand for bulk commodities and coal export restrictions in Indonesia. Still, with a subsequent strong recovery, the Index has posted a net 17 percent rise since November 2021, with strength most pronounced in the Panamax and Supramax sectors, which are associated with the transportation of grains and oilseeds. Although moderately higher year-on-year, the BDI is just over half of its October 2021 13-year peak.

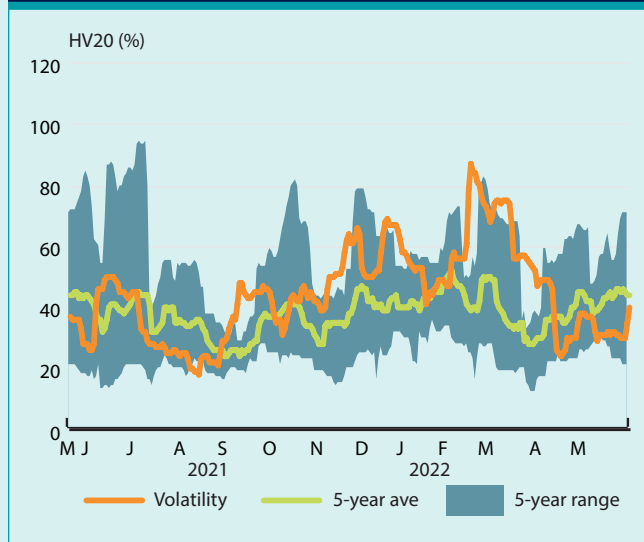
Escalating Black Sea tensions weighed on market sentiment during the period as disruptions on major routes prompted fears about the availability of some commodities, including grains, coal and fertilizer, as well as the associated demand for vessels. With operations at Ukraine's deep seaports suspended since late February, and with chartering activity from the Russian Federation hampered by international sanctions and soaring freight insurance premiums, some buyers had to search for alternative

Summary of dry bulk freight markets

	25 May 2022	Changes	
		6 months	y/y
		%	
Baltic Dry Index (BDI)*	3127	+17	+11
<i>Sub-indices:</i>			
Capesize	3987	+6	+6
Panamax	3218	+29	+15
Supramax	2833	+24	+16
<i>Baltic: Handysize Index (BHSI)**</i>	1656	+8	+25
IGC Grains and Oilseeds			
Freight Index (GOFI)	234	+16	+29

Source: Baltic Exchange, IGC. * 4 January 1985 = 1000. ** 23 May 2006 = 1000. *** 1 January 2013 = 100.

Volatility in Baltic Dry Index (HV20) 25 May 2021 - 25 May 2022



Note: Historical volatility, as measured by the standard deviation (%) of daily quotation movements over a 20-day window (HV20).

Sources: Baltic Exchange, IGC calculations.

suppliers, resulting in a notable increase in journey lengths and times, particularly in the Panamax sector. This included a shift in grains/oilseeds purchases from the Black Sea region to the Americas, as well as increased coal deliveries from Australia and South Africa to Europe.

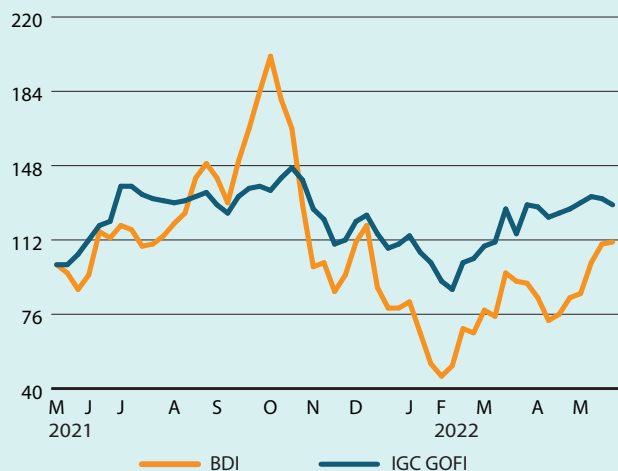
Although China (mainland)'s latest lockdown measures to contain the spread of COVID-19 raised concerns about the demand for vessels in Asia, the impact on regional freight rates was bullish as restrictions impacted the country's inland logistics and led to backlogs at ports, thereby contributing to reduced vessel turnaround rates and tighter tonnage availability.

Recent supply side developments have also supported freight prices, with industry sources indicating a 20 percent year-on-year lag in bulk carrier newbuilding deliveries in the first quarter of this year.

Total voyage costs on key grains and oilseeds routes (including marine fuel and other related expenses) also increased markedly over the period, with the IGC Grains and Oilseeds Freight Index (GOFI), a trade-weighted measure of freight values, up by 16 percent over the past six months. The GOFI's relatively larger annual growth compared to the BDI was partly linked to a surge in bunker prices, which reached a record level in early March 2022 on the back of rallying crude oil prices. Gains across constituent GOFI origins were led by Australia, which featured extremely tight port logistics, as well as the United

BDI and IGC GOFI 25 May 2021 - 25 May 2022

Rebased, 25 May 2021 = 100



Note: IGC Grains and Oilseeds Freight Index, constructed based on nominal freight rates on major grains/oilseeds routes using trade-weighted approach.
Source: Baltic Exchange, IGC

States of America and Brazil, amid sustained overseas demand for grains and oilseeds. However, underlying Black Sea values have been purely indicative in recent months owing to sharply reduced activity.

