



Food and Agriculture  
Organization of the  
United Nations

# Food Outlook

BIANNUAL REPORT ON GLOBAL FOOD MARKETS



November 2019

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# Contents

## MARKETS AT A GLANCE 1–10

Wheat .....	3
Coarse grains .....	4
Rice .....	5
Oilcrops, oils and meals .....	6
Sugar .....	7
Meat and meat products .....	8
Milk and milk products .....	9
Fish and fishery products .....	10

## COMMODITY FOCUS 12–20

Banana Fusarium Wilt Tropical Race 4: A mounting threat to global banana markets? .....	12
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## MAJOR POLICY DEVELOPMENTS 22–51

Grains .....	23
Rice .....	30
Oilcrops .....	34
Meat .....	46
Dairy .....	50

## STATISTICAL TABLES 52–89

## MARKET INDICATORS 90–100

Futures markets .....	91
Ocean freight rates .....	95
The FAO price indices .....	97

**Food Outlook** is published twice a year. The first report of the year, published in May or June, provides comprehensive supply and demand assessments on a commodity by commodity basis. As of 2018, the second report, which is normally published in November, contains market summaries (Markets At A Glance) and a section dedicated to more in-depth analysis of a topical issue (Commodity Focus).



**Banana Fusarium Wilt - Supply shortages and higher prices by 2028?**



# MARKETS AT A GLANCE

# WHEAT

Global wheat supply is forecast to recover in 2019/20, as reflected in persistent low international prices since the start of this year. At around 765.0 million tonnes, the latest FAO forecast for world wheat production in 2019 confirms the earlier projection of a strong rebound from 2018 to a new record high. An expected production recovery in the EU constitutes the bulk of the year-on-year increase in world production. However, much bigger harvests than last year are also foreseen in other top producing countries, including the Russian Federation, Ukraine and the United States.

Total wheat utilization in 2019/20 is set to reach 759.5 million tonnes, 1.5 percent higher than in 2018/19. Total food use of wheat is forecast to approach 518 million tonnes, up 1.1 percent and rising in close tandem with world population growth. However, large supplies and competitive prices are likely to drive up feed use of wheat by 2.8 percent, a faster rate than was projected earlier, while industrial use is also anticipated to register strong growth.

Based on the latest production and utilization forecasts for 2019/20, global wheat inventories could climb to almost 275 million tonnes, the second highest level on record. If realized, stocks would be up 1.9 percent from their opening levels. However, most of the projected accumulation of world wheat stocks is expected to occur in China, where carryovers could increase by 8 percent to 129.0 million tonnes. While inventories in the EU and India are also expected to expand, notable declines are anticipated in Australia, the Russian Federation, Pakistan, Morocco and Turkey.

At around 172 million tonnes, the forecast for global wheat trade in 2019/20 (July/June) has been trimmed slightly in recent months, but still up from the 2018/19 reduced level. Larger wheat imports by drought-affected Morocco and higher purchases by several countries in Asia account for most of the forecast expansion in world trade. On the export side, while the Russian Federation is seen maintaining its position as the world's largest wheat exporter, its overall wheat sales in 2019/20 could fall short of the previous season, in view of stiffer competition from other major exporters.

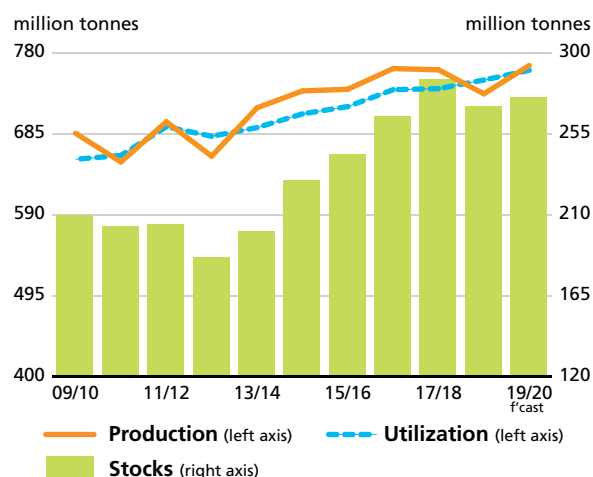
For additional analyses and updates, see:

FAO Cereal Supply and Demand Brief  
<http://www.fao.org/worldfoodsituation>  
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## WHEAT PRODUCTION, UTILIZATION AND STOCKS



## WORLD WHEAT MARKET AT A GLANCE

	2017/18	2018/19 estim.	2019/20 f'cast		Change: 2019/20 over 2018/19
			May	Nov	
	million tonnes				%
WORLD BALANCE					
Production	760.0	731.9	767.0	765.0	4.5
Trade <sup>1</sup>	177.4	168.2	173.5	172.1	2.3
Total utilization	737.9	748.0	756.9	759.5	1.5
Food	509.0	512.5	519.4	517.8	1.1
Feed	137.2	140.5	143.6	144.4	2.8
Other uses	91.6	95.1	94.0	97.2	2.3
Ending stocks <sup>2</sup>	284.5	269.8	278.0	274.9	1.9
SUPPLY AND DEMAND INDICATORS					
Per caput food consumption:					
World (kg/yr)	67.4	67.1	67.3	67.1	0.0
LIFDC (kg/yr)	49.0	49.1	49.0	49.0	-0.2
World stocks-to-use ratio (%)	38.0	35.5	36.2	35.7	
Major exporters stocks-to-disappearance ratio <sup>3</sup> (%)	21.0	17.4	18.7	16.8	
FAO WHEAT PRICE INDEX <sup>4</sup> (2002–2004=100)	2017	2018	2019 Jan-Oct		%Change Jan/Oct 2019 over Jan/Oct 2018
	133	148	143		-3.1

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

<sup>2</sup> May not equal the difference between supply (defined as production plus carryover stocks) due to differences in individual country marketing years.

<sup>3</sup> Major exporters include Argentina, Australia, Canada, EU, Kazakhstan, Russian Fed., Ukraine and United States of America.

<sup>4</sup> Derived from the International Grains Council (IGC) wheat index.

# COARSE GRAINS

The global market of coarse grains in 2019/20 is set to tighten for a second consecutive season, despite an anticipated production recovery from the 2018 slump. Total production of coarse grains is forecast to reach at least 1 425 million tonnes in 2019, the second highest level on record, mostly underpinned by an increase in barley production (of 13.4 million tonnes). With record level maize production in Argentina and Brazil offsetting a poor harvest in the United States, global maize production is also set to increase, but only marginally (5 million tonnes).

Coarse grain total utilization in 2019/20 is expected to remain close to the 2018/19 level as strong growth in barley utilization, increasing by almost 5 percent from 2018/19, is likely to be countered by declining sorghum consumption, while maize use is expected to remain stable. For the first time in almost a decade, a contraction in feed use of coarse grains, especially maize, is likely in 2019/20. This is mostly because of a sharp anticipated drop in the feed use of maize in the United States from a record high level in 2018/19. In addition, maize use for feed is expected to be negatively influenced in several Asian countries, especially China because of the devastating impact of the African Swine Fever (ASF) on pig herds.

With consumption outweighing overall supplies for a second consecutive season, coarse grain inventories are forecast to fall again in 2019/20 (by 4 percent). China's continued destocking, and a significant stock drawdown in the United States following a poor harvest, may result in a 25 million tonne contraction in global maize stocks. Reflecting this decline, the world coarse grains stocks-to-use and major exporters' stocks-to-disappearance (defined as domestic consumption plus exports) ratios will decrease.

World trade in coarse grains in 2019/20 (July/June) is forecast to drop from the 2018/19 record, weighed down by a decline in maize trade on lower import demand especially in the EU. Reduced maize shipments from the United States, in part driven by a likely decline in this year's production, and Ukraine are expected to be only partially offset by significant increases in maize exports from Argentina and Brazil. By contrast, increased import demand for barley in North Africa and Saudi Arabia is likely to be met by larger barley exports from Ukraine and the EU, boosting barley trade by almost 9 percent over 2018/19 levels.

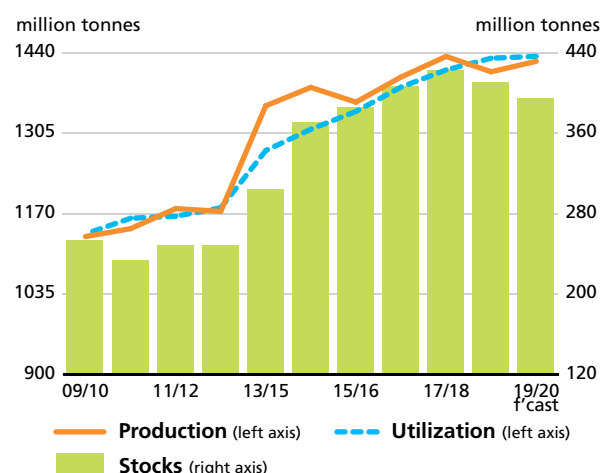
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## COARSE GRAIN PRODUCTION, UTILIZATION AND STOCKS



## WORLD COARSE GRAIN MARKET AT A GLANCE

	2017/18	2018/19 estim.	2019/20 f'cast		Change: 2019/20 over 2018/19
			May	Nov	
million tonnes					%
WORLD BALANCE					
Production	1 433.7	1 407.9	1 438.3	1 425.5	1.2
Trade <sup>1</sup>	196.6	197.8	190.8	195.3	-1.2
Total utilization	1 411.0	1 430.7	1 447.0	1 433.9	0.2
Food	211.7	216.2	216.9	216.4	0.1
Feed	796.2	806.4	812.1	805.0	-0.2
Other uses	403.1	408.0	418.0	412.5	1.1
Ending stocks <sup>2</sup>	421.8	409.4	390.5	393.6	-3.9
SUPPLY AND DEMAND INDICATORS					
Per caput food consumption:					
World (kg/yr)	28.0	28.3	28.1	28.1	-0.7
LIFDC (kg/yr)	36.5	37.1	36.4	36.3	-2.2
World stocks-to-use ratio (%)	29.5	28.6	25.7	26.2	
Major exporters stocks-to-disappearance ratio <sup>3</sup> (%)	15.7	15.3	14.2	14.9	
FAO COARSE GRAIN PRICE INDEX (2002–2004=100)	2017	2018		2019 Jan-Oct	%Change Jan/Oct 2019 over Jan/Oct 2018
	146	156		162	3.7

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

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

<sup>3</sup> Major exporters include Argentina, Australia, Brazil, Canada, EU, Russian Fed., Ukraine and United States of America.



An erratic unfolding of the northern hemisphere spring and summer rains has deteriorated the outlook for global rice production since May, providing modest support to international rice prices in an otherwise quiet trading environment.

Based on the latest forecasts, global rice production in 2019 is set to fall 0.8 percent below the 2018 all-time high. Much of this decline is expected to occur outside Asia, particularly in Australia, Brazil, Nigeria and the United States, often as a result of adverse weather, compounding diminished producer margins. On the other hand, Asia appears headed towards another abundant harvest, with anticipation that a shortfall in China and a slight reduction in India would be largely compensated by output expansions elsewhere in the region.

Prospects of a strong trade recovery in 2020 have been tempered by expectations that ample local availabilities will keep import demand in Asian countries subdued for another year. Nonetheless, global rice flows in 2020 are still forecast to exceed their 2019 level, as imports are anticipated to expand in all other regions. This is the case of Africa in particular, where countries such as Guinea, Senegal and Nigeria would need to purchase more to compensate for reduced production levels. With the exception of Australia, Brazil and Thailand, all traditional rice suppliers are expected to boost exports in 2020, although the largest increases are predicted for India and China. Indeed, continued growth in Chinese rice exports in 2020 could essentially eliminate the trade imbalance that China has had since emerging as a net importer of rice in 2011.

Growth in the food use of rice is predicted to slightly outpace population growth in 2019/20, lifting global utilization to a level that exceeds expected production. As a result, world rice inventories at the close of 2019/20 marketing seasons could decline, albeit to a level that would still stand out as the second highest on record. Rice importers are envisaged to account for all the stock drawdown, led by reductions in China and, to a lesser extent, Bangladesh and Indonesia. By contrast, reserves held by the five major exporting countries could rise to a five-year high, primarily on the back of another foreseen build-up in India.

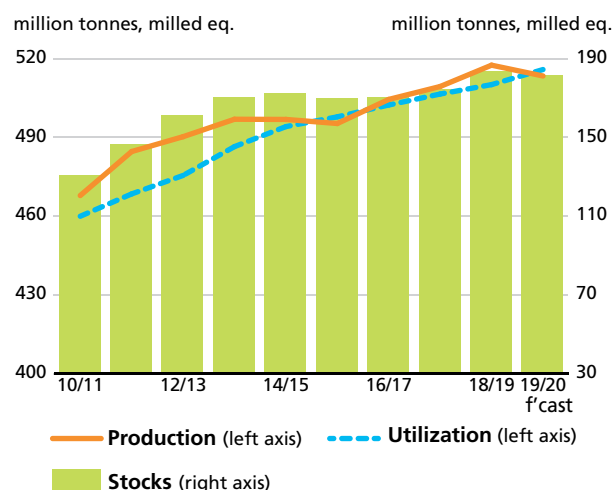
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## RICE PRODUCTION, UTILIZATION AND STOCKS



## WORLD RICE MARKET AT A GLANCE

	2017/18	2018/19 estim.	2019/20 f'cast		Change: 2019/20 over 2018/19
			May	Nov	
	million tonnes				%
WORLD BALANCE					
Production	509.4	517.5	516.8	513.4	-0.8
Trade <sup>1</sup>	48.4	46.2	48.9	47.7	3.1
Total utilization	506.5	510.1	518.5	515.9	1.1
Food	406.5	410.8	418.7	417.8	1.7
Ending stocks <sup>2</sup>	174.1	183.1	178.7	180.9	-1.2
SUPPLY AND DEMAND INDICATORS					
Per caput food consumption:					
World (kg/yr)	53.8	53.8	54.3	54.2	0.6
LIFDC (kg/yr)	57.3	57.1	58.1	57.8	1.1
World stocks-to-use ratio (%)	34.1	35.5	34.0	34.6	
Major exporters stocks-to-disappearance ratio <sup>3</sup> (%)	18.2	22.4	21.1	22.7	
FAO RICE PRICE INDEX (2002–2004=100)	2017	2018		2019 Jan-Oct	%Change Jan/Oct 2019 over Jan/Oct 2018
	206	224		224	-1.0

<sup>1</sup> Calendar year exports (second year shown).

<sup>2</sup> May not equal the difference between supply (defined as production plus carryover stocks) due to differences in individual country marketing years.

<sup>3</sup> Major exporters include India, Pakistan, Thailand, United States of America and Viet Nam.

# OILCROPS

FAO's preliminary forecasts for the 2019/20 season point to relatively balanced markets for oilseeds and derived products.

After reaching an all-time high in 2018/19, global oilseed production is anticipated to contract for the first time since 2015/16, mostly reflecting expected declines in soybean and rapeseed outputs that would outweigh foreseen gains in other oilcrops. Soybean production could fall short of last season's record level, largely as a result of both a contraction in plantings and lower yields in the United States, amid unattractive production margins and unfavourable weather conditions. Regarding rapeseed, uncertain export prospects contained plantings in Canada, while in the EU and Australia, harvests have been compromised by prolonged dryness. As for palm oil, global production could slow, tied to a deceleration in area expansion and modest yield prospects in Indonesia and Malaysia.

On the demand side, global meal utilization is forecast to resume growth, albeit timidly – after being severely affected by the outbreaks of African Swine Fever (ASF) in 2018/19. Oils/fats consumption is also poised to expand at a below-average rate, reflecting generally stagnant economic growth and more moderate uptake by the biodiesel sector. However, based on current forecasts, global utilization of meals and oils would still outstrip production, triggering sizeable year-on-year drawdowns in meal/oil reserves. Despite the predicted tightening in global carry-over stocks, major exporters' stock-to-disappearance ratios still point to a comfortable market situation.

International trade in meals and oils is expected to continue expanding in 2019/20, though at a relatively low rate, underpinned by the predicted slowdowns in global utilization and reductions in exportable supplies. Ongoing trade tensions between individual countries are poised to continue affecting markets for oilcrops and derived products, adding uncertainty to the market outlook.

Looking ahead, prices in the coming months will be influenced by weather conditions in South America and Southeast Asia, the evolution of the ASF epidemic, implementation of domestic biodiesel policies, and trade policy developments. Should the current forecasts of sizeable drawdowns in global inventories materialize, prices of products in the oilcrops complex could gain ground compared with recent multi-year lows.

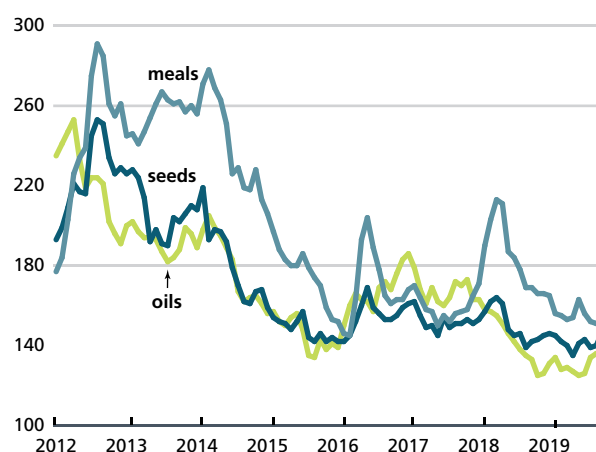
## For additional analyses and updates, see:

Oilcrops Monthly Price and Policy Update  
<http://www.fao.org/economic/est/publications/oilcrops-publications/monthly-price-and-policy-update/>  
 AMIS Market Monitor  
<http://www.amis-outlook.org/amis-monitoring>

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## FAO MONTHLY INTERNATIONAL PRICE INDICES FOR OILSEEDS, VEGETABLE OILS AND MEALS/CAKES (2002-2004=100)



## WORLD OILCROP AND PRODUCT MARKET AT A GLANCE

	2017/18	2018/19 estim.	2019/20 f'cast	Change: 2019/20 over 2018/19
million tonnes				
<b>TOTAL OILCROPS</b>				
Production	592.1	607.0	590.9	-2.7
<b>OILS AND FATS</b>				
Production	234.3	241.0	240.2	-0.3
Supply	271.1	280.3	280.0	-0.1
Utilization	228.5	240.9	245.7	2.0
Trade	124.6	130.2	131.8	1.2
Global stocks-to-use ratio (%)	17.2	16.5	14.2	
Major exporters stocks-to-disappearance ratio (%)	11.8	13.6	11.9	
<b>MEALS AND CAKES</b>				
Production	152.3	157.0	150.7	-4.0
Supply	183.2	185.3	182.8	-1.3
Utilization	152.7	153.1	155.9	1.9
Trade	97.8	98.8	99.6	0.8
Global stocks-to-use ratio (%)	18.5	20.9	16.9	
Major exporters stocks-to-disappearance ratio (%)	11.3	15.3	11.5	
<b>FAO PRICE INDICES</b>				
Jan-Dec (2002-2004=100)	2017	2018	2019 Jan-Oct	% Change Jan/Oct 2019 over Jan/Oct 2018
Oilseeds	152	150	142	-6.4
Meals/cakes	159	184	156	-16.9
Vegetable oils	169	144	131	-11.5

Note: For explanations on definitions and coverage kindly refer to previous issues of Food Outlook.