While prospects for the freight market are clouded by the risks posed by slower global economic growth, many analysts expect freight rates to remain at historically elevated levels in the near term due to potentially inflated fuel prices. At the same time, a shift to relatively longer shipping routes for some commodities should contribute to overall supply tightness in the dry bulk sector, which may also continue to experience congestion in some key areas. Furthermore, standards set by the International Maritime Organization to enhance efficiency and reduce greenhouse gas emissions, which are scheduled to take effect in November 2022, are expected to lead to increased ship retirement, while the envisaged additional costs of compliance could mean higher timecharter rates.

Elevated volatility was a remarkable market feature during the period under review, although some improvement has been noted in recent weeks, as levels receded to the lower end of the five-year range.

A modest 6 percent increase in average Capesize rates since last November masks sharp two-sided movements during the period. Weather-related logistical issues and port closures in China (mainland) buoyed the rates of the largest carriers in the fourth quarter of 2021, but a seasonal slowdown in activity saw segment earnings plummet towards the end of the year. With pressure on freight prices amplified by Indonesia's move to suspend coal exports, the corresponding Baltic sub-Index slipped

Baltic Capesize Index 25 May 2021 - 25 May 2022

Rebased, 25 May 2021 = 100



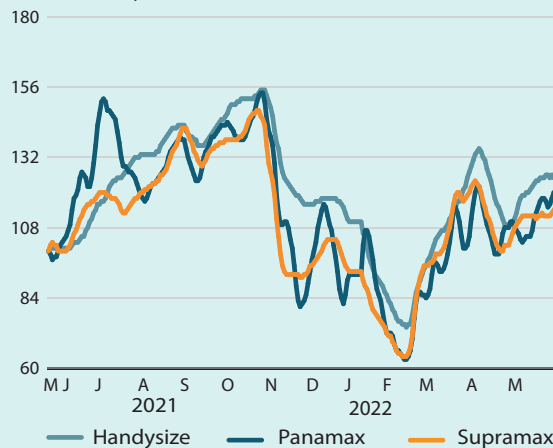
Source: Baltic Exchange

to a 1.5-year low by the end of January. While those restrictions were subsequently eased, additional support to prices in the following weeks stemmed from an upturn in Chinese (mainland) demand after the Lunar New Year holidays, including for iron ore. Although China (mainland)'s new COVID-19 restrictions, which were imposed in late March, slowed inland and port logistics, news that the country was on course to ease lockdowns in some areas has recently boosted freight market sentiment.

Although activity in the Black Sea fell sharply following the outbreak of hostilities in Ukraine in late February, the Capesize market has posted a sizable net increase since the turn of the year on brisk trading activity on

Grains and oilseeds carrying sectors: Panamax and Supramax sub-Indices and Handysize Index 25 May 2021 - 25 May 2022

Rebased, 25 May 2021 = 100



Source: Baltic Exchange

other major routes, including for coal deliveries from Australia to Europe.

Movements in the Panamax market were especially volatile during the past six months, when average values rose by more than one-quarter. Similar to the Capesize market, early-2022 losses were linked to restricted coal business from Indonesia and generally subdued activity in Asia due to seasonal festivities. This was coupled with reduced enquiries in the US Gulf and South America, the latter region featuring increasing vessel line-ups in Brazil amid seasonally-rising soyabean exports and slow deliveries to ports. Nonetheless, subsequent net advances in segment earnings were underpinned by resumed dispatches out of Indonesia, coupled with improving sentiment in the Americas, Australia and the northern Pacific, as traders tried to replace disrupted Black Sea grains volumes.

More recent support to prices came from solid coal imports by India amid tight domestic supplies and widespread electricity outages. However, the government's move to curb wheat exports due to deteriorating supply prospects proved to have the opposite effect, as a number of vessels was expected to relocate to the Atlantic following the decision, potentially exerting downward pressure on regional freight rates.

Timecharter assessments in the Supramax and Handysize markets demonstrated similar trends. With muted activity in Ukraine and the Russian Federation, the resulting relocation of tonnage from the Black Sea and the eastern Mediterranean to the northern Atlantic weighed on vessel earnings in the first quarter of 2022. However, that was countered by buoyant business and fleet shortages in Asia amid congestion at Chinese (mainland) ports, and, more recently, by fresh enquiries for bulk deliveries out of the US Gulf and South America, including grains/oilseeds-related movements.

Summary of freight rates on selected routes

USD/t	Cargo / Discharge	25 May 2022	Changes	
			6 months	y/y
US (Gulf) to:				
China (mainland), Dalian	66,000 / 8,000	77	22	24
EU, Rotterdam	66,000 / 10,000	43	14	43
Japan, Yokohama	66,000 / 8,000	74	21	22
Canada (St. Lawrence) to:				
China (mainland), Dalian	66 000 / 8 000	75	23	24
EU, Rotterdam	66 000 / 10 000	31	13	43
Japan, Yokohama	66 000 / 8 000	72	22	23
Argentina (Up river) to:				
Algeria, Bejaia	25 500 / 2 500	74	4	45
Egypt, Alexandria	49 000 / 6 000	63	8	40
EU, Rotterdam	66 000 / 10 000	53	15	45
Brazil (Santos) to:				
China (mainland), Dalian	66 000 / 8 000	73	24	26
EU, Rotterdam	66 000 / 10 000	45	15	47
South Korea, Incheon	66 000 / 7 250	73	25	26
EU (France, Rouen) to:				
Algeria, Bejaia	25 500 / 2 500	38	11	48
Egypt, Alexandria	49 000 / 6 000	38	14	69
Morocco, Casablanca	25 500 / 3 000	33	10	44
Russia (Novorossiysk) to:				
Egypt, Alexandria	49 000 / 6 000	32	-4	46
Morocco, Casablanca	25 500 / 3 000	43	15	58
Tunisia, Bizerte	25 500 / 2 500	39	14	59
Australia (Kwinana) to:				
China (mainland), Dalian	66 000 / 8 000	38	49	24
Indonesia, Jakarta	49 000 / 8 000	37	53	22
South Korea, Incheon	66 000 / 7 250	38	51	24

Note: Nominal ocean freight rates for HSS (heavy grains, soyabeans, sorghum) cargoes. Values do not represent market fixtures.

Source: IGC

Food import bills

Contributed by Josef Schmidhuber and Bing Qiao

Higher international food prices could lift global expenditures on imported food to USD 1.8 trillion in 2022, an all-time high but still a marked slowdown in growth from the previous year.

The world food import bill is forecast to reach another all-time high in 2022, surpassing USD 1.8 trillion, a near 3 percent increase, or USD 51 billion, from last year's record level. But the expansion in international food purchases will moderate significantly, considering that the increase from 2020 to 2021 amounted to almost 18 percent. The anticipated slowdown in growth in 2022 reflects higher food prices, depreciating currencies vis-à-vis the US Dollar as well as rising freights, all of which are expected to weigh on the purchasing power of importers and subsequently on the quantity of food imports.

Overall, in 2022, developed regions are foreseen to account for 60 percent of world expenditures on imported food and over 90 percent of global growth. The bulk of the increase in the world food import bill is expected to be cost-driven, reflecting record food prices that come on the back of surging input prices. Imports by developing¹ regions are expected to become increasingly responsive to soaring prices. Their imports are forecast to come to a near standstill in 2022, with an overall bill rising by just 1 percent. Slower growth or outright contractions are foreseen in the most vulnerable countries, where consumer expenditures are highly sensitive to rising prices, owing to low incomes. While Net Food-Importing Developing Countries (NFIDCs) and sub-Saharan Africa (SSA) could experience an increase of 1.0 percent and 2.8 percent, respectively, in their food import bills, Least Developed Countries (LDCs) are anticipated to undergo a 5 percent contraction in their 2022 food import bill from last year.

Higher import bills do not translate to higher inflows for vulnerable countries.

Decomposing food import bills to ascertain the extent to which higher prices and volumes are behind changes in expenditures, at the global level reveals that the anticipated increase in the 2022 import bill is almost entirely on

account of higher prices: USD 49 billion are due to higher international prices and merely USD 2 billion reflect higher volumes. The upshot is that higher import bills mainly reflect higher unit costs rather than higher volumes, with many regions set to face higher bills in return for lower volumes. Worryingly, this development is much more pronounced in economically vulnerable regions. Sub-Saharan Africa, for instance, is expected to spend USD 1.5 billion more on food imports, but could see a decline in volumes worth USD 0.9 billion. As for NFIDCs, with a forecast USD 1.3 billion in extra costs for importing food, volumes are anticipated to decline by a value of USD 2.2 billion. Similarly, LDCs are expected to see a contraction in their food import bill by USD 2.4 billion fully on account of lower volumes. These are alarming signs from a food security perspective, indicating that importers will find it difficult to finance rising international costs, potentially heralding an end of their resilience to higher prices.

Developed regions account for majority of the food import growth, while developing countries focus on imports of staple food items

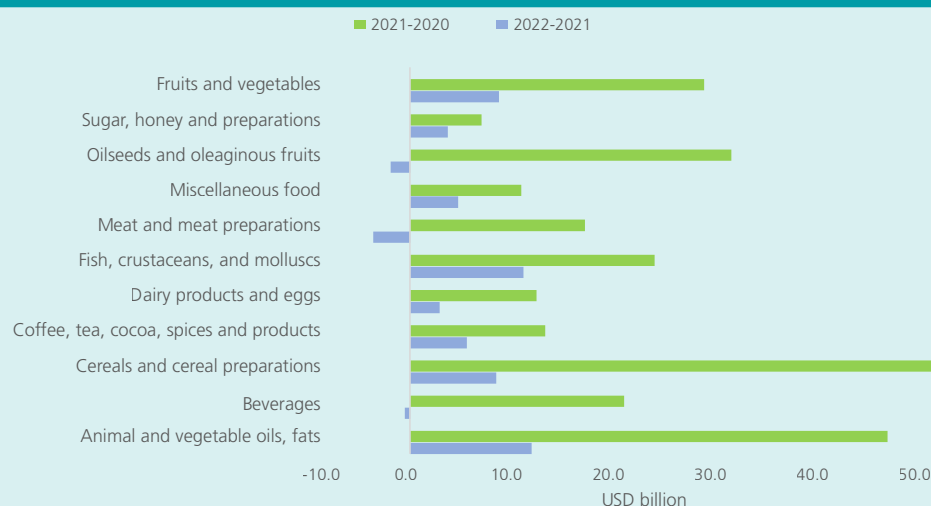
From a food group perspective, existing differences across importing regions are likely to become more pronounced in 2022. While developed countries continue purchasing across the entire spectrum of food products, the budgets of developing regions will be increasingly concentrated on importing staple foods, with shrinking inflows of high value products such as meat, beverages and oilseeds (see Figure 1).