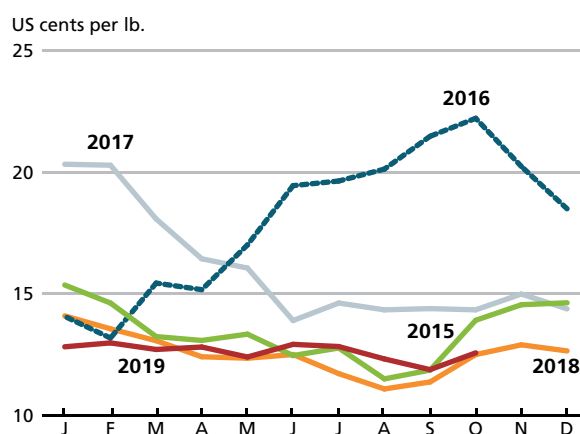
International sugar markets are seen heading for a modest tightening in the 2019/20 marketing season, as production is forecast to fall below the previous season's record level while world consumption is expected to expand. As a result, sugar inventories are predicted to decline in 2019/20.

FAO expects world sugar production to drop in 2019/20 (October/September), falling below total consumption. The forecast for global sugar production in 2019/20 has been revised downwards in recent months and is now pegged at just over 175 million tonnes, representing a 2.8 percent decrease from 2018/19. India, Thailand and Pakistan account for much of the anticipated year-on-year contraction in global sugar production. Unfavourable weather conditions during sugar cane tillering and elongation stages are largely behind the reduced output.

Global sugar consumption is set to expand by 1.4 percent in 2019/20, a modest increase compared with the growth registered in the previous season, but still below its long-term (10-year) trend, reflecting the growing consumer concerns about excess sugar consumption. Growth in sugar consumption is expected to be particularly marked in Africa, the Middle East and Latin America and the Caribbean, driven by rising per capita incomes and lower sugar prices.

World sugar trade is expected to expand in 2019/20, underpinned by a stronger import demand from the traditional sugar importing countries and ample availability in major exporting countries. The introduction of export incentives by some of the major exporting countries is also anticipated to boost global trade in sugar. Exports by Brazil and India are set to rise, prompted by abundant sugar stocks, but to fall in Thailand, the second largest sugar exporter, due to an 11 percent decrease in production. International sugar prices have followed a declining trend in recent months, weighed by large accumulated inventories in both importing and exporting countries, and a strengthening of the Brazilian real against the US dollar, which tends to stimulate shipments from Brazil, the world's largest sugar exporter.

## INTERNATIONAL SUGAR PRICES



Source: Prices refer to the Sugar No. 11 contract traded at the New York Intercontinental Exchange (ICE)

## WORLD SUGAR MARKET AT A GLANCE

	2017/18	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>	Change: 2019/20 over 2018/19
<i>million tonnes</i>			<i>%</i>	
WORLD BALANCE				
Production	183.2	180.1	175.1	-2.8
Trade	61.7	55.6	56.3	1.3
Total utilization	172.3	175.0	177.5	1.4
Ending stocks	89.0	93.9	91.4	-2.6
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/yr)	22.9	23.0	23.0	0.26
LIFDC (kg/yr)	16.6	16.3	16.4	0.74
<i>World stocks-to-use ratio (%)</i>	51.7	53.7	51.5	
ISA DAILY PRICE AVERAGE (US cents/lb)				
	2017	2018	2019 <i>Jan–Oct</i>	%Change Jan/Oct 2019 over Jan/Oct 2018
	16.01	12.52	12.65	1.44

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# MEAT AND MEAT PRODUCTS

World meat production is forecast at around 335 million tonnes (in carcass weight equivalent) in 2019 1.0 percent lower than in 2018. This marks a departure from the stable growth trend recorded over the past two decades and indicates a sharper fall than anticipated in May, principally due to a deeper than earlier expected impact of African Swine Fever (ASF) in China and its spread to several East Asian countries. China's meat output is forecast to fall by 8 percent, offsetting expected increases in production in several major producing countries, namely the United States, Brazil, the European Union and Argentina. The overall decline in China's meat output reflects a contraction of pig meat output by at least 20 percent, partially offset by higher production of other meats. In the United States, a rise in carcass weights is sustaining growth, whereas in Brazil external demand is encouraging higher production. In the European Union, total meat output is also expected to expand, albeit slower than predicted earlier due to a likely decline in bovine meat production. Production gains are expected for all other categories of meat in the European Union, especially pig meat production, reflecting robust demand from China. Argentina's meat production is likely to rise, primarily on increased culling.

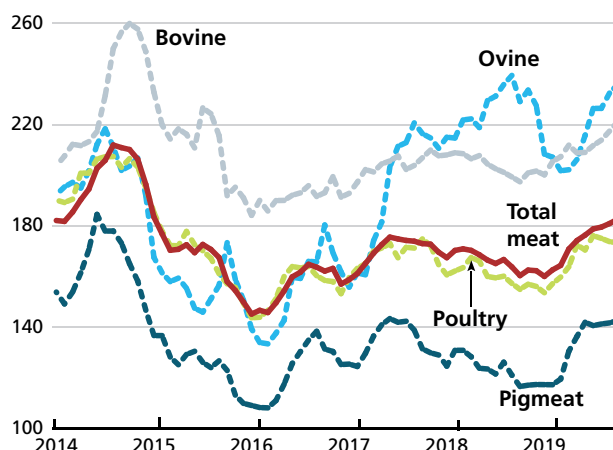
World trade in meat and meat products is forecast at 36.0 million tonnes in 2019, up 6.7 percent from 2018, principally driven by increased imports by China due to domestic tightness caused by ASF-related production losses. China's overall meat imports are expected to rise by 35 percent (around 2 million tonnes), with increased purchases across all meat categories. By contrast, several countries are expected to import less meat, including the United States and Angola. On the export side, much of the anticipated expansion in global demand is forecast to be met by Brazil, the European Union, the United States, Argentina, Thailand and Canada. However, limited export availabilities could depress meat shipments from Paraguay, Belarus and Uruguay.

International meat prices, measured by the FAO Meat Price Index, have continued to register moderate month-on-month increases since the start of 2019, with pig meat prices, frozen in particular, recording the sharpest rise due to the surge in import demand by China. Poultry, ovine and bovine meat prices strengthened, also supported by stronger Asian demand.

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## FAO INTERNATIONAL MEAT PRICE INDEX (2002–2004 = 100)



## WORLD MEAT MARKET AT A GLANCE

	2017	2018 estim.	2019 f <sup>cast</sup>  May	Nov.	Change: 2019 over 2018
	million tonnes (carcass weight equivalent)				%
WORLD BALANCE					
Production	333.6	338.6	336.5	335.2	-1.0
Bovine meat	69.6	71.3	71.6	72.2	1.3
Poultry meat	122.3	124.6	128.4	130.5	4.7
Pig meat	119.8	120.7	115.6	110.5	-8.5
Ovine meat	15.2	15.3	15.3	15.4	0.8
Trade	32.7	33.8	35.4	36.0	6.7
Bovine meat	9.8	10.5	11.3	11.1	6.0
Poultry meat	13.2	13.5	13.8	14.1	4.4
Pig meat	8.2	8.4	9.1	9.4	12.2
Ovine meat	1.0	1.0	1.0	1.0	-1.2
SUPPLY AND DEMAND INDICATORS					
Per caput food consumption:					
World (kg/year)	44.0	44.2	43.4	43.3	-2.1
Trade - share of prod. (%)	9.8	10.0	10.5	10.8	7.7
FAO MEAT PRICE INDEX (2002–2004=100)					
	2017	2018		2019 Jan–Oct	%Change Jan/Oct 2019 over Jan/Oct 2018
	170	166		173	3.6

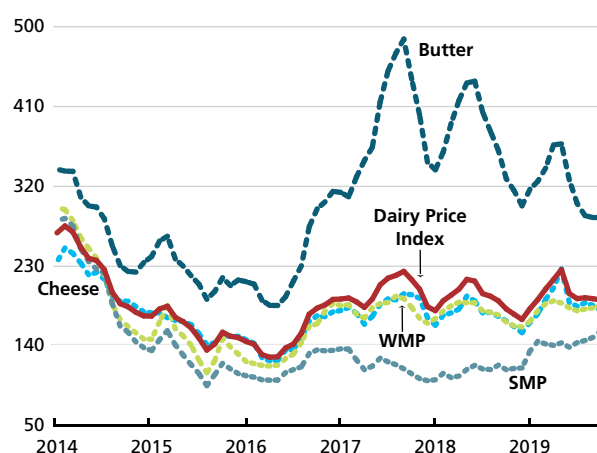
# MILK AND MILK PRODUCTS

Global milk production is forecast at 852 million tonnes in 2019, an increase of 1.4 percent from 2018 – a smaller rate of growth than earlier anticipated in May, reflecting downward revisions made for India and the European Union. Much of the anticipated output expansion will originate in India, Pakistan, China, the European Union and Brazil, partially offset by declines in some countries including Australia, Colombia and Argentina. In India and Pakistan, herd expansions drive output growth, while in China, farm efficiency improvements underpin the higher growth. In the European Union, output is rising, albeit slowly as dry weather during the summer constrained milk deliveries, while in Brazil, rising dairy herd and stable milk prices support higher production. By contrast, output may decline in Australia and Colombia due to dry weather, whereas in Argentina, rising feed costs and restrained consumer demand may dampen production. Elsewhere, in the United States, higher milk yields sustain the growth momentum, whereas in New Zealand, favourable weather supports a positive production outlook.

World trade in dairy products (in milk equivalent) in 2019 is forecast at 76 million tonnes, up 0.8 percent from 2018, significantly lower than the previous growth forecast. This emanates largely from a more subdued import growth forecast for China, reflecting expected import curtailments of butter, but also of whey products due to reduced demand from piggeries. Elsewhere, the Russian Federation, the Philippines, Indonesia and Japan may purchase more dairy products in 2019. Much of the expanded global supply is likely to come from New Zealand and the European Union, thanks to increased export availabilities and new trade agreements. By contrast, retaliatory tariffs, reduced demand for whey products as hog feed and strong competition will constrain dairy exports from the United States, while tighter export availabilities weigh on exports from Australia.

International dairy prices, measured by the FAO Dairy Price Index, rose by 24 percent between January and May of this year, largely driven by a strong global demand. Since June, price quotations for butter and cheese were subject to more downward pressure due to increased export availabilities, especially from New Zealand, whereas those for Skim Milk Powder (SMP) and Whole Milk Powder (WMP) drifted higher, reflecting strong import demand from Asia.

## FAO INTERNATIONAL DAIRY PRICE INDEX (2002–2004 = 100)



## WORLD DAIRY MARKET AT A GLANCE

	2017	2018 <i>estim.</i>	2019 <i>f'cast</i>		Change: 2019 over 2018
			<i>May</i>	<i>Nov.</i>	
	<i>million tonnes milk equivalent</i>				%
<b>WORLD BALANCE</b>					
Total milk production	823.9	840.5	859.0	852.0	1.4
Total trade	72.8	75.6	76.1	76.2	0.8
<b>SUPPLY AND DEMAND INDICATORS</b>					
<b>Per caput food consumption:</b>					
World (kg/year)	109.1	110.1	111.3	110.4	0.3
<i>Trade - share of prod. (%)</i>	8.8	9.0	8.9	8.9	-0.6
<b>FAO DAIRY PRICE INDEX (2002–2004=100)</b>	<b>2017</b>	<b>2018</b>	<b>2019 <i>Jan–Oct</i></b>		<b>%Change Jan/Oct 2019 over Jan/Oct 2018</b>
	202	193	199		1.2

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# FISH AND FISHERY PRODUCTS

No growth is expected for global fish production in 2019. Trade tensions are taking a heavy toll on consumers and businesses alike, with seafood trade expected to contract.<sup>1</sup>

Global fish production is expected to be flat year-on-year for 2019, with a 3.4 percent decline in capture fisheries production offset by a 3.9 percent increase in aquaculture harvests. Cephalopods and cod are among the wild stocks for which supplies have been tight. Anchoveta production was also lower in the first fishing season (late April 2019 to late July 2019). Meanwhile, the growth trajectory of the aquaculture sector remains steady. Supplies of the major farmed finfish species will rise again in 2019, but shrimp production in Asia is expected to drop sharply. Both aquaculture and capture harvests have been affected by higher water temperatures this year.

Pressured by unfavourable macro-economic developments, in particular slower economic growth prospects and trade tensions, global trade in fish and fish products could contract this year, projected to drop by 1.2 percent in volume and 1.4 percent in value. Imports into the United States and the European Union are expected to fall marginally, while those to China are expected to increase substantially. In terms of exports however, China, will see a decline in export revenues, mainly driven by a drop in exports to the United States due to the trade war and associated tariffs.

Aside from the direct impact of tariffs on United States-China trade flows, the wider geopolitical uncertainty is translating into an increasingly cautious decision-making environment for seafood businesses, consumers and investors. The trade war is also driving potentially permanent transformations in key markets, including those for cephalopods, lobster, groundfish and tilapia, as Chinese exporters seek alternative markets and US buyers look for new suppliers. For other commodities, such as bivalves and small pelagics, the impact of trade tensions has been lower and the demand outlook is more positive.

The FAO Fish Price Index has fallen by 2.1 percent between January and September, compared with the same period last year, primarily due to price declines for many important farmed species, including shrimp, salmon, pangasius and tilapia, a consequence of both increased supplies and faltering demand. Prices are also weaker for canned tuna, with limited prospects for recovery.

<sup>1</sup> Unless otherwise specified, the terms 'fish' and 'seafood' indicates fish, crustaceans, molluscs and other aquatic animals from farmed and wild origin, but excludes aquatic mammals, reptiles, seaweeds and other aquatic plants.

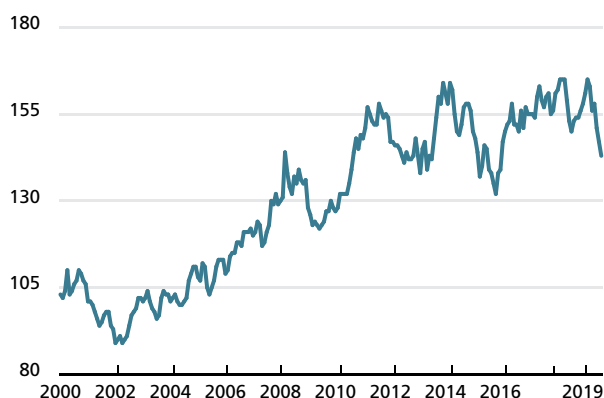
For additional analyses and updates, see:

The GLOBEFISH market reports at  
<http://www.fao.org/in-action/globefish/market-reports>

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## FAO FISH PRICE INDEX (2002–2004 = 100)



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

## WORLD FISH MARKET AT A GLANCE

	2017	2018 <i>estim.</i>	2019 <i>f'cast</i>		Change: 2019 over 2018
			<i>May</i>	<i>Nov</i>	
	<i>million tonnes (live weight)</i>				<i>%</i>
<b>WORLD BALANCE</b>					
<b>Production</b>	<b>172.6</b>	<b>177.7</b>	<b>177.8</b>	<b>177.8</b>	<b>0.0</b>
Capture fisheries	92.5	94.5	91.3	91.3	-3.4
Aquaculture	80.1	83.2	86.5	86.5	3.9
<b>Trade value (exports USD billion)</b>	<b>156.5</b>	<b>162.9</b>	<b>164.5</b>	<b>160.5</b>	<b>-1.4</b>
<b>Trade volume (live weight)</b>	<b>64.9</b>	<b>65.1</b>	<b>64.5</b>	<b>64.3</b>	<b>-1.2</b>
<b>Total utilization</b>	<b>172.6</b>	<b>177.7</b>	<b>177.8</b>	<b>177.8</b>	<b>0.0</b>
Food	153.4	155.7	158.2	158.2	1.6
Feed	14.6	17.5	15.0	15.0	-14.2
Other uses	4.7	4.6	4.6	4.6	0.0
<b>SUPPLY AND DEMAND INDICATORS</b>					
<b>Per caput food consumption:</b>					
Food fish (kg/yr)	20.3	20.4	20.5	20.5	0.6
From capture fisheries (kg/year)	9.7	9.5	9.3	9.3	-2.0
From aquaculture (kg/year)	10.6	10.9	11.2	11.2	2.8
<b>FAO FISH PRICE INDEX (2002–2004=100)</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>		<b>%Change Jan/Sept 2019 over Jan/Sept 2018</b>
			<i>Jan–Sept</i>		
	158	158	156		-2.1

Source of the raw data for the FAO Fish Price Index: EUMOFA, INFOFISH, INFOPECSA, Statistics Norway. Refer to Appendix table 29 for further details.



# COMMODITY FOCUS



# Banana Fusarium Wilt Tropical Race 4: A mounting threat to global banana markets?

## The recent spread and potential future impact of the disease on global banana trade

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Commercial banana production has been subject to intensive farming techniques since the late nineteenth century, with the emergence of large-scale trade from Central American and Caribbean banana producing countries to the United States and Europe. To cater for rapidly growing demand in mostly far distant import markets, producers identified the *Gros Michel* variety as the most suitable for monoculture propagation and long transport routes. By 1955, the global export volume of bananas from Central American producers had reached approximately 3 million tonnes, making bananas the most exported fresh fruit globally – ahead of citrus fruits and apples – at a volume share of 40 percent in world fresh fruit trade.<sup>2</sup>

The Fusarium wilt disease of banana, scientifically denominated as *Fusarium oxysporum* f. sp. *cubense* and considered among the most destructive of all plant diseases, was first detected in banana plantations in Australia in 1876.<sup>3</sup> The first large-scale outbreak in export plantations was subsequently reported in 1890 in Panama. A soil-borne pathogen, the mycelium and spores of *Fusarium* wilt spread through: infected plants and planting materials; soil particles attached to shoes, vehicles and tools; water, including irrigation, drainage and floods; as well as other physical means of spread. Facilitated by the monoculture and intensive plantation cultivation techniques and concentrated transport routes of the commercial banana industry, by the mid-1950s, this first strain (Race 1) of *Fusarium* wilt had caused such enormous damage to the production of *Gros Michel* that the export industry was forced to switch its entire production to the *Fusarium* wilt-resistant *Cavendish* variety. Official data suggest that total losses to trade in *Gros Michel* bananas at the time

amounted to a current equivalent of USD 2.3 billion.<sup>4</sup> Given the decades-long persistence of the *Fusarium* wilt fungus in the soil, *Gros Michel* bananas continue to be practically absent from world export markets to this day.

### TROPICAL RACE 4 – A RENEWED CHALLENGE TO GLOBAL BANANA SUPPLY

The current strain of the Banana Fusarium Wilt disease, described as Tropical Race 4 (TR4), was first discovered in 1970 in *Cavendish* banana plantations in Taiwan, and then on a more severe scale in *Cavendish* plantations in Indonesia and Malaysia in 1992/93. By the early 2000s, TR4 had spread to Australia, Papua New Guinea, China and the Philippines. In 2013, TR4 was discovered on farms in northern Mozambique and in Jordan, and in 2015 it emerged in Lebanon, Oman, India and Pakistan. Between 2017 and 2019, TR4 was found in Laos, Viet Nam, Myanmar and Thailand. In August 2019, the fungus was detected for the first time on a banana plantation in Latin America, in the northeastern region of La Guajira, Colombia. According to official information, TR4 is currently confirmed in 17 countries, predominantly in South and Southeast Asia.<sup>5</sup> This fourth race of the fungus poses particularly elevated risks to global banana supplies, as it can affect a much broader variety of banana and plantain cultivars than previous strains of *Fusarium* wilt.<sup>6</sup> In addition, there is currently no effective fungicide or other eradication method that is capable of eliminating TR4. In affected plants, the disease can quickly cause a total yield loss. Due to the longevity of the fungus in the soil, infected land becomes unavailable for banana or any other cultivation for decades, resulting in a shift of production to new,

<sup>1</sup> The author extends sincere thanks to Dr Charles Staver, Dr Altus Viljoen, Dr Diemuth Pemsli, Dr Lorna Herradura, Dr Randy Ploetz, Dr Tony Pattison and Dr Luis Pérez Vicente for their expert inputs on the probable spread of the disease.