Continued purchases of high price, high quality foods by developed regions reflects their generally low price responsiveness of food demand. The profile of imported foodstuffs by developing regions, dominated by staples, signals a further deterioration of dietary diversity and quality.

Overall, the year 2022 may usher in an era of lower resilience to higher food prices, notably by the poorer regions of the developing world. This would also signal a departure from the remarkable resilience that many countries displayed throughout the COVID-19 pandemic in terms of sustaining food imports. In response to these developments, FAO has proposed a Food Import Financing Facility (FIFF), which would provide balance-of-payment support to low-income, highly food import-dependent countries to ease their access to international food markets (see also the Special Feature article in this issue of Food Outlook).

¹ The aggregates for developed and developing regions have been maintained in this issue of Food Outlook for statistical purposes. Maintaining these particular groupings allows to provide comparable estimates of the size and composition of food import bills to those computed in last year's edition of this report.

Figure 1. Changes in the food import bill by food group



Source: FAO (EST) and Trade Data Monitor (TDM), authors' calculations

Table 1. Import bills of total food and food products by region (USD billion)

	World				Developed				Developing			
	2019	2020	2021	2022*	2019	2020	2021	2022*	2019	2020	2021	2022*
Animal and vegetable oils, fats	91.9	103.2	150.0	161.9	43.1	47.5	65.2	72.1	48.8	55.7	84.7	89.8
Beverages	119.7	113.0	133.9	133.4	92.9	90.1	104.7	105.3	26.8	22.9	29.2	28.1
Cereals and cereal preparations	190.4	203.5	255.5	263.9	91.3	93.4	107.1	117.0	99.1	110.1	148.4	147.0
Coffee, tea, cocoa, spices and products	110.7	113.1	126.3	131.9	82.5	84.3	92.9	98.8	28.2	28.8	33.4	33.0
Dairy products and eggs	94.7	95.5	107.9	110.8	62.3	61.4	68.1	69.0	32.4	34.1	39.8	41.8
Fish, crustaceans, and molluscs	165.8	152.1	176.0	187.1	122.7	114.8	133.9	140.2	43.2	37.3	42.1	47.0
Meat and meat preparations	153.2	159.7	176.9	173.3	104.2	99.3	108.8	110.5	48.9	60.4	68.1	62.8
Miscellaneous food	99.3	104.3	115.2	119.9	58.3	60.7	67.4	70.1	41.0	43.7	47.8	49.8
Oilseeds and oleaginous fruits	92.2	102.5	133.9	132.0	28.8	31.5	39.1	43.6	63.4	71.0	94.9	88.4
Sugar, honey and preparations	45.3	49.8	56.8	60.5	24.1	24.6	27.8	30.0	21.2	25.2	29.0	30.5
Fruits and vegetables	284.8	294.7	323.5	332.2	207.0	213.7	229.2	234.8	77.8	80.9	94.3	97.4
Total	1 448.0	1 491.5	1 756.0	1 807.0	917.1	921.3	1 044.2	1 091.4	530.9	570.2	711.7	715.6
	LDCs				NFIDCs				SSA			
	2019	2020	2021	2022*	2019	2020	2021	2022*	2019	2020	2021	2022*
Animal and vegetable oils, fats	5.0	5.8	8.1	8.1	10.8	12.6	18.8	16.8	5.0	6.1	8.0	10.5
Beverages	1.6	1.7	1.7	1.5	3.3	3.1	4.0	4.3	3.0	2.0	2.8	2.7
Cereals and cereal preparations	12.1	13.1	16.7	15.8	32.2	34.9	41.2	43.7	15.8	16.9	19.5	19.6
Coffee tea cocoa spices and products	1.4	1.2	1.5	1.5	5.4	5.4	6.1	6.6	1.5	1.5	1.7	1.7
Dairy products and eggs	1.5	1.6	1.9	2.2	5.5	5.6	6.2	6.3	2.4	2.2	2.6	2.6
Fish, crustaceans, and molluscs	1.4	1.1	1.4	1.4	5.4	5.0	5.2	5.2	4.2	3.7	4.5	4.4
Meat and meat preparations	1.5	1.6	2.3	2.3	7.6	6.6	6.6	7.0	3.2	2.6	3.2	3.2
Miscellaneous food	3.0	3.5	4.0	3.9	7.2	7.7	8.8	9.0	4.0	4.1	4.9	4.6
Oilseeds and oleaginous fruits	0.7	0.6	1.8	1.5	7.0	7.5	10.2	11.0	0.2	0.2	0.3	0.3
Sugar, honey and preparations	3.2	3.6	4.3	2.8	6.2	6.5	8.0	7.0	4.2	3.6	4.3	3.7
Fruits and vegetables	4.3	4.0	4.4	4.7	10.3	11.0	11.9	11.4	3.0	2.9	3.2	3.3
Total	35.7	37.9	48.2	45.8	100.9	106.0	127.0	128.3	46.6	46.0	54.9	56.4

Source: FAO (EST) and Trade Data Monitor (TDM), authors' calculations* Forecast based on early 2022 data

Table 2. Decomposition of changes in food product bills for global aggregates, 2022 over 2021

Food group	World				Developed				Developing			
	Price effect	Volume effect	Mixed effect	Observed change	Price effect	Volume effect	Mixed effect	Observed change	Price effect	Volume effect	Mixed effect	Observed change
	<----- USD billion ----->											
Animal and vegetable oils, fats	11.4	0.5	-0.1	11.9	5.7	0.9	0.2	6.9	5.7	-0.4	-0.3	5.0
Beverages	-0.1	-0.4	-0.1	-0.5	-0.1	0.7	0.0	0.6	-0.1	-1.0	-0.1	-1.1
Cereals and cereal preparations	9.1	-0.7	0.0	8.4	6.1	3.5	0.3	9.9	3.1	-4.4	-0.2	-1.4
Coffee, tea, cocoa, spices and products	4.6	0.9	0.0	5.6	4.5	1.4	0.1	5.9	0.1	-0.4	0.0	-0.4
Dairy products and eggs	4.2	-1.2	0.0	2.9	1.4	-0.5	0.0	0.9	2.8	-0.7	0.0	2.0
Fish, crustaceans, and molluscs	8.1	2.6	0.3	11.1	5.2	0.9	0.2	6.3	2.9	1.7	0.2	4.8
Meat and meat preparations	4.3	-7.7	-0.2	-3.6	-0.1	1.6	0.1	1.7	4.8	-9.3	-0.8	-5.3
Miscellaneous food	1.5	3.2	-0.1	4.7	1.2	1.5	0.0	2.7	0.3	1.7	0.0	2.0
Oilseeds and oleaginous fruits	0.8	-2.5	-0.2	-1.9	3.4	1.2	0.0	4.6	-2.9	-3.5	-0.1	-6.5
Sugar, honey and preparations	1.6	2.0	0.1	3.7	1.0	1.1	0.0	2.1	0.6	0.9	0.0	1.6
Fruits and vegetables	3.7	5.0	0.0	8.7	2.2	3.3	0.0	5.6	1.4	1.8	-0.1	3.1
Total	49.3	1.8	-0.1	51.0	30.7	15.5	1.0	47.2	18.7	-13.6	-1.3	3.8
	LDCs				NFDCs				SSA			
	<----- USD million ----->											
Animal and vegetable oils, fats	-70	-93	153	-11	-111	-1 750	-126	-1 987	1 346	896	248	2 490
Beverages	-31	-122	3	-150	28	273	-9	292	43	-106	-5	-67
Cereals and cereal preparations	161	-1 057	-6	-903	2 213	366	-99	2 480	500	-456	13	57
Coffee tea cocoa spices and products	43	8	1	52	197	251	4	452	36	-10	-1	26
Dairy products and eggs	93	204	13	310	282	-140	-5	137	95	-80	-4	11
Fish, crustaceans, and molluscs	5	-47	-10	-52	202	-141	-13	48	133	-218	-20	-105
Meat and meat preparations	105	-69	12	48	121	311	-34	398	69	-122	2	-51
Miscellaneous food	20	-102	-1	-83	52	138	-3	187	-43	-250	-11	-304
Oilseeds and oleaginous fruits	-86	-272	35	-323	448	564	-170	841	9	-48	-13	-53
Sugar, honey and preparations	-138	-1 428	23	-1 542	-16	-1 021	-10	-1 047	28	-602	-20	-595
Fruits and vegetables	33	193	6	232	671	-1 092	-83	-504	38	80	3	122
Total	135	-2 786	229	-2 422	4 087	-2 241	-548	1 298	2 255	-916	192	1 531

Source: FAO (EST) and Trade Data Monitor (TDM), authors' calculations* Forecast based on early 2022 data

FAO price indices¹

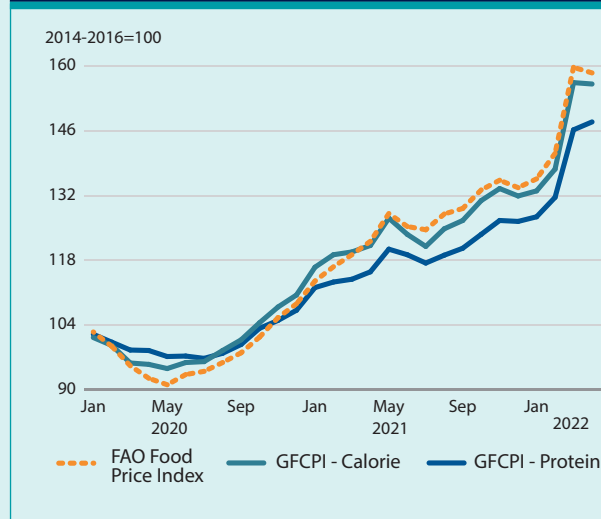
The FAO Global Food Consumption Price Indices²

The **FAO Global Food Consumption Price Indices (FGFCPIs)** track monthly changes in the international prices of a basket of food commodities. The FGFCPIs include the five food commodity groups that comprise the FAO Food Price Index (FFPI) as well as oilseeds and fish among their components. Aside from their comparatively broader commodity coverage, the FGFCPIs differ from the FFPI in that they weigh the individual commodity groups that compose them by their respective contribution to average global caloric intake (Calorie-base FGFCPI), or to average protein uptake (Protein-base FGFCPI) during the 2014–2016 base period. These weights are derived from the FAO food balance sheets (<http://www.fao.org/faostat/en/#data/FBS>).