<sup>2</sup> May *et al.* (1958)

<sup>3</sup> Ordonez *et al.* (2015)

<sup>4</sup> FAO (2019)

<sup>5</sup> FAO (2019)

<sup>6</sup> Ploetz (2005)

unaffected land as the only recourse. Depending on the severity of the spread, outbreaks can result in an increasing scarcity of pathogen-free soils. In all reported cases, once a farm has been contaminated, managing the disease has proved extremely challenging and costly. This poses a particular threat to the livelihoods of smallholder banana producers in affected regions, who often lack the financial means to sustain operations in the face of simultaneous yield losses and increased production costs. In this regard, prevention, rapid containment and quarantine are particularly important.

Given the serious implications for infected farms, precise and complete documentation of the damage caused by TR4 is often unavailable. In the worst cases of disease management, farms are abandoned without reporting and without being adequately quarantined, further impeding rapid containment of the disease. While no global estimates are available, figures for some countries indicate that the disease has affected around 15 700 hectares (ha) of banana plantations (out of a total 440 000 ha) in the Philippines,<sup>7</sup> and some 70 percent of plantations in China's Guangdong and Hainan provinces.<sup>8</sup> Annual economic losses caused by TR4 have been estimated at USD 121 million in Indonesia, USD 253 million in Taiwan and USD 14 million in Malaysia.<sup>9</sup> On the infected farm in Mozambique, TR4 caused such severe damage to the 1,500-ha plantation within 4 years of the first detection of the disease that the farm was forced to cease operations.<sup>10</sup>

## BANANA MARKETS IN THE PRESENCE OF TR4 – SUPPLY SHORTAGES AND HIGHER PRICES BY 2028?

The very recent discovery of *Fusarium* wilt TR4 in the world's most significant net exporting region, Latin America and the Caribbean, as well as its enduring occurrence in Asia, has caused considerable alarm in the banana export industry. To date, few estimates of the additional disease-related costs to producers are available. However, industry experts believe that, given the current annual value of production for export and the importance of *Cavendish* bananas for smallholders, it is possible that TR4 will eventually cause even greater losses than the original strain of *Fusarium* wilt that affected the production of *Gros Michel* bananas.

<sup>7</sup> The Southern Mindanao Agriculture, Aquatic and Natural Resources Research and Development Consortium, as quoted by Freshplaza, 10 March 2016.

<sup>8</sup> Chen *et al.* (2013)

<sup>9</sup> Aquino *et al.* (2013)

<sup>10</sup> Altus Viljoen, Stellenbosch University, South Africa

To assess the potential future impacts of TR4 on global banana markets, a partial equilibrium commodity market model covering national and international banana markets was used. The model adopts the basic specifications for supply, demand, trade and prices of FAO's commodity simulation model (COSIMO), which is used to generate ten-year projections for global temperate agricultural commodities on an annual basis. The underlying assumptions of the model concerning the global economic and demographic projections follow those outlined in the OECD-FAO Agricultural Outlook published in July 2019.<sup>11</sup> The scenario presented herein regarding the hypothetical market impact of TR4 provides suggestive rather than predictive impact results, which should not be interpreted as actual forecasts, but rather as an indicative basis for informing policy decisions.

The time span for the simulation analysis covers ten years, from 2019 to 2028, to enable a direct comparison with the baseline projections, which were produced in May 2019. These were based on 'business-as-usual' assumptions, foreseeing normal weather, no changes in policy, and in particular no changes in the prevalence of crop diseases. Under the baseline projections, global banana production will grow at an annual rate of 1.5 percent over the ten-year period, to reach approximately 135 million tonnes in 2028. Global trade in bananas is projected to grow at a moderate rate of 1 percent per year due to slowing demand in large developed country import markets, where consumption is forecast to reach near saturation levels.

As mentioned above, the framework underpinning the assessment of the possible impacts of TR4 on global banana markets is a standard multi-commodity, multi-country partial equilibrium model. The scenario analysis was adapted from a similar approach used by *Acquaye et al.* (2005), who conducted an evaluation of the economic consequences of an invasive species outbreak for a large-country exporter applied to the case of Citrus Canker. The results of the model are contingent on the stylized assumptions of perfect competition and homogenous world markets for bananas. In this regard, the model deviates somewhat from the observed reality of global banana markets, which may display regional fragmentation and oligopolistic behaviour by large, dominant banana corporations. However, the fundamental conclusions reached by the analysis are consistent with those of alternative model specifications. For example, an uncontained spread of TR4 in fragmented markets would lead to higher prices and larger economic losses to either

<sup>11</sup> [www.doi.org/10.1787/agr\\_outlook-2019-en](http://www.doi.org/10.1787/agr_outlook-2019-en)

## Box: Bananas in food security and world markets

**B**ananas represent one of the most consumed and traded fruits globally. In many developing countries, bananas, along with their subcultivar plantains, serve as a staple food that is included in many forms in local diets. While precise statistics on consumption remain sketchy due to the informality of subsistence cultivation in many regions, Filipinos reportedly have the highest per capita consumption of dessert bananas at around 60 kg per year, followed by Brazilians who consume a slightly lower amount. In some African countries, such as Angola and Rwanda, per capita consumption of all dessert and cooking banana types combined exceeds 200 kg per year. Particularly in the rural areas of these countries, bananas can provide up to 25 percent of daily calorie intake.<sup>1</sup> In tandem with the increase in the world population to more than 7 billion people, global banana production expanded from 21 million tonnes in 1961 to approximately 114 million tonnes in 2017. According to some estimates, more than 100 billion bananas are now consumed worldwide each year.<sup>2</sup> The main driver of this rapid rise in production has been the increasing consumption requirements of the growing populations in developing countries. The bulk of the global production increase has taken place in top producing countries who are also top consumers, such as Brazil, the Philippines and, in particular, India and China. The total value of global production stood at an estimated USD 38.5 billion for bananas and USD 6.6 billion for plantains in 2016.

In addition, bananas have particular significance in some of the least developed and low-income food-deficit countries, where they contribute not only to household food security as a staple, but also to income and employment generation as a cash crop. At farmgate prices of around USD 300-400 per tonne and typical smallholder yields of 10-15 tonnes per hectare, bananas can generate an estimated USD 3 000 to 6 000 per hectare per year. Research conducted in 10 banana producing countries revealed that revenue from banana farming can account for some 75 percent of total monthly household income for smallholder farmers.<sup>3</sup> It is further estimated that approximately 400 million workers rely on income from direct employment in the banana industry globally.<sup>4</sup>

Bananas play a similarly important role in developed country importing markets, where they have ranked among the most consumed fruits for decades. This is reflected in the noticeable performance of the global banana export market, which reached an unprecedented 19.2 million tonnes in 2018. Preliminary data for the first half of 2019 suggest that global trade in bananas expanded by a further 11 percent over the same period of the previous year. Ample import demand in developed markets, combined with strong yield-driven supply growth in the leading exporting countries, have been the principal factors behind this increase.

Globally, Latin America and the Caribbean ranks as the largest banana exporting region, accounting for nearly 80 percent of world exports. Ecuador has been positioned as the world's leading exporter over the past several decades, supplying an average of 5 to 6 million tonnes to world markets per year. In 2018, Colombia ranked as the fourth leading exporter globally with a total volume of 1.7 million tonnes, equivalent to approximately 9 percent of global exports. Asia, the second largest supplier of bananas for export, accounted for approximately 20 percent of global shipments in 2018, almost entirely supplied by the Philippines, the dominant exporter in the region. In terms of leading importers, the European Union and the United States absorbed, respectively, approximately 32 percent and 26 percent of total global supplies in 2018. The Russian Federation, China and Japan are also significant importers, albeit with single-digit market shares in 2018.

Given the popularity of bananas in import markets, their global value chains have been characterized by intense competition between market actors all the way to the retail level. This has exerted downward pressure on prices at each stage, which resulted in producer prices displaying little fluctuation and, by and large, remaining at very low levels. Combined with rising production costs, low prices and tight profit margins greatly hinder the adequate remuneration of banana workers and smallholder farmers and act as a major obstacle for producers in coping with emerging challenges, in particular the looming threat of TR4.

<sup>1</sup> FAOSTAT

<sup>2</sup> Bananalink, <http://www.bananalink.org.uk/all-about-bananas>

<sup>3</sup> Bioversity (2012)

<sup>4</sup> FAO (2019)

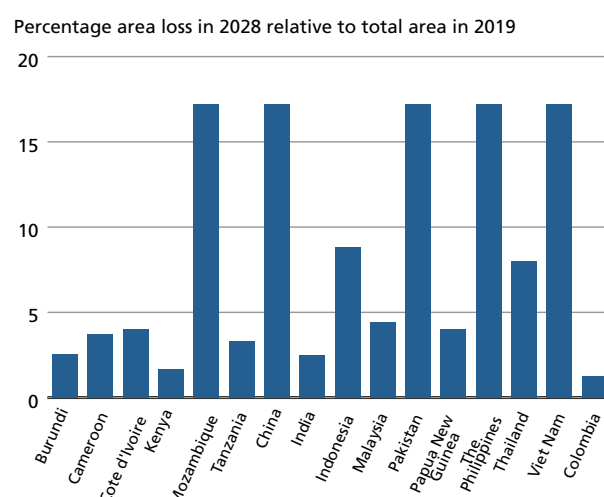
producers or consumers in the respective regional producing and trading countries. Similarly, relaxing the assumption of perfect competition would lead to larger world price increases, as oligopolistic behaviour would extract rents from markets that are short in supply.

The scenario is further based on potential TR4 spread rates and losses in harvested area in key banana producing countries, which are provided in a CGIAR working paper by Scheerer *et al.* (2018). The paper presents two spread and loss scenarios, which are constructed from a base probability of infection that hinges on the prevalence of *Cavendish* monoculture in a producing country, as well as internal geographical, phytosanitary, transport and other factors.<sup>12</sup> The high spread scenario assumes an internal disease spread at a rate of 50 percent in five-year time intervals up to 25 years. For the current study, the estimated internal spread and impact on area in the lower loss scenario presented by Scheerer *et al.* (2018) was chosen, which anticipates incremental increases in losses of 25 percent every five years. It should be noted that the estimated internal spread rates show the area losses due to TR4 to be increasing over time, indicating that the disease impacts over a period beyond the ten years chosen for this scenario would be amplified. Furthermore, although TR4 can affect a broad variety of banana cultivars, the analysis presented in this assessment encompasses the possible economic impact on the *Cavendish* variety only, which is predominant in global trade and plays a significant role in income and foreign exchange generation for exporting countries.

Figure 1 shows the expected percentage of area loss to the production of bananas in 2028 due to TR4 infection for each of the countries for which estimates are provided. Weighted averages of the internal spread rates of the *Cavendish*, *AAA*, *Other AAA* and *EAH AAA* banana cultivars specified in the paper were calculated and applied to total FAOSTAT banana production data.<sup>13</sup> Scheerer *et al.* (2018) determine that the highest rates of spread will affect key producers in Asia, most notably China, the Philippines, Pakistan and Viet Nam, as well as Mozambique

and Tanzania in Africa. At the time of writing, Scheerer *et al.* assumed a TR4 arrival time in Colombia after ten years. Considering the low score for the internal spread rate identified for Latin American and Caribbean banana producers, which results mainly from their superior internal plant quarantine capabilities, the area loss due to TR4 infection was assumed to amount to 1.25 percent of banana area in Colombia by 2028. Although neighbouring key banana producing countries are at elevated risk of contamination by TR4, most notably Ecuador, Peru, Brazil and Panama, the current scenario does not include a spread of TR4 outside the boundaries of Colombia. This was based on the absence of sound scientific assessments regarding the potential arrival of TR4 in those countries. Information gathered by the author from leading plant pathologists and banana experts pointed to the conclusion that assigning a rate of spread within Latin America and the Caribbean would at this stage be difficult and, moreover, highly speculative, given that any hypothetical spread may hinge on many unpredictable and virtually unmanageable factors. Similarly, it has proved difficult to pinpoint the precise costs of containment and prevention of TR4. As such, in the current scenario, production costs for both affected and unaffected countries have not been adjusted to reflect the numerous additional expenses arising from TR4 adaptation and mitigation. As more information becomes available, the scenario can be modified to reflect realistic estimates of these costs.

**Figure 1. Area loss after 10 years due to *Fusarium* wilt TR4 at 25 percent internal spread rate<sup>14</sup>**



<sup>12</sup> As Scheerer *et al.* (2018) explain, factors linked to the time lag for TR4 to reach a country include the importance of mono-cropped *Cavendish* bananas in the country; global banana traffic to and from a country; quality of borders and internal plant quarantine measures; and land and other links to countries where TR4 is currently present. The rate of internal spread was rated based on three factors: quality of internal quarantine measures; importance of *Cavendish* bananas; and the importance of banana for research investment and public policy. These two elements were then combined in an aggregated score that was used to estimate banana production area loss by country.

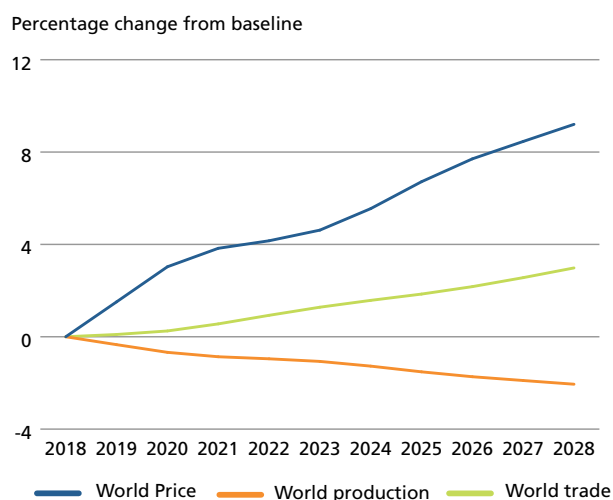
<sup>13</sup> For the case of India, Scheerer *et al.* (2018) assume an arrival of TR4 in the country after ten years. However, official information specifies that TR4 has been present in India since 2015. In the absence of estimates for the production area lost due to TR4 in the first ten years as otherwise adapted from

Table 7 in Scheerer *et al.* (2018), a moderate spread rate arriving at a loss of 2.5 percent of total area as indicated in Figure 2 of the same paper was chosen as indicative of a potential spread of TR4 in India.

<sup>14</sup> Adapted from Scheerer *et al.*, (2018)

For the current scenario, the banana area response equation of the model was shifted in linearly increasing steps from 2019 to 2028 in each of the countries for which data are provided, arriving at the assumed area losses by 2028, as displayed in Figure 1.<sup>15</sup> Compared with the baseline projection, this would lead to a loss of an estimated 160 000 hectares globally by 2028. Assuming an average of 1.5 workers per hectare, this would imply the loss of direct employment for approximately 240 000 banana workers. In terms of production volume, the area loss would result in a 2.8 million tonne or 2 percent reduction in global banana production by 2028. Since markets would ration reduced supply, the decline in world production would induce a 9.2 percent rise in the global reference price for bananas by 2028, contingent on the inelastic demand for bananas, which would cause prices to rise more than production would fall. As further illustrated in Figure 2, global trade, which would rise to partially compensate for shortages in domestic supply in affected producing countries, would increase by 3 percent over the baseline by 2028.

**Figure 2. Scenario impact on production, price and trade in the global banana market**

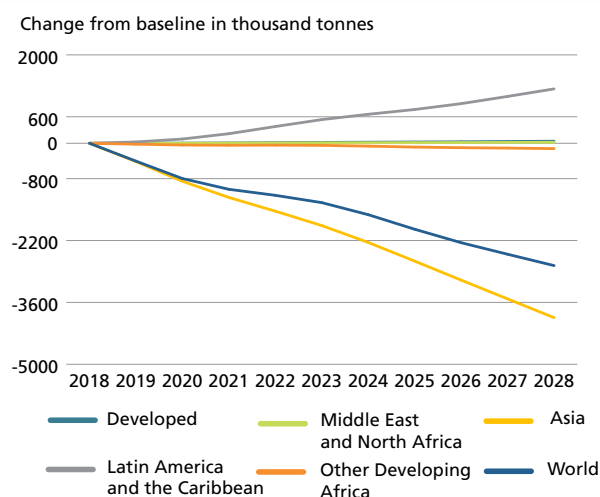


Looking at the potential impact on banana production by region, given the sizeable projected area losses in several Asian and Southeast Asian countries (Figure 3), aggregate losses would be most pronounced in Asia, amounting to an estimated 3.9 million tonnes in 2028 relative to the baseline. Again, because such substantial losses to the world market would result in a rise in the world reference price, producers in unaffected countries would receive

a stimulus to increase their production, thereby partially offsetting the losses incurred in Asia. Accordingly, the Latin America and Caribbean region, which is assumed to remain mostly unaffected by TR4 in the current simulation, is projected to produce 1.2 million more tonnes of bananas in 2028 than in the baseline scenario. Small increases in production over the baseline are also expected for banana cultivation in the developed country producers – notably in the European Union and South Africa – and in the Near East, which are similarly assumed to remain unaffected by TR4.

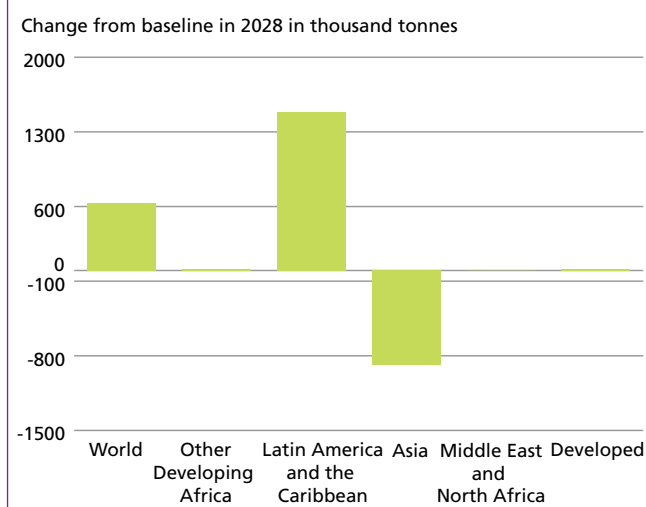
Globally, producer receipts would increase on account of significantly higher prices, more than offsetting lower production. Producers in unaffected countries would gain considerably under this scenario, particularly those in the highly exporting Latin American and Caribbean countries. However, in countries affected by TR4, banana producers would incur considerable losses. This would particularly apply to producers in China, Indonesia, Pakistan, the Philippines, Viet Nam and Mozambique, where future area and production losses are assumed to be greatest, translating into significant losses of gross incomes and employment in the banana sector in these countries.