Excepting a temporary lapse in December 2021, the Calorie-base FGFCPI rose steadily between October 2021 and March 2022 and has stabilized at an all-time nominal high of close to 156 points since then. This trend positioned the April 2022 value of the index 28.7 percent above its – already elevated – level in April 2021. Few of the commodities encompassed by the Calorie-base FGFCPI have eluded significant upward gains over the past year. This has been most notably the case for rice quotations, which remained 4.7 percent below their year-earlier levels in April, and pig and ovine meat prices, which registered more moderate increases of around 6 percent, each. For all other commodities, year-to-year price gains have been substantial, ranging from a minimum of 18.9 percent (for poultry meat) to up to 57.3 percent (for wheat). The 34.8 point year-to-year rise in the value of the Calorie-base FGFCPI registered through April 2022 reflects these nearly across-the-board increases, although given its proportionally-higher contribution to global calorie intake and the greater price hikes the commodity has registered, wheat has accounted for much of the increase.

Wheat quotations have also spearheaded recent increases in the Protein-base FGFCPI, underscoring the dual importance of the commodity as a global source of energy and protein. Since September 2021, the Protein-base FGFCPI has generally followed the path of its sister indices (the Calorie-base FGFCPI and the FAO Food Price

The FAO Global Food Consumption and Food Price Indices



Index). It only discernably departed from them in April 2022, when increases in meat, dairy and fish prices tended to overshadow the loss of upward momentum in grain and oilcrop prices. This resulted in the Protein-base FGFCPI reaching an average of 147.9 points in April 2022, which was 28.0 percent above its level a year-earlier and represented a fresh nominal peak.

The FAO Food Price Index³

The **FAO Food Price Index (FFPI)** (FFPI) averaged 157.4 points in May 2022, down 0.9 points (0.6 percent) from April, marking the second consecutive monthly decline, though still 29.2 points (22.8 percent) above its value in the corresponding month last year. The drop in May was led by declines in the vegetable oil and dairy price indices, while the sugar price index also fell to a lesser extent. Meanwhile, cereal and meat price indices increased.

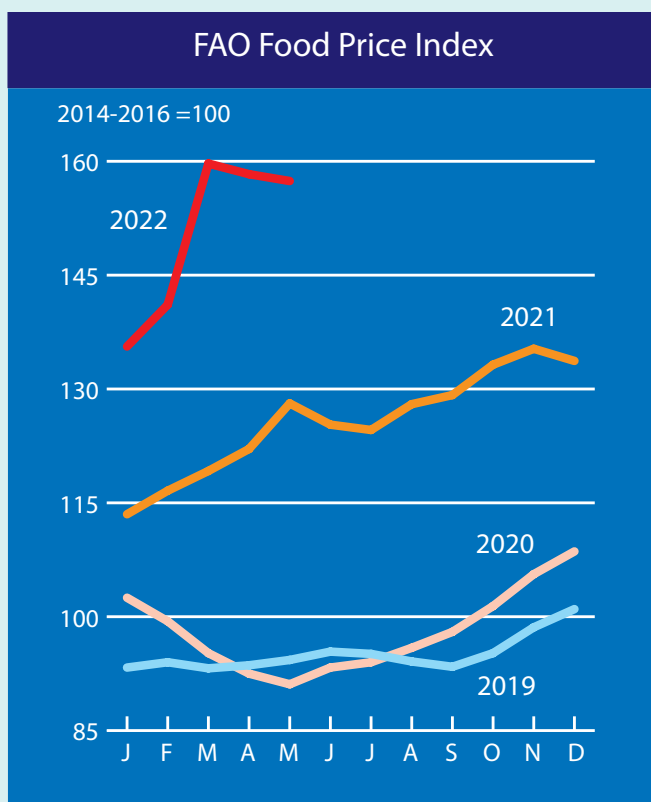
The **FAO Cereal Price Index** averaged 173.4 points in May, up 3.7 points (2.2 percent) from April and as much as 39.7 points (29.7 percent) above its May 2021 value. International wheat prices rose for a fourth consecutive month, up 5.6 percent in May, to average 56.2 percent

¹ All changes referred to in this section, in absolute or percentage terms, are calculated based on unrounded figures.