**Figure 3. Scenario impact on banana production by region by 2028**



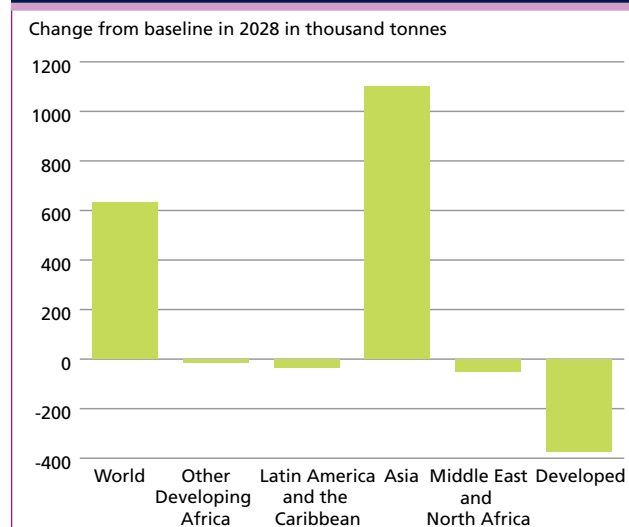
In terms of global exports, the shortage in supplies from Asia would, to some extent, be offset by increased exports from Latin America and the Caribbean (Figure 4). Compared with the baseline scenario, Asia would export 880 000 tonnes less per year by 2028, while the Latin America and Caribbean region would see its exports rise by 1.5 million tonnes, thereby further strengthening its dominance in world markets. On a net trade basis, i.e. when subtracting imports from exports, Asia would incur losses of approximately 2 million tonnes per year by 2028

<sup>15</sup> The implementation of a linearly increasing rather than exponential disease spread, which may be more reflective of the actual disease spread, facilitates the projected area losses after ten years as provided by Scheerer *et al.* (2018).

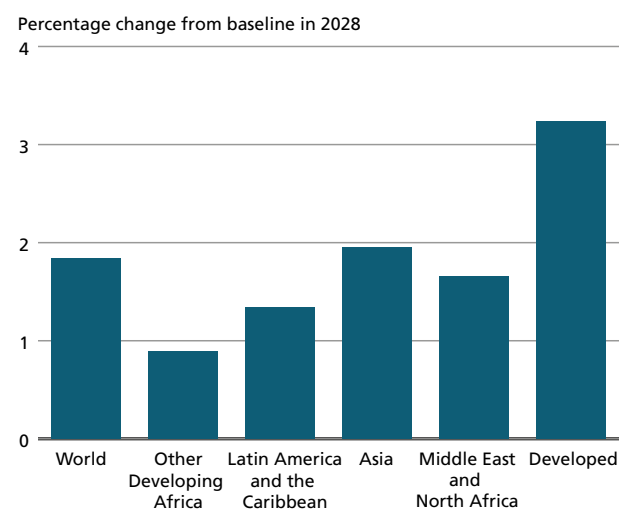
**Figure 4. Scenario change in banana exports by 2028**

under this scenario, highlighting the severely damaging consequences of an unabated spread of TR4.

As displayed in Figure 5, in order to satisfy internal demand, Asia would be obliged to import approximately 1.1 million tonnes per year more than it would have in the absence of TR4. Import prices in developed countries, the main importers of bananas, would meanwhile rise, resulting in an estimated volume reduction of 370 000 tonnes in 2028. In conjunction with elevated prices, the rise in exports from Latin America and the Caribbean would translate into considerably higher export revenues for suppliers from this region.

**Figure 5. Scenario change in banana imports by 2028**

On account of the resulting higher prices, the economic costs to consumers in all regions would increase (Figure 6). Globally, on average, while consuming almost a 2-percent lower volume of bananas, consumers would spend

**Figure 6. Percentage change in consumer expenditures on bananas by 2028**

1.8 percent more on bananas by 2028 than they would have under the baseline scenario. Regionally, the worst impact would be felt by consumers in developed country markets, where price elasticities for bananas tend to be comparatively low and price transmission high, resulting in a 3.2-percent increase from the baseline price by 2028.

The projections suggest that a further spread of TR4 would entail considerable loss of income and employment in the banana sector in the affected countries, at varying degrees contingent on the internal spread of the disease. Consumers in all countries with open markets would face rising costs due to higher prices, as market effects would transmit across borders. In affected producing countries, consumer costs could rise significantly as a result of possible border controls designed to protect domestic producers. Meanwhile, producers in unaffected countries would gain from the higher prices induced by the global area losses caused by TR4, and would additionally receive incentives to increase production. Unaffected exporting countries would, correspondingly, capture higher export revenues resulting from higher volumes of shipments at higher unit values.

## MITIGATING THE THREAT OF TR4

The simulation results suggestively illustrate the likely far-reaching repercussions that an unmitigated spread of TR4 would have on global banana markets. The underlying postulations of the simulation assume a low-spread scenario, implying that the potential impact on world banana supply and world banana markets could translate into significantly larger effects should the disease spread more rapidly or further afield. In particular, given the importance of the Latin America and Caribbean region in global banana exports, the specific outcome of the



impact on global markets would hinge on whether the recent outbreak of TR4 in Colombia can be contained or not. In the best case scenario, the disease would not spread further, resulting in no significant impact on global markets diverging from the projections presented here over the next decade.

In the worst case scenario, a wide spread of TR4 in Latin America and the Caribbean would have a considerable economic impact on trade, food security and the economic wellbeing of producing countries in the region, as well as on producers in other exporting countries and consumers in importing countries. The potential repercussions of infection by TR4 are of even greater concern to organic banana production, since organic agricultural practices do not permit genetic modifications, leaving classical breeding of disease-resistant cultivars as the only option for adaptation. This would be particularly alarming for the main producing countries of organic bananas that border Colombia, notably Peru and Ecuador.

In view of the wide-ranging potential ramifications on both conventional and organic banana markets, the recent outbreak of TR4 in Colombia necessitates elevated vigilance in the banana sector, not only in Latin America and the Caribbean, but also globally. The expertise of a leading plant pathologist suggests that future banana production may only become viable for growers who are able to implement more advanced management techniques and financially sustain significantly higher investments into disease prevention.<sup>16</sup> Governments of producing countries have a key role to play in mitigating the spread of TR4 and managing the disease where it has already emerged, particularly in view of its potential impact on smallholder banana farmers and workers employed in the industry. Close co-ordination of the capacity-development and extension activities of all concerned national institutions will be beneficial to the development of proper policies, regulations and strategic measures that address the challenges of TR4 in a comprehensive way. National support schemes drawn up in strategic collaboration with different stakeholders and designed to assist in the implementation of adequate biosecurity measures, as well as in the facilitation of diversified production systems that have shown to be less susceptible to TR4 infection than monocropping systems, may serve as responses that can alleviate the problem. Such compensating or support schemes may further contribute to containment of the disease, by easing the moral hazard problem of farmers not reporting and not treating infected plantations properly.

Markets and open trade display considerable potential to mitigate global economic costs of a greater spread of TR4, given the role of trade as a balancing force between supply and demand. As previously described, higher production in unaffected countries would largely compensate for lower production in affected countries. However, both national and global welfare costs can only be efficiently contained if open trade is maintained. Closing borders to trade would rapidly raise the economic costs of the disease in domestic markets. As such, those developed countries that are on a high net import position in banana trade would benefit from investing in research on TR4 prevention and mitigation, since the impact on consumers in developed country markets would be relatively high. Similarly, net exporting countries stand to benefit from investments in effective disease management strategies, as containment of disease spread will enable exporters to benefit from increased market access.

An assessment of the economic returns to four different banana research investments conducted by Scheerer *et al.* (2018) suggests that investments in integrated crop and disease management, as well as in the development of either conventional or genetically modified Fusarium-resistant banana cultivars, would yield the highest internal rates of return of the assessed options. The potential of Fusarium-resistant banana cultivars in managing epidemics of TR4 also seems evident in the progressive experiences with somaclone varieties on some commercial farms.<sup>17</sup> In conjunction with stringently imposed biosecurity measures, including early detection, effective eradication and on-farm quarantine, the planting of the partially TR4-resistant somaclonal *Giant Cavendish Tissue Culture Variants* appears to have significantly aided in counteracting losses from TR4. Recent advances in the development of fully Fusarium-resistant *Cavendish* varieties using chemical mutagenesis techniques or gamma radiation may offer an even more holistic solution to abating the threat from TR4.<sup>18</sup> Strengthened international collaboration, particularly with regards to enhanced data collection and information sharing, will further support improved awareness, prevention and containment of Fusarium wilt TR4 and be conducive to more resilient global banana production systems.

<sup>17</sup> [www.banana-networks.org/Bapnet/2016/02/22/fusarium-wilt-resistant-cavendish-cultivars/](http://www.banana-networks.org/Bapnet/2016/02/22/fusarium-wilt-resistant-cavendish-cultivars/)

<sup>18</sup> [www.iaea.org/newscenter/news/iaea-fao-help-develop-bananas-resistant-to-major-fungal-disease](http://www.iaea.org/newscenter/news/iaea-fao-help-develop-bananas-resistant-to-major-fungal-disease)

<sup>16</sup> Dr Charles Staver, Bioversity International, Montpellier, France

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# MARKET POLICY DEVELOPMENTS

## GRAINS: MAJOR POLICY DEVELOPMENTS MID-APRIL TO MID-OCTOBER 2019\*

COUNTRY	DATE	COMMODITY	POLICY INSTRUMENT	DESCRIPTION
Algeria	Apr-19	Wheat	Import duty	Removed the 70 percent duty on prepared wheat products destined for dietetic food for special medical use.
Angola	Oct-19	Maize	Production support	Distributed 330 tonnes of fertilizer to 6 600 farmers in the municipality of Caála, in order to encourage them to increase productivity of several crops, including maize.
Argentina	May-19	Maize	Export policy	Adopted Decree 208/2019 approving new export-based tax incentives for small and medium enterprise (SMEs). The new legislation allows local SMEs to deduct the FOB value of the export tax adopted by Decree 793/2018 of 3 September 2018. This regime only applies to companies that have increased exports compared with the previous year, or to those that just started exportation activities.
	Jun-19	Grains	Production support	Granted ARS 87 million (USD 1.5 million) through the National Fund for the Mitigation of Agricultural Emergencies and Disasters to assist producers of all grains in the Chaco province who were affected by severe floods (Resolution N° 33/19).
	Jul-19	Maize	Price support	Adopted Disposition 119/2019 increasing the price of sugar-cane-based and maize-based ethanol used in fuel blending for automobiles. The new prices have increased from ARS 24.073 to ARS 24.916 (from USD 0.58 to USD 0.6) per litre, and from ARS 21.801 to ARS 22.564 (from USD 0.52 to USD 0.54) per litre, respectively.
	Sep-19	Maize	GMO policy	Approved a new genetically modified (GM) maize variety for commercial planting. It protects against lepidoptera insects, including <i>Diatraea saccharalis</i> , <i>Spodoptera frugiperda</i> and <i>Helicoverpa zea</i> (Resolution N° 103/2019).
Australia	Oct-19	Grains	Export policy	Issued a resolution that cuts the time given to exporters to pay taxes on grain and oilseed exports. The resolution will reduce the permitted time for the registration of exports from 45 to 30 days and force exporters to pay the tax shortly after the date of sale, and not on the date of shipment, as is currently the case.
	May-19	Wheat	Import policy	Approved permits for single imports of bulk wheat from Canada (subject to biosecurity risk conditions) due to tight domestic situation caused by last year's drought-reduced crop.
	Sep-19	Grains	Production support	Announced an aid package of AUD 100 million (USD 67.5 million) for farmers and communities affected by severe drought, of which AUD 33 million (USD 22.3 million) will go towards resuming the Drought Community Support Initiative, under which eligible households are subject to receiving a maximum of AUD 3 000 (USD 2 026). The assistance also includes AUD 1 million (USD 675 000) for 13 additional local government areas for water infrastructure upgrades and other projects. In addition, the Government will provide AUD 51.5 million (USD 34.8 million) to simplify and extend the Farm Household Allowance programme.
Brazil	May-19	Maize and wheat	Production support	Released the budget for the Rural Insurance Premium Programme 2019, allocating BRL 125 million (USD 30.9 million) to winter crops such as sunflower and wheat, and BRL 160 million (USD 39.6 million) to soybean, maize, rice, beans and coffee crops.
	Jun-19	Grains	Government support	Launched Plan Safra 2019/2020. BRL 225 billion (USD 58.4 billion) will be invested in the agriculture sector, of which BRL 222 billion (USD 57.65 billion) will be allocated to rural credits, BRL 1 billion (USD 258.1 million) to insurance premiums, and BRL 1.85 billion (USD 477.6 million) to marketing.

COUNTRY	DATE	COMMODITY	POLICY INSTRUMENT	DESCRIPTION
Brazil	Sep-19	Grains	Government support	Authorized BRL 25.3 million (USD 6.07 million) in payments to producers affected by severe drought through the Harvest Guarantee Program. The payments were to be made available to farmers from September 2019 in the north and the northeast regions (Ordinance N°. 4315).
	Jul-19	Grains	Production support	Announced that crop producers who were impacted by low prices, reduced marketing opportunities or falling incomes would be eligible for an additional six months to repay outstanding 2018 cash advances under the financial loan guarantee initiative (Advance Payments Program). A stay of default scheme will provide additional flexibility to repay cash advances, particularly for grain, oilseeds and pulses.
Canada	Jul-19	Wheat	Export policy	Resumed shipments of wheat and pulses after a four-year weather-related interruption. Reopening the Port of Churchill is expected to generate considerable efficiency gains in channeling grain and pulses to Europe, North Africa and the Middle East.
	Aug-19	Wheat	Government support	Stepped up investments in grain transport infrastructure, logistics and productivity improvements to minimize congestion in the Port of Johnstown, a strategic export gateway for wheat, maize and soybeans in Ontario and Quebec. A further CAD 20 million (USD 15.2 million) were invested to improve rail capacity in British Columbia, expand terminals in the Port of Vancouver, and ensure the continued competitiveness and efficiency of rail transport networks.
Chile	Jun-19	Wheat	Trade policy	Increased applicable discounts on customs duties for wheat and wheat or meslin flour from USD 91.6 to USD 97.9 per tonne, and from USD 142.9 to USD 152.8 per tonne, respectively. These discounts were to apply for a two-month period starting on 16 June 2019.
	Aug-19	Wheat	Trade policy	Reduced the discounts on customs duties for wheat and wheat or meslin flour. The discounts will apply for a two-month period started on 16 August 2019. The applicable discounts have decreased from USD 97.9 to USD 84.6 per tonne of wheat, and from USD 152.8 to USD 131.9 per tonne of wheat or meslin flour.
China (Mainland)	May-19	Grains	Production support	Released a warning against the spread of Fall Armyworm and its potential negative impact on the output and quality of grains in northern areas.
	May-19	Maize and wheat	Import tariff	Increased tariffs on USD 60 billion worth of US goods, from 10 to 25 percent on List 1 products, 10 to 20 percent on List 2 products, and 5 to 10 percent on List 3 products, which include wheat, maize and soy products.
	Jun-19	Grains	Production support	Recommended a list of 25 pesticides for emergency use against armyworms until December 2020.
	Jul-19	Wheat	Import policy	Approved imports of wheat from Russia's Kurgan region.
	Aug-19	Maize, wheat and sorghum	Import duty	Announced that additional duties of 10 percent on US wheat, maize and sorghum will enter into force on 15 December 2019.
	Oct-19	Maize	Government market intervention	Announced that state-held auctions for maize reserves will conclude by 18 October 2019, marking an end to four years of auctions.
	Oct-19	Wheat	Procurement price	Set the 2020 minimum purchasing price for domestic wheat at CNY 2 240 (USD 316.08) per tonne, the same level as 2019, but said it will cap the volume it buys from farmers under the guarantee programme at 37 million tonnes.
	Oct-19	Maize and wheat	Production support	Extended the insurance coverage on maize and wheat plantings to over 70 percent by 2022 at the premium of 1 percent of value-added agricultural output.



COUNTRY	DATE	COMMODITY	POLICY INSTRUMENT	DESCRIPTION
Egypt	Jul-19	Wheat	Import requirements	Confirmed the maintenance of a 13.5 percent moisture content requirement in wheat imports ( <i>triticum aestivum</i> ) until April 2020.
	Oct-19	Wheat	Government market intervention	Issued decree N°. 166 for 2019, which states that specifications of subsidized flour extraction 82 percent have been altered. Mill owners and managers who are licensed to produce wheat flour extraction 82 percent are to produce flour as per the following specifications: the moisture rate would not exceed 14 percent; ash content on dry matter basis would not exceed 0.1 percent; fibres would not exceed 0.4 percent; sand would not exceed 0.1 percent. The flour would be free of red shorts, as well as of soft and coarse bran; clean and free of insects in all its stages and free of foreign matter, and would have a natural colour and odour.
	Jun-19	Maize	Government market intervention	Raised maize selling price to SZL 4 000 (USD 283) per tonne and the buying price to SZL 2 800 (USD 198) per tonne, about 15 percent and 8 percent higher than last year's levels, respectively.
Ethiopia	Oct-19	Wheat	Production support	Launched an initiative to produce wheat in three lowland basins of the country: Awash, Wabeshebele and Omo basins, locations where wheat production was not previously practised. The lowland wheat initiative will cover more than 132 000 hectares (ha) of land across the three basins, and is expected to produce nearly 6 million quintals of wheat, along with more than 100 000 quintals of improved wheat seeds.
European Union	Jun-19	Grains	Trade agreement	A trade agreement was signed between the EU and Southern Common Market (MERCOSUR) countries (Argentina, Brazil, Paraguay and Uruguay) that will progressively enhance market access for goods and services, while promoting cooperation in customs issues, food safety and sustainable trade.
	Jul-19	Maize	GMO policy	Approved imports of new GM crops for processing and use in food and feed, including 6 maize traits and one stacked-trait maize line (resulting from the combination of approved single traits). Import approvals for food and feed were also renewed for one GM maize line and one variety of glufosinate-tolerant oilseed rape.
	Jul-19	Grains	Government support	In the wake of a prolonged drought, the European Commission facilitated the collection of direct payments and rural development funds under the Common Agricultural Policy (CAP), thus allowing producers to collect a higher share of payment advances in mid-October instead of December. In addition, to manage possible fodder shortages, deviations from certain CAP greening requirements will be granted, for example to allow fallow land to be used for grazing.
India	Apr-19	Wheat	Import duty	Increased the import duty on wheat from 30 percent to 40 percent, in an effort to curb imports and offload excess grain from storage units.
	Apr-19	Wheat	Government market intervention	Announced the reserve price of wheat for sale under the open market sale scheme (OMSS) for the first quarter of MY 2019/20 (April-June) at INR 20 800 (USD 301) per tonne, with an increment of INR 550 (USD 8) per tonne in the subsequent three quarters.
	May-19	Wheat	Government market intervention	Fixed the reserve price of wheat under open market sale from official stock at INR 2 080 per quintal (USD 292.4 per tonne), much higher than the minimum support price, during the procurement period April-June and announced an INR 55 per quintal (USD 7.7 per tonne) increase in each of the subsequent quarters.
	Jun-19	Maize	Import policy	Allowed imports of 100 000 tonnes of maize, at a reduced import duty of 15 percent (60 percent standing duty).
	Jul-19	Barley and maize	Government procurement	Increased the minimum support price for maize by 3.5 percent, to INR 1 760 per quintal (USD 245.5 per tonne), and for sorghum by 5 percent, to INR 2 500 per quintal (USD 351.5 per tonne).

COUNTRY	DATE	COMMODITY	POLICY INSTRUMENT	DESCRIPTION
	Jul-19	Grains	Government support	Released the Union Budget for 2019–20, allocating INR 1 304 billion (USD 18.2 billion) to the agriculture sector. The Union Budget includes an investment of INR 750 billion (USD 10.5 billion) for the income support scheme (PM-KISAN); INR 35 billion (USD 488 million) for farm productivity; and INR 8 billion (USD 111.6 million) for agriculture-related infrastructure. In addition, fertilizer subsidy allocations were increased by INR 100 billion (USD 1.4 billion) to about INR 800 billion (USD 11.2 billion).
	Jul-19	Maize	Import duty	Lowered the import duty on an additional 400 000 tonnes of feed grade maize to 15 percent, to stabilize poultry feed prices.
	Jul-19	Grains	Government support	Introduced an interest subvention scheme applicable for short-term crop loans of up to INR 300 000 (USD 4 184). The normal interest rate available to farmers is 7 percent per annum. Under the scheme, the Government will subsidize interest at the level of 2 percent per annum on the restructured loan amount, to mitigate the effects of natural disasters (up to a maximum of 5 years). An additional 3 percent will be offered to incentivize prompt repayment by farmers, thereby reducing the effective interest rate to 4 percent.
	Oct-19	Wheat	Procurement price	Increased the minimum support price of wheat by INR 85 to 1 925 per quintal (by USD 12 to 271.8 per tonne).
Italy	Jul-19	Wheat	Production support	The Italian export credit agency SACE, together with the <i>Cassa Depositi e Prestiti</i> , has announced an investment of EUR 35 million in Italian wheat firm the Casillo Group. The investment aims to support technological renewal and strengthen the group's production capacity in the agrifood sector, as well as to support exports on international markets.
Iraq	Oct-19	Wheat	Production support	Approved allocation of 2.25 million ha of agricultural land for wheat planting in the 2019–20 season, 500 000 ha more than the previous season.
	Aug-19	Maize and sorghum	Government market intervention	In response to the Fall Armyworm outbreak, the Government announced a support payment of JPY 5 000 (USD 46.8) per tonne if farmers purchase feed other than maize. It also provided financial support for storage costs for imported feed, and established a list of permitted pesticides to use on maize and sorghum crops.
Japan	Sep-19	Maize and wheat	Trade agreement	Signed a trade agreement with the US on agricultural products and digital trade. The agreement will lower or eliminate tariffs on several US agricultural products, including sweet maize. For some commodities, including US wheat and maize starch, preferential market access will be provided through the creation of country- specific tariff quotas.
	Oct-19	Maize and wheat	Trade agreement	Signed the US-Japan Trade Agreement and US-Japan Digital Trade Agreement. The agreements provided for a duty-free country-specific tariff quota of 150 000 for US wheat imports over a 9-year period. The minimum selling price ranges between JPY 8.5 and 9.4 per kg – between USD 78.3 and USD 86.6 per tonne (reduced by 45 percent for two categories of wheat products). Similarly, it provided for a country-specific tariff rate quota of 3 250 for US maize starch imports over a 6-year period.
Kazakhstan	Sep-19	Wheat	Procurement price	Announced procurement prices for 2019 grains. The price for wheat 3rd grade now ranges from KZT 70 000 (USD 179) to KZT 76 000 (USD 194) per tonne, against KZT 54 000 (USD 138) to KZT 54 300 (USD 139) in the past season, set in November 2018. Prices for wheat 4th grade vary from KZT 62 000 (USD 158) to KZT 65 000 (USD 166) per tonne. All prices are inclusive of VAT.
Kenya	May-19	Maize	Stocks release	Released 3 million maize bags from the strategic reserves in order to ease the grains shortage affecting the country and curb rising flour prices. Millers are now paying KES 3 000 for a 90 kg bag (USD 321.4 per tonne) of maize, down from KES 3 400 (USD 364.2 per tonne) last month, with prices expected to fall further as farmers release the stocks they have been hoarding to the market.
Kenya	Jul-19	Wheat	Production support	Provided pesticides with a total value of KES 200 million (USD 1.9 million) to combat quela birds, which destroy thousands of hectares of wheat in Narok County during harvest-time.
	Jul-19	Maize	Import duty	Opened a window for duty-free import of 12.5 million bags of maize starting at the end of July 2019, to address a shortfall in maize. The imports were expected to last until end of October 2019.

COUNTRY	DATE	COMMODITY	POLICY INSTRUMENT	DESCRIPTION
Malawi	Aug-19	Maize	Procurement price	Increased procurement price of maize from MWK 150 to MWK 180 per kg (USD 200 to USD 250 per tonne), in order to ensure adequate stocks for national food security.
Mexico	Oct-19	Maize	Government market intervention	Announced the start of purchase of maize at the minimum support price of MXN 5 610 (USD 278) per tonne, with a limit of 20 tonnes for each purchase. Maize purchases will only be made from farmers with 5 ha or less cultivated under rainfed conditions.
Morocco	May-19	Wheat	Import duty	Reintroduced import duty on common wheat at 135 percent after a suspension from January to April 2019. Effective until 1 September 2019.
	May-19	Wheat	Government market intervention	Implemented a number of measures to help wheat farmers market their harvest for the 2018–19 crop year. The measures include: maintenance of reference price for local common wheat at MAD 2 800 (USD 291) per tonne, provision of a biweekly storage premium of MAD 20 (USD 2.1) per tonne, and provision of a subsidy to millers and collectors for the quantities of domestic common wheat at MAD 50 (USD 5) per tonne. These measures were effective from 1 June to 31 August 2019.
	Sep-19	Wheat	Import duty	Announced a cut in the customs duty on soft wheat from 135 percent to 35 percent, effective from 1 October 2019.
Nigeria	Sep-19	Wheat	Production support	Released a high-yielding wheat variety to farmers in order to improve national output of this crop. The new variety can easily adapt to irrigated conditions in the Suddano-Sahelian zone and has a potential yield of 7.1 tonnes per hectare.
Pakistan	Jul-19	Wheat	Export ban	Imposed a ban on wheat and wheat flour exports, amid rising concerns over a hike in domestic prices of wheat products.
Russian Federation	Jun-19	Barley and wheat	Export requirements	Signed a protocol with China, setting phytosanitary requirements for barley exports to that country. In addition, the number of regions permitted to export wheat to China was expanded from six to seven.
	Jul-19	Wheat	Export policy	Renewed the extension of the duty-free export regime applicable to wheat until 1 July 2021. The export duty had been suspended between September 2016 and June 2019.
Saudi Arabia	Aug-19	Wheat	Bilateral agreement	Saudi Arabia and the United Arab Emirates announced a joint food aid package to Sudan that included 540 000 tonnes of wheat to cover basic food needs for a three-month period.
	Aug-19	Wheat	Import requirements	The Saudi Grains Organization (SAGO) relaxed the threshold to 0.5 percent under its zero-tolerance policy related to insect damage of wheat imports. The measure is expected to increase imports from the Black Sea.
	Aug-19	Wheat	Import requirements	Announced that it will import 10 percent of the country's annual wheat consumption requirements from Saudi-controlled firms based abroad. The firms must be registered at the Ministry of Environment, Water and Agriculture.
South Africa	May-19	Wheat	Import duty	Increased the import duty on wheat and wheat flour from ZAR 49.07 cent per kg (USD 34 per tonne) and ZAR 73.61 cent per kg (USD 51 per tonne) to ZAR 67.51 cent per kg (USD 47 per tonne) and ZAR 101.26 cent per kg (USD 70 per tonne), respectively. This import tariff applies to all countries, except for members of the Southern African Development Community.
	Sep-19	Wheat	Import duty	Reduced the import duty on wheat and wheat flour from ZAR 95.8 cent per kg (USD 64.6 per tonne) and ZAR 143.69 cent per kg (USD 96.9 per tonne) to ZAR 66.47 cent per kg (USD 44.8 per tonne) and ZAR 99.71 cent per kg (USD 67.2 per tonne), respectively.

COUNTRY	DATE	COMMODITY	POLICY INSTRUMENT	DESCRIPTION
South Africa	Oct-19	Wheat	Import duty	Increased the import duty on wheat and wheat flour from ZAR 66.47 cent per kg (USD 44.8 per tonne) and ZAR 99.71 cent per kg (USD 67.2 per tonne) to ZAR 100.86 cent per kg (USD 69.34 per tonne) and ZAR 151.29 cent per kg (USD 104 per tonne), respectively.
Thailand	Aug-19	Grains	Production support	Assigned a budget of THB 25,842 billion (USD 843.9 million) to support nearly 4.3 million family farmers who have been affected by rising production costs and an appreciation of the domestic currency against the US dollar since the beginning of the year. An additional THB 18.5 billion (USD 604.2 million) was assigned to support drought-affected farming communities.
Turkey	Aug-19	Maize	Procurement price	Announced the 2019 Turkish Grain Board maize purchase price of TRY 1 150 (USD 209) per tonne. The maize purchase price in 2018 was TRY 950 (USD 173) per tonne.
Ukraine	May-19	Wheat	Government market intervention	Adopted new standards for wheat. In particular, the number of categories for soft wheat was reduced to four from the initial six that existed in the current standard. The new standard was due to be effective from 1 August 2019.
	May-19	Wheat	Government market intervention	Revised the implementation date from 1 August to 10 June 2019 for the new wheat standards, due to concerns from grain industry representatives. The introduction was set one month after the beginning of the marketing year (July), and could have created issues with the monitoring of wheat delivery to silos following harvest.
United States of America	May-19	Grains	Import tariff	Raised tariffs from 10 percent (imposed in 2018) to 25 percent on approximately USD 200 billion worth of imports from China covering 6 000 items, including almost 1 000 food products.
	May-19	Grains	Government market intervention	Announced a USD 16 billion aid package for farmers affected by tariff retaliation. The package includes the Market Facilitation Program, which aims to provide USD 14.5 billion in direct payments to producers (including grain producers); a USD 1.4 billion Food Purchase and Distribution Program to purchase affected surplus commodities for distribution to foodbanks, schools, and outlets serving low-income individuals; and USD 100 million issued to the Agricultural Trade Promotion Program, to assist in developing new export markets on behalf of producers.
	May-19	Maize and sorghum	Import policy	Announced the termination of India's designation as a beneficiary developing country under the Generalized System of Preferences. This measure took effect as of 5 June 2019, and affects several products imported from India, including maize and sorghum.
	Jun-19	Maize	Production support	Adjusted the haying and grazing date on prevented plant acres from 1 November to 1 September for 2019. The measure is directed at farmers who were unable to plant maize and soybeans this year, due to widespread flooding across the US Midwest.
	Jul-19	Grains	Government support	Announced payments under the Market Facilitation Program to compensate farmers affected by retaliatory tariffs. Payments range from USD 15 to USD 150 per acre, with instalments to be paid mid-to-late August and November 2019 and January 2020. The need for further instalments will be assessed in the light of future market developments.

COUNTRY	DATE	COMMODITY	POLICY INSTRUMENT	DESCRIPTION
United States of America	Aug-19	Maize	Government market intervention	Notified the World Trade Organization of maximum residue limits for mefenitruconazole on certain commodities, including maize. The regulation established a limit of 0.01 parts per million (ppm) on maize field grain and maize pop grain, and a limit of 0.03 ppm for maize milled by-products, as well as maize sweet kernel and cob with husks removed (G/SPS/N/USA/3094).
	Aug-19	Grains	Government support	Introduced administrative flexibility to defer the accrual of interest on insurance premiums for the Spring 2019 crop year. The measure seeks to ease the consequences of delayed or prevented plantings, as well as reduced crop yields caused by severe flooding or extreme drought conditions throughout 2019.
	Aug-19	Grains	Government support	The Family Farmer Relief Act of 2019 was signed, amending the debt threshold used to determine farmers' eligibility for relief under existing farm-specific bankruptcy laws. With farmers facing sustained declines in net farm incomes and an unpredictable trade environment, the debt limit was raised from USD 4.4 million to USD 10 million.
Viet Nam	Oct-19	Wheat	Export policy	Asked the Russian Federation to temporarily suspend issuing wheat export certificates, after finding imports containing thistle seed.
Zambia	May-19	Maize	Export ban	Increased the sale of government-purchased maize and imposed a temporary ban on maize exports, in an effort to bolster domestic availability and ease inflationary pressure after prices of maize meal, a staple food, rose sharply in April.
	Jul-19	Maize	Government procurement	Increased the purchasing price of maize by nearly 50 percent, from ZMW 75 to ZMW 110 per 50 kg bag (from USD 118.6 to USD 173.8 per tonne), with immediate effect and until 31 October 2019.
	Aug-19	Maize	Government market intervention	Introduced a cap on maize grain prices at ZWK 2 600 (USD 198) per tonne. The measure aims to halt the increasing prices of domestic maize, which reached record highs in September, mainly due to reduced domestic supplies.
	Oct-19	Maize	Procurement price	Agreed with grain traders to keep the domestic price of maize constant until the next harvest in June 2020. The current maize price is set at ZMW 4 200 (USD 317.6 per tonne).
	Jun-19	Maize	Government market intervention	Issued statutory instrument N° 145, which prohibits the purchase and sale of maize among private individuals and companies, leaving the state-owned Grain Marketing Board as the only entity able to acquire and sell maize.
	Sep-19	Maize and wheat	Bilateral agreement	Signed deals with Belarus worth USD 350 million in order to enhance economic cooperation. The agreements involve the construction of a power plant, and transport, logistical support and development for agricultural projects. The latter will enable the country to grow maize, wheat and soybeans for internal consumption.
	Sep-19	Wheat	Government market intervention	Tightened monitoring mechanisms on a wheat subsidy meant for bread, in order to prevent its use for other products, such as biscuits, cakes and other confectioneries. The subsidy is RTGS 2 300 (USD 85.3) per tonne.
	Oct-19	Grains	Procurement price	Raised the domestic price of maize and other grains, including sorghum and millet, from RTGS 2 100 to RTGS 4 000 (USD 81.1 to USD 154.9) per tonne.

\* A collection of major grain policy developments starting in July 2010 is available at: <http://www.fao.org/economic/est-commodities/commodity-policy-archive/en/?groupANDcommodity=grains>



## RICE: MAJOR POLICY DEVELOPMENTS MID-APRIL TO MID-OCTOBER 2019\*

Country	Date	Policy Instrument	Description
Argentina	Apr-19	Consumer prices	Announced that it had reached an agreement with the private sector to keep prices of some 60 basic necessities, including rice, steady for at least six months. The measure came into effect on 22 April 2019 and was implemented within the framework of the <i>Precios Cuidados</i> scheme.
	Jul-19	Export taxes	Lowered the cap on export taxes on rice to ARS 3 for every US dollar of value, or of the official free-on-board (FOB) price. This compares with a previously applicable ceiling of ARS 4 for every US dollar of value. The measure became effective on 10 July 2019.
	Aug-19	Tax policy	Removed value added tax (VAT) on rice and other basic foodstuffs, effective from 16 August until 31 December 2019.
	May-19	Import tariff	Raised import tariffs on rice (husked, semi/wholly milled and broken) from 28 percent to 55 percent. The revised rate consists of a 25 percent customs duty, a 25 percent regulatory duty, and a 5 percent advance income tax.
Bangladesh	May-19	Export ban	Issued statements to the press indicating a decision to allow up to 1.5 million tonnes of rice exports, rescinding the ban on non-aromatic exports that had been in place since May 2008. Furthermore, to encourage sales abroad and mitigate falls in paddy prices, it would consider extending a 20–30 percent incentive for rice exports.
	Jun-19	Government procurement	Decided to purchase an additional 250 000 tonnes of paddy from the 2019 Boro harvest directly from farmers, in a bid to help producers cope with declines in local prices. The move raised the target of volumes to be procured under the 2019 Boro drive to a total of 400 000 tonnes of paddy and 1.15 million tonnes of rice.
	Jun-19	Export duty	Announced that it would raise the export duty on rice bran from 10 percent to 25 percent, as part of its 2019/20 budgetary allocations.
	Jun-19	Production support, crop insurance	Announced that it would give priority to research on flood, drought, salinity and temperature resistant varieties, in addition to stepping up interventions to encourage crop diversification, organic pest management and farm mechanization. The announcements form part of the Government's 2019/20 budgetary allocations, which also foresee maintaining local prices of chemical fertilizers unchanged during the 2019/20 (July–June) fiscal year, the introduction of a pilot crop insurance scheme against natural disasters, VAT exemptions on agricultural machinery, and the provision of subsidies to producers to cover the costs of farm machinery.
	Oct-19	Re-export restrictions	Issued a circular instructing customs brokers and other operators to refrain from issuing transit or re-export declarations for parboiled rice destined for Nigeria.
Brazil	Jul-19	Minimum support prices	Set Minimum Support Prices (MSPs) for the 2020/21 season (2019/20 season for Brazil), effective from February 2020 to January 2021. The MSP for fine long grain paddy was raised by 8.75 percent to BRL 793 (USD 193) per tonne for the South Region (except Paraná), and by 10.04 percent to BRL 793 (USD 193) per tonne for all other regions. No MSP was specified for long grain paddy.
Cambodia	Apr-19	Preferential trade arrangement, safeguard measures	Filed a challenge before the Court of Justice of the European Union requesting the repeal of Commission Implementing Regulation (EU) 2019/67, through which the European Union imposed safeguard duties on selected classes of semi/wholly milled rice imported from Cambodia and Myanmar.
Chad	May-19	Import tariff	Exempted rice from import tariffs, previously set at 5 percent, effective 10 May 2019. The measure, which also suspends import duties and VAT for other basic foodstuffs, aims to contain prices of basic necessities.
China (Mainland)	Apr-19	Import agreement	According to press reports, officials from Yunnan Province clenched a memorandum of understanding (MoU) for a barter deal that will see 100 000 tonnes of rice originated in Myanmar shipped to China overland, along with other products, in exchange for Chinese machinery, fertilizers and other goods.