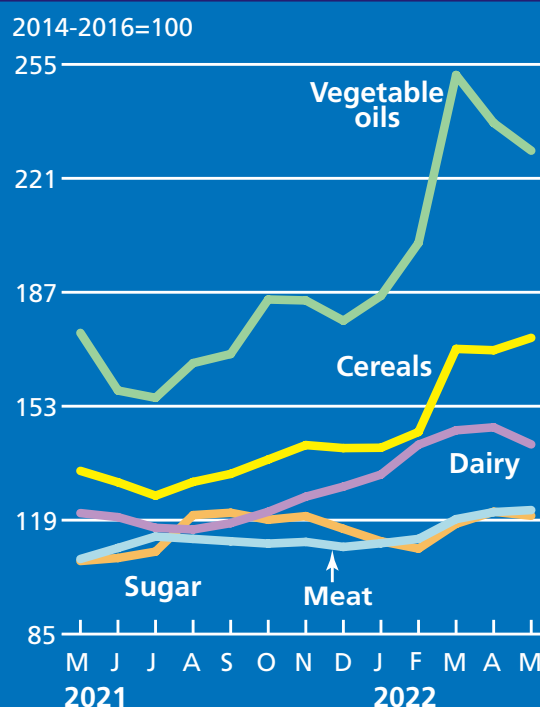
² The FAO Global Food Consumption Price Indices are published twice a year in *Food Outlook*.

³ The FAO food price index and its sub-indices are updated on a monthly basis and are available on: <http://www.fao.org/worldfoodsituation>

above their value last year and only 11 percent below the record high reached in March 2008. The steep increase in wheat prices was in response to an export ban imposed by India amidst concerns over crop conditions in several leading exporting countries, as well as reduced production prospects in Ukraine because of the war. By contrast, international coarse grain prices declined by 2.1 percent in May but remained 18.1 percent above their value a year ago. Slightly improved crop conditions in the United States of America, seasonal supplies in Argentina and the imminent start of Brazil's main maize harvest led maize prices to decline by 3.0 percent; however, they remained 12.9 percent above their level of May 2021. Similarly, international sorghum prices also fell in May, declining by 3.1 percent, while spillover from the strength in wheat markets and concerns over crop conditions in the European Union boosted barley prices by 1.9 percent. International rice prices increased for the fifth successive month in May. Quotations strengthened in all the major market segments, but monthly increases were least pronounced (2.6 percent) for the most widely traded Indica varieties, amid ample supplies, especially in India.



FAO Food Commodity Price Indices



The **FAO Vegetable Oil Price Index** averaged 229.3 points in May, down 8.3 points (3.5 percent) month-on-month, yet remaining markedly above its year-earlier level. The monthly decline mainly reflects lower prices across palm, sunflower, soy, and rapeseed oils. International palm oil prices weakened moderately in May. Apart from demand rationing, the removal of Indonesia's short-lived export ban on palm oil exerted additional downward pressure on prices, although a further price drop was contained by lingering uncertainties over the country's export prospects. Meanwhile, world price quotations for sunflower oil fell from recent record highs, with stocks continuing to accumulate in Ukraine owing to logistical bottlenecks. International soy and rapeseed oil prices also declined somewhat in May, chiefly weighed by sluggish import demand in view of elevated costs in recent months.

The **FAO Dairy Price Index** averaged 141.6 points in May, down 5.1 points (3.5 percent) from April, marking the first decline after eight consecutive monthly increases, but still 20.5 points (16.9 percent) higher than its level in May of last year. World prices of all milk products fell, with milk powders declining the most, underpinned by lower buying interests on market uncertainties stemming from

⁴ Unlike for other commodity groups, most prices utilized in the calculation of the FAO Meat Price Index are not available when the FAO Food Price Index is computed and published; therefore, the value of the Meat Price Index for the most recent months is derived from a mixture of projected and observed prices. This can, at times, require significant revisions in the final value of the FAO Meat Price Index which could in turn influence the value of the FAO Food Price Index.

the continued lockdown in China, despite the persistent global supply tightness. Butter prices also dropped significantly due to weaker import demand in tandem with some improvements to supplies from Oceania and limited internal sales in Europe. Meanwhile, robust retail sales and high demand from restaurants ahead of the summer holidays in the Northern Hemisphere prevented cheese prices from falling significantly, despite weakened global import demand.

The **FAO Meat Price Index**⁴ averaged 122.0 points in May, up 0.6 points (0.5 percent) from April, setting a new all-time high, driven by a steep rise in world poultry meat prices, more than offsetting declines in pig and ovine meat values. In May, poultry meat prices rose, reflecting the continued supply chain disruptions in Ukraine and recent cases of avian influenza amid a surge in demand in Europe and the Middle East. Meanwhile, international bovine meat prices remained stable, as increased supplies from Brazil and Oceania were adequate to meet persistently

high global demand. By contrast, world pig meat prices fell on high export availabilities, especially in Western Europe, amid lacklustre internal demand and expectations for releasing pig meat from the EU Commission's Private Storage Aid scheme.

The **FAO Sugar Price Index** averaged 120.3 points in May, down 1.3 points (1.1 percent) from April, marking the first decline after sharp increases registered in the previous two months. The recent monthly decline in international sugar price quotations was triggered by limited global import demand and good global availability prospects, mostly stemming from a bumper crop in India. The weakening of the Brazilian Real against the US dollar and lower ethanol prices resulted in further downward pressure on world sugar prices. However, uncertainties over the current season's outturn in Brazil, the world's largest sugar exporter, prevented more substantial price declines.