Country	Date	Policy Instrument	Description
China (Mainland)	Apr-19	Import agreement	Signed an MoU, under which the Chinese state trading enterprise China National Cereals, Oils and Foodstuffs Corporation (COFCO) would import 400 000 tonnes of rice originated in Cambodia between August 2019 and December 2020.
	Jun-19	Import agreement	Signed an MoU, under which Chinese state trading enterprise COFCO would import 100 000 tonnes of rice originated in Myanmar, through maritime channels. The deal follows news of China's assent to quadrupling the annual quota of official Chinese purchases of rice originated in Myanmar to 400 000 tonnes.
	Aug-19	Futures trade	Launched a futures contract for Japonica rice (round-grain, polished) on the Dalian Commodity Exchange (DCE).
	Sep-19	Import quota	Left the tariff-rate import quota for 2020 unchanged at 5.32 million tonnes.
	Apr-19 to Oct-19	Stock release	Sold 9.9 million tonnes of paddy from government reserves through 56 auctions held between 16 April 2019 and 11 October 2019, offering a total of 48.3 million tonnes of paddy for sale from state stockpiles.
Colombia	Sep-19	Import quota	Announced that applications to import 60 000 tonnes of semi/wholly milled rice (whether polished or not) from Peru were opened on 10 September 2019. Volumes imported under the quota are to be delivered between 1 September 2019 and 31 August 2020.
	Jul-19 to Sep-19	Support prices, warehouse receipts programme	Decided to implement the storage incentive programme for 2019 second-semester crops in the departments of Arauca, Meta, Casanare, Vichada, Guaviare and the Paratebuena municipality of Cundinamarca, between 1 August 2019 and 30 December 2019. COP 11 billion (USD 3.2 million) were to be allocated for the purpose. The funds would be destined to extend a COP 29 000 (USD 8.4) monthly outlay to cover the cost of storing a tonne of paddy, for up to 126 436 tonnes of dry paddy (or its equivalent). The outlay would be granted on condition that these supplies are purchased at reference prices of COP 125 000–140 000 per 125 kg of green paddy (USD 290–325 per tonne). A September decision allocated an additional COP 9.5 billion (USD 2.8 million) to the scheme, so as to increase volumes covered under the programme to a total of 235 631 tonnes of dry paddy (or its equivalent).
Ecuador	Apr-19	Production support, support prices, government procurement	Restored fixed producer support prices for paddy, rescinding the price band in place since April 2018. Accordingly, effective 25 April 2019, paddy of less than 7 mm in length, 20 percent moisture content and 5 percent impurities would fetch USD 29 per 200 lb (USD 320 per tonne), while the producer price for paddy exceeding 7.1 mm in length, with 20 percent moisture content and 5 percent impurities, was set at USD 31 per 200 lb (USD 342 per tonne). Moreover, the National Storage Unit ( <i>Unidad Nacional de Almacenamiento - UNA EP</i> ) would absorb the equivalent of 2 percent of national production, giving priority in its purchases to smallholder producers.
India	May-19	Trade agreement, export restrictions	Decided that 89 454 tonnes of rice exports to the Republic of Maldives, along with other products, would be exempted from any existing or future restriction/prohibition on exports in 2019/20. The measure came into effect in April 2019.
	Jul-19	Support prices, government procurement	Raised minimum support prices for paddy by 3.7 percent, setting them at INR 18 150 (USD 256) per tonne in the case of common paddy, and at INR 18 350 (USD 259) per tonne, in the case of Grade A paddy.
	Jul-19	Futures trade	Launched a futures contract for 1121 Basmati paddy on the Indian Commodity Exchange Limited (ICEX).
Kenya	Jun-19	Import tariff	Renewed the exemption of the Common External Tariff (CET) of the East African Community on rice imports until 30 June 2020. Accordingly, imports of paddy, husked, semi/wholly milled rice and broken rice will continue to accrue a 35 percent import tariff (or USD 200 per tonne, whichever is higher), instead of the 75 percent tariff (or USD 345 per metric tonne) they would accrue under the CET.
Niger	Sep-19	Re-export restrictions	According to unconfirmed press reports, issued a circular prohibiting re-exports of white and parboiled rice to Nigeria, with immediate effect.
Nigeria	Aug-10 to Oct-19	Import restrictions	Launched Exercise Swift Response, a joint security operation between the Nigeria Customs Service, the Nigeria Immigration Service, the Armed Forces of Nigeria and other entities, which enforced a partial closure of borders with Benin, successively extended to borders with Niger. The aim of the operation was to curb smuggling, especially of rice, and it was to be complemented by other anti-smuggling measures, to be discussed with authorities in Benin and Niger. Official statements issued in October indicated that, with the partial closure of borders with neighbouring countries, cross-border exchanges of any goods remained banned for an indefinite period.

Country	Date	Policy Instrument	Description
Panama	Jul-19	Production support	Decided that the PAB 165 (USD 165) per tonne subsidy scheme for rice producers would continue to be implemented. Producers would receive the outlay for crops harvested and sold between 1 July 2019 and 20 June 2020.
Peru	Jun-19	Import tariff	Decreed that the ceiling applied on additional duties levied on rice imports under the price band mechanism would be maintained at 20 percent of the imports' Cost, Insurance and Freight (CIF) value, instead of being lowered to 15 percent of CIF value, as foreseen by an earlier decision. The measure, which also sets out new customs tables adjusting the additional duties, will be in effect until 30 June 2020, after which the ceiling on additional surcharges will be adjusted to 15 percent of imports' CIF value.
	Jul-19	Tax policy	Exempted rice exports from the 4 percent sales tax on pounded rice ( <i>Impuesto a la Venta de Arroz Pilado - IVAP</i> ). According to the decision, traders exporting supplies falling under tariff lines 1006200000, 1006300000, 1006400000 and 2302200000 would be eligible for a refund on IVAP taxes, effective from 1 August 2019.
	Sep-19	Production support, government procurement	Launched the Expanded Survival and Recovery Assistance Program for Rice Farmers (SURE Aid Program), granting a one-time, PHP 15 000 (USD 291) interest-free loan, payable in eight years, to rice farmers cultivating up to 1 hectare (ha). In addition to the credit assistance, the programme envisages the National Food Authority purchasing supplies from participating producers. The scheme aims to assist farmers cope with declines in paddy prices, coming on top of assistance envisaged under the Rice Competitiveness Enhancement Fund (RCEF) for producers affected by rice tariffication. A fund of PHP 1.5 billion (USD 29.1 million) was initially set aside to implement the scheme, but a 12 September decision approved an additional PHP 1 billion (USD 19.4 million), to enable the programme to cover some 170 000 producers.
The Philippines	Sep-19	Stock release	Instructed the National Food Authority (NFA) to offload 180 000 tonnes of rice that the agency held in store onto the market by 10 October 2019. The supplies would be sold at a consumer price of PHP 27 (USD 0.52) per kg.
	Sep-19	Government procurement, purchasing prices	Announced that the NFA would raise the price at which it purchases locally produced paddy by 11.8 percent to PHP 19 per kg (USD 368 per tonne) of clean dry paddy. At the same time, the agency would no longer offer PHP 3.7 (USD 0.07) per kg worth of cash incentives (consisting of the Buffer Stocks Incentive, the Cooperative Development Incentive Fund, drying and delivery incentives) that had been paid on top of government purchasing prices. Thus, the overall price effectively paid by the NFA when purchasing paddy from producers would be lowered by PHP 1.7 per kg (USD 32.9 per tonne) to PHP 19 per kg (USD 368 per tonne).
	Oct-19	Production support	Announced that it would provide rice producers cultivating up to 1 ha with a one-time direct cash outlay of PHP 5 000 (USD 97) to help them cope with declines in paddy prices. The cash assistance would be provided on top of credit support available through the Expanded Survival and Recovery Assistance Program for Rice Farmers (SURE Aid Program), and would be financed by funds accrued from tariffs levied on rice imports.
	Sep-19 to Oct-19	Safeguard measures	Notified the World Trade Organization that on 11 September 2019 it began a preliminary safeguard investigation on imports of selected classes of semi/wholly milled rice (those falling under tariff lines 10063030, 10063040, 10063091 and 10063099). According to officials, the move was made in light of continuous increases in rice imports, and parallel falls in farmgate prices of paddy, with related income losses by farmers, as well as an abrupt shift by traders from purchasing locally produced paddy to buying imported rice. The investigation was expected to be completed by the close of September or early October, with additional options including the imposition of stringent sanitary and phytosanitary (SPS) and inspection measures. Nonetheless, official statements to the press issued in October indicated that a decision on whether safeguard duties would be imposed had been deferred.
Rwanda	Jun-19	Import tariff	Decided that imports of semi/wholly milled rice would continue to attract a 45 percent (or USD 345 per tonne, whichever is higher) import duty for an additional year, instead of the 75 percent import tariff (or USD 345 per metric tonne) that they accrue under the Common External Tariff (CET) of the East African Community.
Sri Lanka	May-19	Price controls	Set the maximum retail price for white Samba rice at LKR 85 (USD 0.47) per kg, at LKR 80 (USD 0.44) per kg of white Nadu rice, and at LKR 74 (USD 0.41) per kg of red Nadu, effective 31 May 2019.
	Aug-19	Production support	Approved a pilot programme that will see drying equipment distributed with preferential terms to farmer organizations in the Polonnaruwa District.

Country	Date	Policy Instrument	Description
	Aug-19	Consumer prices	Announced that, in a bid to ease the impact of a surge in glutinous rice prices on consumers, it would sell 2-5 kg packs of glutinous rice through Thong Fah Pracharat (Blue Flag) shops, at a subsidized rate of THB 35 (USD 1.1) per kg, starting in September. A nationwide inspection of glutinous rice stocks would also be launched in order to prevent hoarding.
Thailand	Aug-19	Production support, support prices	Approved a budget of THB 21.5 billion (USD 706 million) to implement the Rice Price Guarantee Programme. Under the scheme, in the event that market prices fall below guaranteed prices, farmers will receive the difference between the two. Guaranteed prices were set at THB 15 000 (USD 492) per tonne of Hom Mali paddy for a maximum of 14 tonnes or 40 rai cultivated (6.4 ha) per farming household, at THB 14 000 (USD 460) per tonne of provincial fragrant paddy for up to 16 tonnes or 40 rai, at THB 11 000 (USD 361) per tonne of Pathum Thani fragrant for up to 25 tonnes or 40 rai, at THB 12 000 (USD 394) per tonne of glutinous paddy for a maximum of 16 tonnes or 40 rai, and at THB 10 000 (USD 328) per tonne of white paddy for up to 30 tonnes or 40 rai cultivated per farming household. The programme will be effective for the 2019/20 main-crop cycle, starting from 15 October 2019, replacing previous support schemes that sought to stabilize paddy prices at harvest-time by encouraging farmers and traders to delay sales. Under a separate programme, rice producers will receive a payment of THB 500 per rai (USD 103 per ha) for up to 20 rai (3.2 ha) cultivated, in order to help them cover the costs of production during the 2019/20 main-crop cycle.
	May-19 to Jul-19	Stock release	Auctioned a total of 42 225 tonnes of rice from government stocks through two tenders held on 10 and 14 May 2019. Of the total, 13 635 constituted food-grade rice, while the remainder was suitable for feed and other uses. Another tender, held on 25 July 2019, offered an additional 208 650 tonnes of rice (white, fragrant and glutinous rice, suitable for food and non-food uses) for sale from government reserves.
Turkey	May-19	Import tariff	Halved the additional import duty imposed on rice originating in the United States in August 2018 to 25 percent, with immediate effect. The measure brought total import duties on US rice to 59 percent for paddy, 61 percent for husked rice, and 70 percent for semi/wholly milled and broken rice.
United States of America	May-19	Production support, government procurement	Announced a second support programme for producers affected by trade disputes with China, setting aside USD 16 billion for the purpose. The initiative will entail extending direct outlays worth USD 14.5 billion to producers of a host of commodities, including rice, in three tranches, under the Market Facilitation Program (MFP). These payments would range from USD 15 to 150 per acre (USD 37-375 per ha), and would be calculated based on county-level per acre payment rates and the total extension cultivated by producers, irrespective of which of the covered crops they effectively planted, for up to the extension cultivated in 2018, and a maximum of USD 250 000 per person or legal entity. Additional interventions would include purchases of surplus produce of selected commodities through the Food Purchase and Distribution Program (FPDP), as well as USD 100 million to develop new export markets through the Agricultural Trade Promotion Program (ATP).
	May-19	Preferential trade arrangement, import tariff	Removed India from the list of beneficiary developing countries for preferential access to the US market, under the Generalized System of Preferences (GSP), effective 5 June 2019. For rice, the move rescinded the duty-free access that parboiled rice originated in India enjoyed under the programme, rendering it liable to an 11.2 percent general import duty.
	May-19 to Aug-19	Import tariff	Increased the additional import tariff imposed on 24 September 2018 on a range of imported goods originating in China, including husked, semi/wholly milled and broken rice, from 10 percent to 25 percent, effective 10 May 2019. Two subsequent moves set an additional import tariff of 15 percent on paddy originated in China, effective 1 September 2019.
Uruguay	Jun-19	Production support	Announced that it would extend the 15 percent discount on electricity tariffs for rice processors until the end of 2019. Other measures unveiled to support the sector included amending the conditions and coverage of credit guarantees available for rice producers through the National Guarantee System (SIGa), the Banco República (BROU) would refinance loans, while it also proposed set up a working group to analyse the establishment of a new trust fund for the rice sector.
	Jun-19	Production support	Extended the 15 percent discount on electricity tariffs for rice producers and for irrigation used in productive activities until March 2020.
Venezuela	May-19	Support prices, price controls	Set the producer price ceiling for wet paddy harvested between April 2019 and September 2019 at VES 1 794 per kg.

\* The full collection starting in January 2011 is available at: [http://www.fao.org/economic/est/commodities/commodity\\_policy\\_archive/en/?groupANDcommodity=rice](http://www.fao.org/economic/est/commodities/commodity_policy_archive/en/?groupANDcommodity=rice).

## OILCROPS: MAJOR POLICY DEVELOPMENTS MID-APRIL TO MID-OCTOBER 2019\*

COUNTRY	DATE	POLICY DOMAIN	PRODUCT	DESCRIPTION
Africa, selected countries (Côte d'Ivoire, Ghana, Liberia, Sierra Leone)	Mar-19	Sector development/ production sustainability support	Oil palm	Côte d'Ivoire, Ghana and Sierra Leone joined forces to implement the Sustainable West Africa Palm Oil Programme (SWAPP) in support of socially responsible and environmentally sustainable oil-palm expansion. Focusing on sustainable growth across the palm oil value chain, the programme is aimed at improving the livelihoods of smallholder farmers.
	Apr-19	Export policy	Soyoil, sunflower oil	Supported efforts by the oilseed processing industry to raise sales of Argentine soy and sunflower seed oil to India.
	Apr-19	Market regulation	Selected vegetable oils	Froze the retail prices of selected food items – including cooking oils – for a six-month period, with a view to curbing domestic food price inflation.
Argentina	May-19	Import policy	Soybeans	Exempted soybeans imported for subsequent re-export (in the form of soyoil and meal) from a recently implemented increase in the country's 'statistics duty'.
	Jun-19	Farmer relief measures	Grains, oilseeds	Announced support measures for grain producers in the country's Chaco province who were affected by floods in the 2018/19 season.
	Oct-19	Export policy	Grains, oilseeds	Reduced the time span granted to traders for paying export taxes and determined that exporters will have to pay export dues shortly after the date of sale, rather than on the date of shipment.
	Oct-19	Biofuel policy	Biodiesel	Raised the minimum price that oil refining companies are required to pay for biodiesel by a further 6 percent (following two prior increases implemented in late 2018).
	Aug-19	GMO policy	Rapeseed	Authorized, in the state of South Australia, the cultivation of genetically modified (GM) food crops, including GM rapeseed varieties.
Australia	Aug-19	Health policy	Vegetable oils	Considered revising the ranking of individual vegetable oils under the country's rating system for packaged foods, with a view to assigning a top score to olive oil – based on the oil's proven health benefits.
	Sep-19	Farmer relief measures	Arable crops	Set aside funds to assist farmers affected by extreme weather conditions, concerned that excessive dryness could threaten business for a large number of growers.
	Sep-19	Farmer relief measures	Farm products	Announced an aid package for farmers and communities affected by severe drought. The assistance also includes payments for water infrastructure upgrades and related projects, as well as measures to simplify and extend the Government's Farm Household Allowance programme.
	Jun-19	Export policy/GMO policy	Soybeans	Decided – with a view to raising the export competitiveness of the country's soybean industry – to i) derestrict up to 60 percent (or 1.6 million tonnes per year) of the country's soybean exports, and ii) authorize the cultivation of two new genetically engineered soybean events.
Bolivia (Plurinational State of)	Apr-19	Biofuel policy	Biodiesel	Postponed the rise in mandatory blending of regular transport diesel with biodiesel that was originally scheduled for June 2019.
	Apr-19	Transport policy	Grains, oilseeds	Raised the government-set minimum truck freight rates by 4.1 percent to compensate drivers for increases in the price of transport diesel.
Brazil				



COUNTRY	DATE	POLICY DOMAIN	PRODUCT	DESCRIPTION
Brazil	May-19	Agricultural policy	All crops, livestock products	Presented the agricultural support programme for the 2019/20 season, highlighting that particular attention would be paid to the needs of small- and medium-sized farms and to the following areas: crop insurance, low-carbon agriculture, technical innovation, irrigation, soil improvement, new credit tools, forest protection, and dairy, pork and poultry production. Informed that all major credit programmes would be expanded, although the interest rates for larger producers would be raised. While total government outlays for interest rate subsidies would be only marginally higher than last season, farmers would benefit from additional options to apply for private loans. Most marketing assistance programmes were also re-authorized, although with reduced budgetary allocations. Outlays for crop insurance programmes, by contrast, were set to expand sizeably for the second year in succession.
	May-19	Market regulation	Grains, oilseeds	Reduced the number of public grain storage facilities operating across the country, emphasizing that the closures were envisaged in locations where ample private storage capacity was available.
	May-19	GMO policy	Soybeans	Authorized the cultivation of a new transgenic soybean variety characterized by both drought tolerance and resistance to two widely used herbicides. The variety's commercial distribution would start once approval in key importing countries was secured.
	Aug-19	Biofuel policy	Biodiesel	Raised, effective 1 September 2019, the mandatory national blending rate for biodiesel in transport diesel to 11 percent.
	Aug-19	Biofuel policy	Biodiesel	Increased the number of small farmer cooperatives that may qualify as suppliers of raw materials to the biodiesel industry. The measure was expected to lift the number of family farms participating in the country's biodiesel production chain to more than 100 000.
	Sep-19	Farmer relief measures	Farm products	Authorized one-time payments to farmers in the country's northern and northeastern regions affected by severe drought.
	Sep-19	Market regulation	Soybean seed	Ordered, for the second time, a seed producer to deposit royalties collected into an escrow account, pending the outcome of litigation over a patent dispute.
	Oct-19	Production support	Farm products	Launched a set of measures aimed at expanding financing for the agriculture sector. Interventions would focus on: i) stimulating the provision of production loans by the private sector; ii) reducing interest rates via better guarantees for lending institutions; and iii) enhancing competition across rural credit operations. The new policies would include the equalization of interest rates between lending institutes and the possibility of issuing securities in foreign currency.
	Oct-19	Market regulation/food standards	Olive oil	Suspended and removed from the market 33 brands of olive oil found to be adulterated with soybean oil of unknown origin.
	Sep-19	Import policy	Vegetable oils	Announced plans to suspend special import permits for vegetable oils (and sugar), in support of domestic producers.
Canada	Apr-19	Sanitary standards/import policy	Selected oilseeds, meals	Introduced stringent quality requirements for selected feed ingredients – including oilseeds and associated meals – imported from countries identified as posing potential concerns with regard to African Swine Fever.

COUNTRY	DATE	POLICY DOMAIN	PRODUCT	DESCRIPTION
Canada	Apr-19	Pesticide regulation	Neonicotinoids	Determined that seed treatments with three pesticides belonging to the neonicotinoids group would continue to be allowed, while existing restrictions for other permitted uses, prohibition of selected applications, and maximum residue limits would remain in place.
	May-19	Production support (trade mitigation measures)	Rapeseed	Offered financial assistance to rapeseed farmers affected by China's recent decision to suspend the import permits of selected Canadian rapeseed suppliers. More specifically, the amount of federal loans available to all farmers would be raised, while, for rapeseed growers, the interest-free portion of such loans would be increased, and the application deadline for a federal income stabilization programme would be extended. Also promised to support efforts by the rapeseed sector to diversify into export markets other than China.
	Jun-19	Production support (trade mitigation measures)	Rapeseed	Announced additional insurance support to Canadian rapeseed exporters, in a bid to help rapeseed exporting companies manage uncertainties associated with the exploration of new markets – in the wake of recent shipment disruptions to China.
	Jul-19	Export policy	Grains, oilseeds	Committed funding for a variety of projects aimed at strengthening, diversifying and expanding the country's grains and oilseeds exports. Beneficiaries include the Canola Council of Canada, reflecting government efforts to promote the country's rapeseed exports.
	Aug-19	Farmer relief measures	Grains, oilseeds, pulses	Announced that crop producers affected by low prices, reduced marketing opportunities or falling incomes would be granted an additional six months to repay outstanding 2018 cash advances received under Canada's loan guarantee programme.
	Aug-19	Transport infrastructure measures	Grains, oilseeds	Set aside funds to upgrade the country's port infrastructure and ensure the continued efficiency of the national rail transport network. Aimed at ensuring that goods can move efficiently to markets, the initiative would help Canadian businesses to compete globally.
	Sep-19	Formal trade consultations	Rapeseed	Informed that it requested bilateral trade negotiations with China at the World Trade Organization (WTO), to resolve quality concerns raised by China over rapeseed imported from Canada.
	Apr-19	Import policy	Distillers grains	Evaluated the possibility of reviewing the anti-dumping and countervailing duties applied by China on imports of distillers grains from the United States.
	Apr-19	Market regulation	Grains, vegetable oils	Released an emergency plan to regulate, in the Beijing Municipality, the supply and prices of grains and cooking oil such as soybean oil. Under the measure, municipal authorities would monitor wholesale and retail prices and may resort to price control mechanisms, including the release of grains/cooking oil from state-owned stockpiles.
China(Mainland)/ Malaysia	Apr-19 to Jun-19	Bilateral, sector-specific trade initiatives	Palm oil	Signed a memorandum of understanding (MoU) whereby China would step up its purchases of Malaysian palm oil and derived products over the next 5 years. The two countries also agreed to set up, in China, an aviation biofuel plant, and to develop the country's production of unsaturated fat. Furthermore, a Chinese state-owned enterprise was chosen to resume construction of Malaysia's East Coast Rail Link, along with commitments by China to increase its purchases of Malaysian palm oil. The two countries also agreed to simplify the procedures for importing Malaysian palm oil into China.



COUNTRY	DATE	POLICY DOMAIN	PRODUCT	DESCRIPTION
China(Mainland)/United States	May-19 to Oct-19	Comprehensive trade negotiations	Soybeans, other oilcrops and derived products	Moved forward discontinuously with trade talks that commenced in mid-2018. In May, following a temporary halt in negotiations, the two countries introduced additional trade measures affecting their respective imports: while the US raised import tariffs on USD 200 billion worth of Chinese goods from 10 percent to 25 percent, China increased taxation on US imports worth USD 60 billion to 10–25 percent. In both cases, commodities affected include a number of oilcrops and derived products, transactions of which, however, have been modest in recent years. Following a temporary truce, in August, negotiations stalled again, leading both countries to announce implementation of additional retaliatory tariffs on each other's exports from September. In the case of China, the list of commodities affected would include US-origin soybeans, which would bear additional tariffs of 5–10 percent. When trade talks resumed in mid-September, the US pledged to postpone an increase in retaliatory tariffs scheduled for October, while China committed to resume purchases of US agricultural goods, including soybeans. More specifically, China's trade authorities successively allocated special import quotas for soybeans – comprising waivers of the relevant retaliatory tariffs – to a number of state-run, private as well as foreign-owned businesses. According to the United States Department of Agriculture (USDA), by mid-October, soybean sales to China (for delivery in the 2019/20 marketing year) had reached 5.7 million tonnes, compared with to 1.0 million tonnes a year earlier. However, with comprehensive trade negotiations still under way, China refrained from committing to a specific, time-bound volume of US-origin soybean purchases.
China(Mainland)	Jun-19	Import policy	Distillers grains	Decided not to remove the duties applied by China on imports of distillers grains from the United States, citing continued potential damage to domestic producers.
	Jun-19	Food standards	Selected oilcrops, oils and fats	Notified the WTO of a draft national standard on maximum mycotoxin levels in food products. The proposed standard determines maximum levels for <i>inter alia</i> , soybean, groundnuts, sesame and their derived products, as well as for vegetable oils and fats.
China(Mainland)/Russian Federation	Jun-19	Bilateral, sector-specific trade initiatives	Selected oilseeds, meals	Signed a bilateral protocol on phytosanitary standards aimed at facilitating exports of a number of products – including soybeans, rapeseed and sunflower seed meal – from the Russian Federation to China.
	Jun-19 to Sep-19	Market regulation	Soybeans, rapeseed oil	Held several national auctions from state reserves covering soybean oil (in August), rapeseed oil (from mid-June to mid-August), and soybeans (from mid-June to early-September). For all three commodities, total volumes sold were significantly below last year's levels.
China(Mainland)	Jul-19	Health policy	Oils and fats	Released a set of nutritional guidelines including ambitious targets for lowering peoples' dietary intake of oils, salt and sugar by 2030, in a bid to minimize adverse effects on human health.
	Jul-19 to Sep-19	Import policy (trade mitigation measures)	Soybeans, soyoil, soymeal, rapeseed oil, palm oil	Launched new efforts – in parallel with the country's protracted trade negotiations with the United States – to expand the nation's import options for oilseeds and derived products. More specifically, i) imports of soybeans, soybean meal, rapeseed meal and sunflower meal from the Russian Federation were approved; ii) plans to remove soybean oil, rapeseed oil and palm oil from its list of products subject to import tariff quota management were announced; iii) soymeal imports from selected crushers in Argentina were approved; and iv) the possibility of importing soymeal from Brazil was explored.
	Aug-19	Production support	Soybeans	Lowered the subsidies offered to soybean growers in the country's key soybean growing province Heilongjiang – driven by concerns over larger than desired cuts in maize production.
China(Mainland)/Thailand	Sep-19	Bilateral, sector-specific trade initiatives	Palm kernel expeller	Signed an MoU allowing China to promote the import of palm kernel expeller (to be used as animal feed) from Thailand. The initiative complements other efforts by China to diversify its domestic feed supply chain.

COUNTRY	DATE	POLICY DOMAIN	PRODUCT	DESCRIPTION
Egypt	May-19	Sector development measures	Olive tree	Announced plans to boost domestic olive oil production by promoting the planting of olive trees, with a view to reducing the country's reliance on imports of edible oils.
European Union	Apr-19	Food standards/food safety measure	Trans fatty acid	Approved an EU-wide maximum limit for harmful trans fats in food products. Under the new regulation, as of April 2021, the amount of industrially-produced trans fats in processed foods may not exceed 2 g per 100 g of fat.
	May-19	Market control/food standards	Olive oil	Dismantled an organized crime group trading counterfeit olive oil between Italy and Germany. The case concerned low-quality oil adulterated with various substances and subsequently sold as extra virgin oil.
	May-19	Pest control	<i>Xylella fastidiosa</i>	Renewed its efforts to prevent the further spread of the <i>xylella fastidiosa</i> disease, emphasizing the importance of measures to i) control insects known to transmit the pathogen, and ii) minimize the delay between detection and implementation of control instruments, such as removing infected plants and establishing demarcated areas.
	Jun-19	Biofuel policy	Biodiesel	Determined that the new regulations defining high/low indirect land-use change (ILUC)-risk biofuel feedstocks would come into force on 10 June 2019. The measure entails that, as of 2030, selected types of biodiesel may no longer count towards meeting the EU's green fuel consumption targets.
	Jun-19	Pesticide regulation	Dimethoate	Announced that member states may not renew authorizations of insecticides containing dimethoate beyond July 2020, citing animal/human health concerns.
	Jun-19	Comprehensive trade agreements	All crops, livestock products	The EU and the MERCOSUR bloc reached agreement in principle on a comprehensive free-trade treaty. The agreement would progressively enhance market access for goods and services, while promoting cooperation in customs issues, food safety and sustainable trade. Next steps include the treaty's legal revision and parliamentary ratification in all participating countries.
European Union/Viet Nam	Jun-19	Comprehensive trade agreements	Selected grains, oilseeds	The EU and Viet Nam signed a Free Trade Agreement that would lift tariffs on 99 percent of goods traded, including wheat, rice, maize and soybean products. The deal will come into force once it is ratified by lawmakers on both sides.
European Union	Jul-19	GMO policy	Soybeans, rapeseed	Approved the import of a new GM insect-resistant soybean variety and renewed the import permit for a glufosinate-tolerant GM rapeseed variety.
	Jul-19	Environmental policy	Grains, oilseeds/oils/meals, livestock products, paper	Set out a plan of action aimed at contributing to the protection and rehabilitation of the world's forests, asserting that demand for food, feed, biofuel, timber and other goods – and hence EU imports of commodities such as grains, oilseeds, vegetable oils, beef or paper – are among the main drivers of global deforestation. The plan aims to i) reduce the EU's consumption footprint on land; ii) encourage the consumption of products from deforestation-free supply chains; and iii) enhance the availability of information on forests and commodity supply chains. Measures envisaged include the search for means to strengthen certification schemes for deforestation-free products and actions to minimize the risk of deforestation and forest degradation associated with commodity imports.
	Aug-19	Import policy/biofuel policy	Biodiesel	Imposed provisional countervailing duties on imports of biodiesel from Indonesia, after determining that Indonesian biodiesel producers benefit from grants, tax incentives and access to raw materials (notably palm oil) below market prices – a condition believed to inflict a threat of economic damage to EU producers.

COUNTRY	DATE	POLICY DOMAIN	PRODUCT	DESCRIPTION
European Union	Aug-19 to Sep-19	Pesticide regulation	Glyphosate	Informed of plans by a number of member states to ban the sale of glyphosate-based pesticides in their territories – based on human health concerns. At the EU level, the herbicide's authorization is set to expire in December 2022. Unless the European Commission extends the authorization of glyphosate at EU level, or grants import tolerance for the herbicide to third countries, impending national bans have the potential to affect exports of agricultural products to the EU.
	Sep-19	Pest control	<i>Xylella fastidiosa</i>	Determined that Italy failed to comply with an EU-wide requirement to take measures to contain the spread of <i>xylella fastidiosa</i> , the bacterium that affects olive trees and other plants, causing their death by desiccation.
	Sep-19	Food standards	Soybeans	Notified the WTO about newly established maximum residue limits for selected fungicides, insecticides and insecticides in soybeans and cereals.
	Oct-19	Market regulation	Olive oil	Considered activating a temporary private storage mechanism for olive oil, in a bid to assist producers – especially in Spain – to overcome the recent decline in market prices stemming from a glut in supplies. The EU's Common Market Organization regulation includes provisions for the said price stabilization mechanism, which was last used in 2012.
	Jun-19	Biofuel policy	Biodiesel	Announced ambitious goals related to climate change, including the obligation to blend aviation fuel with 30 percent renewable fuel by 2030. Feedstock suitable for renewable jet fuel includes used cooking oil and animal waste fat.
Ghana	Feb-19	Sector development measures	Coconut	Renewed its efforts to promote the cultivation of coconut as a cash crop for export and domestic consumption. Support measures include the free distribution of hybrid coconut seedlings in the country's coastal Central Region.
India	May-19	Biofuel policy	Biodiesel	Authorized nationwide sales of pure biodiesel (B100) for transportation purposes. Meanwhile, the sale of ready-made blends of whatever percentage continues to be forbidden, and B100 may not be sold as a standalone ready-for-use fuel – implying that the onus of blending B100 with conventional diesel rests on buyers.
	Jun-19	Food standards/food safety measures	Vegetable oils	Amended the country's labelling regulations, determining that packaged vegetable oil blends have to be labelled as such, including mention of both the type of oils included and the percentage of each oil by weight. The new regulation came into force on 1 July 2019.
	Jun-19	Production support	Copra	Reported public procurement of copra from farmers in Tamil Nadu state under the national Price Support Scheme. With procurement prices set at 27 percent above last year's level, the measure was intended to help stabilize copra prices on the Indian market.
	Jul-19	Production support	Grains, oilseeds	Significantly raised the minimum support prices for 2019/20 Kharif (summer) oilseed crops – in an effort to incentivize domestic production and thus curb the country's vegetable oil imports, and informed that specialized agencies designated by Central Government will continue to undertake procurement of oilseeds from small and marginal farmers.
	Jul-19	Import policy	Palm stearin	Withdrew the duty exemption previously granted for palm stearin and palm fatty acid distillates imports. The measures were meant to support the country's oil refining industry, which produces considerable volumes of palm stearin and other palm products by refining imported palm oil.
	Jul-19	Sector development measures	Coconut	Approved a three-year project to support the coconut sector in Kerala State. The project is aimed at reviving coconut farming by supporting growers with scientific protocols for value addition and processing.

COUNTRY	DATE	POLICY DOMAIN	PRODUCT	DESCRIPTION
India	Aug-19	Biofuel policy	Biodiesel	Allowed state-owned fuel companies to procure biodiesel made from used cooking oil (UCO) at fixed prices. The launch of a formal chain for the collection and recycling of UCO was aimed at both lowering the country's mineral oil imports and reducing human health hazards that arise from the repeated use of cooking oils.
	Aug-19	Import policy	Vegetable oils	Considered levying a cess on all vegetable oil imports, with a view to setting up an Oilseed Development Fund, tasked with boosting the country's stagnating oilcrop production.
	Aug-19	Sector development measures	Oilseeds	Launched a programme to enhance oilseed production in Punjab State. The initiative would focus on yield improvement measures, enhancing production both vertically and horizontally, and promoting mechanization to minimize post-harvest losses.
	Sep-19	Import policy	Palm oil	Introduced – effective 4 September 2019 and for a period of 180 days – a 5 percent 'safeguard tariff' on imports of refined palm oil from Malaysia, thus ending the preferential treatment Malaysian exporters enjoyed since the beginning of 2019. The safeguard measure resulted in a harmonized total import duty of 50 percent for refined palm oil from all origins.
	Sep-19	Health policy	Fluid/solid edible oils	Declared, in Punjab State, a large number of fluid and solid edible oil brands as unsafe for human consumption, removed them from the market and banned their production and distribution until all applicable food standards are met.
	Apr-19	Bilateral, sector-specific trade initiatives	Coconut products	Signed a number of MoUs intended to enhance trade and investment between the two countries, of which one provides for increased purchases of Philippine coconut oil and other coconut products by Indonesian companies.
Indonesia	Apr-19	Biofuel policy	Biodiesel	Launched technical trials with B100 (i.e. pure palm oil-based biodiesel), in a bid to further increase domestic uptake of palm oil amid increasingly uncertain export prospects.
	May-19 to Oct-19	Export policy (variable export tax)	Palm oil	Kept the country's sliding tax on crude palm oil exports at zero, in a bid to stimulate shipments and prevent domestic stocks from rising amid historically low world market prices. October 2019 marked the 30th month in succession of tax-free palm oil exports.
	Jun-19	Biofuel policy	Biodiesel	Supported tests of transportation diesel with a bio-content of 30 percent, in line with renewed government efforts to develop the domestic market for palm oil, amid uncertain export prospects. Reportedly, plans to extend the ongoing B30 tests to trains, vessels and heavy machinery in the mining industry are under consideration. The Government envisaged increasing the prevailing mandatory blending requirement of 20 percent to 30 percent in 2020.
	Jul-19	Environmental policy	Forest, peatland	Ruled that the Government was liable for land-clearing forest fires recorded throughout the country in 2015, and requested the implementation of stringent measures to prevent fires from recurring – thereby complementing ongoing programmes to restore damaged peatland and minimize harmful peatland conversion involving fires.
	Aug-19	Market regulation	Palm oil	Instructed retailers to remove food and cosmetic products carrying 'palm oil-free' labels from their shelves, stating that the term's use constituted misleading labelling. The move reflects efforts to protect the image of palm oil and safeguard the commodity's competitiveness.
	Aug-19	Biofuel policy	Biodiesel	Announced plans to increase the country's mandatory biodiesel blending requirement to 30 percent in January 2020, and to 50 percent towards the end of that year. The planned shift would help to curb the nation's energy imports and boost domestic palm oil uptake.
	Aug-19	Environmental policy	Forest, peatland	Converted the existing temporary moratorium on concessions to clear primary forest and convert peatland (for any type of plantation development or logging activity) into a permanent ban. According to official data, the 8-year old moratorium contributed significantly to slowing deforestation and peatland conversion across the country.

COUNTRY	DATE	POLICY DOMAIN	PRODUCT	DESCRIPTION
Indonesia	Aug-19	Land governance	Oil palm	Determined that a large part of the country's oil-palm plantations are in breach of a range of state regulations, notably regarding cultivation permits, access to protected areas, the allocation of land to smallholder farmers, the rights of indigenous communities, and national sustainability standards. To address the issues raised, the Government is considering legal actions, including fines against non-compliant companies.
Indonesia/Mozambique	Aug-19	Bilateral, sector-specific trade initiatives	Palm oil	Signed a preferential trade agreement promoting bilateral trade and providing for the gradual removal of import duties on numerous commodities. Products for which Mozambique will lower its tariffs include Indonesian palm oil.
Indonesia	Sep-19	Biofuel policy	Biodiesel	Released the results of road tests of diesel containing 30 percent of palm oil-based biodiesel showing that the biofuel was safe for cars. Confirmed plans to make B30 consumption mandatory from January 2020, and allocated specific marketing quotas to the country's oil companies.
	Sep-19	Export policy (variable export levy)	Palm oil	Announced that – notwithstanding recent improvements in market prices – the country's variable export levy on foreign palm oil sales would remain suspended until 1 January 2020, with a view to supporting the country's exports and protecting growers' incomes.
	Sep-19	Sector development measures	Oil palm	Markedly lowered the Government's annual target for assisting smallholders in replacing aged oil palms with more performant varieties, citing difficulties faced by small growers in proving their eligibility for participating in the nationwide scheme. The Government's replanting programme is aimed at enhancing productivity on existing estates, while halting the expansion of plantations.
Malaysia	Apr-19	Production support	Palm oil	Provided financial aid to the state-owned oil-palm agency Federal Land Development Authority (FELDA), including funds to write off debt interests for FELDA's small settlers, adding that the agency had been advised to restructure and delay part of its debt.
	Apr-19	Biofuel policy	Biodiesel	Claimed that palm oil is suitable for direct blending into aviation fuel, and therefore advocated the oil's approval by the International Civil Aviation Organization (ICAO). Currently, ICAO only accepts palm fatty acid distillate as palm oil-based feedstock for aviation biofuel.
	Apr-19	Export policy	Palm oil	Supported efforts by the country's palm oil industry to penetrate new markets in Southeast Asia, Africa and Central Asia, in a bid to counter slowing growth in global demand. Reportedly, new palm oil-based countertrade deals were signed with the Russian Federation, while similar possibilities were explored in China, India, the Islamic Republic of Iran, Pakistan and Turkey.
	Apr-19	Production support	Oil palm	Established a soft loan fund tasked with assisting smallholders in replacing their unproductive oil palms with higher-yielding plantlets. The measure reflects concerns that the prevailing depression in palm oil prices could slow down routine replanting operations among smallholder producers.
Malaysia/China(Mainland)	Apr-19 to Jun-19	Bilateral, sector-specific trade initiatives	Palm oil	Signed an MoU whereby China would step up its purchases of Malaysian palm oil and palm oil-based products over the next 5 years. The two countries also agreed to set up, in China, an aviation biofuel plant, as well as to develop the country's production of unsaturated fat. Furthermore, a Chinese state-owned enterprise was chosen to resume construction of Malaysia's East Coast Rail Link, along with commitments by China to increase its purchases of Malaysian palm oil. The two countries also agreed to simplify the procedures for importing Malaysian palm oil into China.