FAO Food Price Index

		Food Price Index ¹	Meat ²	Dairy ³	Cereals ⁴	Vegetable Oils ⁵	Sugar ⁶
2004		65.6	67.6	69.8	64.0	69.6	44.3
2005		67.4	71.8	77.2	60.8	64.4	61.2
2006		72.6	70.5	73.1	71.2	70.5	91.4
2007		94.3	76.9	122.4	100.9	107.3	62.4
2008		117.5	90.2	132.3	137.6	141.1	79.2
2009		91.7	81.2	91.4	97.2	94.4	112.2
2010		106.7	91.0	111.9	107.5	122.0	131.7
2011		131.9	105.3	129.9	142.2	156.5	160.9
2012		122.8	105.0	111.7	137.4	138.3	133.3
2013		120.1	106.2	140.9	129.1	119.5	109.5
2014		115.0	112.2	130.2	115.8	110.6	105.2
2015		93.0	96.7	87.1	95.9	89.9	83.2
2016		91.9	91.0	82.6	88.3	99.4	111.6
2017		98.0	97.7	108.0	91.0	101.9	99.1
2018		95.9	94.9	107.3	100.8	87.8	77.4
2019		95.1	100.0	102.8	96.6	83.2	78.6
2020		98.1	95.5	101.8	103.1	99.4	79.5
2021		125.7	107.7	119.1	131.2	164.9	109.3
2021	May	128.1	107.4	121.1	133.7	174.9	106.8
	June	125.3	110.7	119.9	130.3	157.7	107.7
	July	124.6	114.1	116.7	126.3	155.5	109.6
	August	128.0	113.4	116.2	130.4	165.9	120.5
	September	129.2	112.7	118.1	132.8	168.6	121.2
	October	133.2	112.0	121.5	137.1	184.8	119.1
	November	135.3	112.5	126.0	141.4	184.6	120.2
	December	133.7	111.0	129.0	140.5	178.5	116.4
2022	January	135.6	112.1	132.6	140.6	185.9	112.7
	February	141.1	113.4	141.5	145.3	201.7	110.5
	March	159.7	119.3	145.8	170.1	251.8	117.9
	April	158.3	121.4	146.7	169.7	237.5	121.5
	May	157.4	122.0	141.6	173.4	229.3	120.3

1 Food Price Index: Consists of the average of 5 commodity group price indices mentioned above, weighted with the average export shares of each of the groups for 2014-2016: in total 95 price quotations considered by FAO commodity specialists as representing the international prices of the food commodities are included in the overall index. Each sub-index is a weighted average of the price relatives of the commodities included in the group, with the base period price consisting of the averages for the years 2014-2016.

2 Meat Price Index: Based on 35 average export unit values/market prices of four meat types (bovine, pig, poultry and ovine) from 10 representative markets. Within each meat type, export unit values/prices are weighted by the trade shares of their respective markets, while the meat types are weighted by their average global export trade shares for 2014-2016. Quotations for the two most recent months may consist of estimates and be subject to revision.

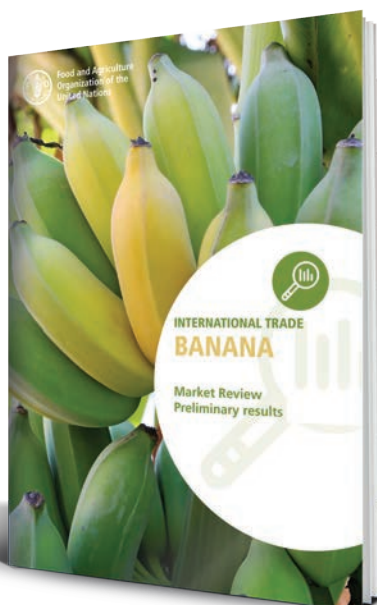
3 Dairy Price Index: Computed using 8 price quotations of four dairy products (butter, cheese, SMP and WMP) from two representative markets. Within each dairy product, prices are weighted by the trade shares of their respective markets, while the dairy products are weighted by their average export shares for 2014-2016.

4 Cereals Price Index: Compiled using the International Grains Council (IGC) wheat price index (an average of 10 different wheat price quotations), the IGC maize price index (an average of 4 different maize price quotations), the IGC barley price index (an average of 5 different barley price quotations), 1 sorghum export quotation and the FAO All Rice Price Index. The FAO All Rice Price Index is based on 21 rice export quotations, combined into four groups consisting of Indica, Aromatic, Japonica and Glutinous rice varieties. Within each varietal group, a simple average of the relative prices of appropriate quotations is calculated; then the average relative prices of each of the four rice varieties are combined by weighting them with their (fixed) trade shares for 2014-2016. The Cereal Price Index combines the relative prices of sorghum, the IGC wheat, maize and barley price indices (re-based to 2014-2016) and the FAO All Rice Price Index by weighing each commodity with its average export trade share for 2014-2016.

5 Vegetable Oils Price Index: Consists of an average of 10 different oils weighted with average export trade shares of each oil product for 2014-2016.

6 Sugar Price Index: Index form of the International Sugar Agreement prices with 2014-2016 as base.

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The **Banana Market Review** is issued on an annual basis to Members and Observers of the Sub-Group on Tropical Fruits of the Intergovernmental Group on Bananas and Tropical Fruits and offers an overview of recent developments in international trade in mangoes, pineapples, avocados, and papayas.

Published: May 2022

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