COUNTRY	DATE	POLICY DOMAIN	PRODUCT	DESCRIPTION
Malaysia	Jun-19	Biofuel policy	Biodiesel	Set up – in view of the increase in the country's mandatory biodiesel blending rate from 10 percent to 20 percent planned for 2020 – an interministerial committee tasked with monitoring and ensuring that domestic crude palm oil prices remain stable, and that local biodiesel prices stay competitive. Reportedly, the committee would look into the possibility of setting up a biodiesel stabilization fund.
	Jun-19	Mandatory certification (environmental policy)	Palm oil	Concerned about delays in implementation of Malaysia's mandatory sustainable palm oil standard, announced additional financial incentives to speed up the certification process among small- and medium-sized growers.
	Jun-19	Export policy (variable export tax)	Palm oil	Extended the suspension of the country's sliding tax on crude palm oil exports until 31 December 2019 – irrespective of price developments. First implemented in September 2018 (following a marked decline in the commodity's world market price), the suspension is aimed at improving the export competitiveness of Malaysian palm oil and encouraging sales to new markets, while helping to lower the nation's stockpiles.
	Sep-19	Export policy	Palm kernel oil	Announced a temporary export duty exemption for crude and refined palm kernel oil (from 1 October 2019 until 30 June 2020), to stimulate exports of the two value-added downstream products.
MERCOSUR/European Union	Jun-19	Comprehensive trade agreements	All crops, livestock products	The EU and the MERCOSUR bloc reached agreement in principle on a comprehensive free-trade treaty. The agreement would progressively enhance market access for goods and services, while promoting cooperation on customs issues, food safety and sustainable trade. Next steps include the treaty's legal revision and parliamentary ratification in all participating countries.
Mozambique/Indonesia	Aug-19	Bilateral, sector-specific trade initiatives	Palm oil	Signed a preferential trade agreement promoting bilateral trade and providing for the gradual removal of import duties on numerous commodities. Products for which Mozambique will lower its tariffs include Indonesian palm oil.
Nigeria	Jun-19	Sector development measures	Oil palm	Announced a comprehensive support package aimed at boosting domestic palm oil production and ending the nation's dependence on imported palm oil. Spanning until 2027, the package would include subsidized loans to growers, extended tax breaks for oil-palm plantations and processors, removal of tariff rebates on refined palm oil imports, and restrictions on crude and refined palm oil imports by local crushers and refiners.
Norway	Jun-19	Biofuel policy	Biodiesel	Reported that, in 2018, domestic biofuel sales decreased by 25 percent compared with 2017, primarily reflecting a significant drop in demand for palm oil-based biodiesel – a development attributed to a 2017 policy change that banned public procurement and use of biofuel feedstock carrying high ILUC risks.
Pacific island nations	Aug-19	Sector development measures	Coconut palm	Joined forces – under the auspices of the Pacific Community and the Australian Centre for International Agricultural Research – to implement a 5-year project for the safeguard and deployment of coconut diversity in support of coconut-based livelihoods across the Pacific region.
Pakistan	Oct-19	Sector development measures	Olive tree	Announced an ambitious olive tree development programme, targeting in particular smallholder farmers in the country's drought-hit regions, and involving advanced rainwater harvesting and irrigation techniques.
The Philippines/Indonesia	Apr-19	Bilateral, sector-specific trade initiatives	Coconut products	Signed a number of MoUs intended to enhance trade and investment between the two countries, of which one provides for increased purchases of Philippine coconut oil and other coconut products by Indonesian companies.



COUNTRY	DATE	POLICY DOMAIN	PRODUCT	DESCRIPTION
The Philippines	Aug-19	Sector development measures	Coconut palm	Plans to support the expansion in the nation's area planted with coconut trees, focusing on coastal areas in the country's northern provinces and on public lands. The Government's roadmap for the sector also envisages comprehensive R&D activities and promotion of product diversification.
Russian Federation/China (Mainland)	Jun-19	Bilateral, sector-specific trade initiatives	Selected oilseeds, meals	Signed a bilateral protocol on phytosanitary standards aimed at facilitating exports of a number of products – including soybeans, rapeseed and sunflower seed meal – from the Russian Federation to China.
Russian Federation	Jul-19	Tax policy	Palm oil	Announced that, from 1 October 2019, palm oil sales would be subject to the regular VAT rate of 20 percent, thus ending the existing preferential taxation at 10 percent – a measure aimed at supporting the country's dairy industry, which has seen food manufacturers' demand for its products decline as supplies of low-priced imported palm oil rose.
Singapore	May-19	Food safety measures	Trans fatty acid	Announced a ban, from June 2021, on partially hydrogenated oils (PHOs) as ingredients in all food products sold in the country – whether manufactured locally or imported. Generated when plant oils are processed, PHOs represent the primary dietary source of harmful trans fats in food products.
Spain	Jun-19	Market regulation	Olive oil	Supported a proposal by the country's olive oil industry to self-regulate the domestic olive oil market. Aimed at stabilizing supplies and prices at national level, the proposed mechanism would include market interventions when surplus/shortage conditions develop.
	Oct-19	Sector development measures	Olive tree	Introduced a cess to be collected from producers and operators across the olive oil sector, with the objective of financing promotional activities, along with market studies and R&D programmes focusing on technological innovation. The initiative has been triggered by a prolonged decline in prices.
Sri Lanka	Feb-19	Food safety measures	Coconut oil	Informed that all coconut oil sold in the domestic cooking oil market would be subject to strict quality controls, as well as mandatory certification and labelling, with a view to combating product adulteration and reducing intoxication risks.
Thailand	May-19	Biofuel policy	Biodiesel	Presided over the commercial launch of B10 and B20 (i.e. transport diesel containing respectively 10 and 20 percent of palm oil methyl ester), and announced plans to raise the country's mandatory blending rate from the prevailing 7 percent to 10 percent. The envisaged shift is aimed at absorbing surplus palm oil production, thereby supporting prices of fresh palm nuts and crude palm oil.
Thailand	Aug-19	Production support	Oil palm	Approved a price support package to assist oil-palm growers affected by depressed farmgate prices. Under the scheme, registered oil-palm farmers would receive cash compensations when the market price for fresh palm fruit drops below a guaranteed level of THB 4 per kg (USD 132 per tonne).
Thailand/China(Mainland)	Sep-19	Bilateral, sector-specific trade initiatives	Palm kernel expeller	Signed an MoU allowing China to promote the import of palm kernel expeller (to be used as animal feed) from Thailand. The initiative complements other efforts by China to diversify its domestic feed supply chain.
Thailand	Oct-19	Biofuel policy	Biodiesel	Introduced subsidies for the production and sale of diesel containing 10 or 20 percent of palm oil-based biodiesel – in support of the planned shift to mandatory sales of 10 percent-blends from 1 January 2020.

COUNTRY	DATE	POLICY DOMAIN	PRODUCT	DESCRIPTION
Turkey	Jul-19	Import policy	Sunflower seed	Raised the country's import tariff for sunflower seed to 20 percent. The duty had been temporarily lowered to 13 percent in June 2018, with a view to supporting domestic crush operations. The higher duty is set to remain in place until end-January 2020.
United States of America	May-19	Production support (trade mitigation measure)	Grains, oilseeds	Announced, for the second year in succession, an aid package for farmers affected by market disruptions due to tariffs imposed by trading partners. The package would consist of a Market Facilitation Program (providing cash payments to eligible farmers) and would be complemented by a Food Purchase and Distribution Program (tasked with purchasing surplus commodities for distribution through existing social assistance schemes), and an Agricultural Trade Promotion Program (to promote the development of new export markets on behalf of producers).
	May-19	Pesticide regulation	Glyphosate	Reported a third consecutive court verdict against the manufacturer of Roundup, the glyphosate-based herbicide alleged to cause cancer. According to the jury, the herbicide was defectively designed and the manufacturer acted negligently and failed to warn consumers about possible cancer risks.
	May-19 to Oct-19	Comprehensive trade negotiations	Soybeans, other oilcrops and derived products	Moved forward discontinuously with trade talks that commenced in mid-2018. In May, following a temporary halt in negotiations, the two countries introduced additional trade measures affecting their respective imports: while the US raised import tariffs on USD 200 billion worth of Chinese goods from 10 percent to 25 percent, China increased taxation on US imports worth USD 60 billion to 10–25 percent. In both cases, commodities affected include a number of oilcrops and derived products, transactions of which, however, have been modest in recent years. Following a temporary truce, in August, negotiations stalled again, leading both countries to announce implementation of additional retaliatory tariffs on each other's exports from September. In the case of China, the list of commodities affected would include US-origin soybeans, which would bear additional tariffs of 5–10 percent. When trade talks resumed in mid-September, the US pledged to postpone an increase in retaliatory tariffs scheduled for October, while China committed to resume purchases of US agricultural goods, including soybeans. More specifically, China's trade authorities successively allocated special import quotas for soybeans – comprising waivers of the relevant retaliatory tariffs – to a number of state-run, private as well as foreign-owned businesses. According to the USDA, by mid-October, soybean sales to China (for delivery in the 2019/20 marketing year) had reached 5.7 million tonnes, which compares with 1.0 million tonnes a year earlier. However, with comprehensive trade negotiations still under way, China refrained from committing to a specific, time-bound volume of US-origin soybean purchases.
United States of America	Jun-19	Farmer relief measures	Grains, oilseeds	Launched the Disaster Relief Act to compensate farmers impacted by natural disasters throughout 2018 and 2019.
	Jun-19	GMO policy	GM crops	Directed concerned federal agencies to ease rules for approving GM crops and related agricultural biotechnology. The modified review process aims at avoiding delays, reducing developer costs, enabling predictability and facilitating the development of GM plants that do not pose plant pest risks.
	Jul-19	Biofuel policy	Biodiesel	Published draft minimum amounts of renewable fuels that would need to be supplied to the market in 2020, as well as draft blending obligations for biomass-based biodiesel in 2021.
	Jul-19	Import policy/biofuel policy	Biodiesel	Preliminarily determined the following with respect to the anti-dumping and countervailing duties applied to imports of biodiesel from Argentina: i) that recent changes in Argentina's export tax regime had led to a cutback in the country's subsidies, hence warranting a reduction in the US countervailing rates; and ii) that circumstances warranting changes did not exist in respect of the US anti-dumping duties.

COUNTRY	DATE	POLICY DOMAIN	PRODUCT	DESCRIPTION
United States of America	Aug-19	GMO policy	GM crops	Authorized the commercialization of a rapeseed variety rich in omega-3 fatty acids and a drought-tolerant soybean variety developed in Argentina.
	Aug-19	Farmer relief measures	Grains, oilseeds	Released the Family Farmer Relief Act of 2019, with a view to helping to avoid mass liquidations and further consolidation in the agriculture sector, as farmers are faced with declines in net farm incomes and an increasingly unpredictable trade environment.
	Aug-19 to Sep-19	Farmer relief measures	Grains, oilseeds	Decided to defer the accrual of interest on farmers' insurance premiums for the spring 2019 crop year. The measure seeks to ease the consequences of delayed or prevented plantings, as well as reduced crop yields caused by severe flooding or extreme drought conditions in 2019. Furthermore, top-up payments have been granted to producers participating in federal crop insurance, whose plantings were prevented by flooding and excess moisture.
	Sep-19	Market regulation/food standards	Olive oil	Announced new mandatory labelling requirements for large-scale producers in the state of California. The new labels would be aimed at better informing consumers about the provenance and quality of olive oil.
	Oct-19	Sector development measures	Rapeseed	Approved funding for a research and extension project aimed at enhancing rapeseed production and profitability in the north-central part of the country.
	Oct-19	Biofuel policy	Biofuel	Proposed and sought comments on adjustments to the way that annual renewable fuel blending obligations are determined in the future. More specifically, comments were invited on a proposed mechanism to offset small refinery exemptions when determining future blending obligations.
	Oct-19	Import policy (trade dispute)	Olive oil	Published a list of products imported from the European Union that would attract corrective tariffs as of 18 October 2019, in retaliation for subsidies – ruled illegitimate by the WTO – that the EU had provided to its aviation industry. The list includes virgin and non-virgin olive oil produced in Spain and sold in containers of up to 18 kg.
	Jun-19	Comprehensive trade agreements	Selected grains, oilseeds	Viet Nam and the EU signed a Free Trade Agreement that would lift tariffs on 99 percent of goods traded, including wheat, rice, maize and soybean products. The deal will come into force once it is ratified by lawmakers on both sides.
Viet Nam	Sep-19	GMO policies	Soybeans	Approved the importation of two new GM herbicide-tolerant soybean events, thereby providing assurance to producers in exporting countries that trade in these varieties can continue.
Intergovernmental	Jul-19	Food standards	Vegetable oils	The WHO/FAO Codex Alimentarius Commission approved a number of revisions to its Standard for Named Vegetable Oils, concerning, <i>inter alia</i> , high-oleic palm oil, virgin palm oil, crude palm kernel oil, palm superolein, and flax/linseed oil. Moreover, the body issued a code of practice for the reduction of 3-monochloropropanediol (3-MCPD esters) and glycidyl esters (GEs) in refined oils and food products made with refined oils.
	Aug-19	Pesticide regulation	<i>Xylella fastidiosa</i>	FAO supported preventive measures in Algeria, Egypt, Lebanon, Libya, Morocco and Tunisia to mitigate the potential threat of the <i>xylella fastidiosa</i> disease. Applying modern detection technologies, countries received assistance in testing imported planting materials in a more accurate, economical and simplified way. Furthermore, industry stakeholders received training on improved surveillance, diagnosis and management practices, while local authorities were provided with support regarding phytosanitary legislation, port inspection rules and the formulation of contingency plans.

\* A detailed description of major policy developments starting in January 2011 is available at: <http://www.fao.org/economic/est-commodities/commodity-policy-archive/en/?group=ANDCommodity=Oilseeds,%20oils%20and%20meals>

## MEAT: MAJOR POLICY DEVELOPMENTS: MID-APRIL TO MID-OCTOBER 2019\*

COUNTRY	DATE	PRODUCT	POLICY INSTRUMENT	DESCRIPTION
Argentina	Apr-19	Pig meat	Trade agreement	Announced a deal with Chinese authorities to export pig meat to China from 25 of the country's meatpacking plants.
	Sep-19	All	Trade agreement	Announced that, after a first shipment in June, 15 Argentinian meat processing plants were cleared to supply bovine and poultry meat to China.
Brazil	Sep-19	All	Market access	Announced that 25 meat processing plants in the country have received authorization to export to China.
Canada	May-19	All	Tariff lifted	Lifted tariff on US bovine and pig meat, under a deal signed with the United States to remove its tariffs on steel and aluminium imports from Canada.
	Jun-19	All	Export ban	Agreed to suspend permits for meat exports to China after a request from Chinese authorities due to a detected case of ractopamine, a feed additive banned in China.
China (Mainland)	Apr-19	Pig meat	Import ban	Announced an import ban on meat products derived from pigs and wild boars from Cambodia, after detection of a case of African Swine Fever (ASF).
	Jun-19	Pig meat	Import ban	Announced an import ban on meat products derived from pigs and wild boars from the Lao People's Democratic Republic due to ASF outbreaks reported by the country.
	Aug-19	Pig meat	Import ban	Announced an import ban on meat products derived from pigs and wild boars from Myanmar due to concerns over ASF.
	Aug-19	Pig meat	Import ban	Announced an import ban on meat products derived from pigs and wild boars from Slovakia, after a case of ASF was detected in a backyard swine herd.
	Aug-19	All	Tariff	Announced an extra 10 percent tariff on bovine and pig meat imports from the United States, starting from September 1, 2019. This is in addition to the 25 percent retaliatory tariff imposed by China on meat imports from the United States in July 2018.
	Sep-19	Pig meat	Production support	Announced the implementation of a series of policies aimed at supporting national pig meat production, including subsidies for constructing large pig farms and simplifying procedures for obtaining and reducing the cost of land for pig farms.
	Sep-19	Bovine meat	Market access	Approved imports of bovine meat from three Ukrainian plants.
Egypt	Sep-19	Bovine meat	Market access	Authorized first bovine meat imports from Lithuania following an audit by Chinese inspectors.
	Sep-19	Pig meat	Import ban	Banned pig meat imports from the Republic of Korea over ASF concerns.
	May-19	Bovine meat	Import policy	Delisted all companies that provided halal certification for US bovine meat exports and obligated exporters to obtain the halal certificate from a single company.

COUNTRY	DATE	PRODUCT	POLICY INSTRUMENT	DESCRIPTION
Eswatini	Jun-19	Pig meat	Import ban	Banned imports of live pigs from South Africa after a reported outbreak of ASF.
European Union	Apr-19	All	Import policy	Agreed on a series of changes to rules on imports of animal products from countries including Argentina, the Russian Federation and Egypt. In the case of Argentina, the European Union (EU) has agreed to allow fresh bone-in meat from 'Patagonia Norte A', a region declared free from foot-and-mouth disease (FMD).
	Jun-19	All	Trade agreement	Signed a trade agreement and an investment protection agreement with Viet Nam on 30 June 2019, aimed at granting preferential treatment for goods and services and eliminating non-tariff barriers encountered by both sides. For the meat sector, the agreements offer duty-free access into Viet Nam for EU frozen pig meat after 7 years, and provide for poultry meat to be fully liberalized after 10 years.
	Jun-19	All	Trade agreement	Reached an agreement with Southern Common Market (MERCOSUR), comprising Argentina, Brazil, Paraguay and Uruguay, aimed at removing the majority of tariffs, simplifying customs procedures and protecting geographical indicators. In the meat sector, MERCOSUR countries will command a 42.5 percent share of the new 99 000 tonne annual quota for bovine meat exports to EU member countries, with a tariff rate of 7.5 percent. Once implemented, the agreement will reduce the bovine meat quota levy, known as the Hilton quota, from 20 percent to zero.
	Aug-19	Bovine meat	Trade agreement	Signed an agreement with the United States, reviewing the functioning of the existing quota to import hormone-free beef into the EU. The agreement establishes that 35 000 tonnes of the non-hormone treated quota out of the total of 45 000 will be allocated to the US, phased over a 7-year period, with the remaining amount made available to all other exporters.
	Aug-19	All	Import ban lifted	Reopened its market to shipments of bovine and poultry meat from Brazil, following a ruling by the dispute settlement body of the World Trade Organization in favour of Brazil.
Japan	May-19	All	Tariff rate quota	Announced the safeguard (SG) trigger levels for bovine and pig meat for the fourth quarter of Japanese fiscal year 2019 (January 2020–March 2020). The bovine meat SG trigger is set at 117 percent of the previous year's trade, while the pig meat SG trigger level is set at 119 percent of the average of the three previous years of trade.
	May-19	Bovine meat	Market access	Lifted the age restriction on Canadian bovine meat exports. Under the rule in place since 2003 after the detection of bovine spongiform encephalopathy (BSE), Japan only imported bovine meat derived from cattle less than 30 months-old.
	Jul-19	Ovine meat	Market access	Authorized imports of ovine meat from Ireland.
	Jul-19	Poultry meat	Import ban	Imposed a temporary ban on imports of poultry meat and eggs from Denmark, following a recent outbreak of low pathogenic avian flu (LPAI).
Republic of Korea	Sep-19	Poultry meat	Import ban	Suspended imports of poultry meat and egg products from Chile, following an outbreak of H7 LPAI.
	Sep-19	Bovine meat	Import ban lifted	Removed restrictions for bovine meat imports from the EU, in place since 2001 due to BSE.



COUNTRY	DATE	PRODUCT	POLICY INSTRUMENT	DESCRIPTION
Mexico	May-19	Poultry meat	Tariff rate quota	Announced an increase of the tariff rate quota (TRQ) for poultry meat by an additional 55 000 metric tonnes, bringing the total TRQ to 355 000 metric tonnes.
	May-19	All	Trade tariff lifted	Lifted tariffs on US bovine and pig meat, in response to the removal of tariffs imposed by the United States on steel and aluminium imports from Mexico.
The Philippines	Sep-19	Pig meat	Import ban	Suspended pig meat imports from the Republic of Korea, Myanmar and Serbia due to concerns over ASF, following bans by many countries for the same reason at different times including Belgium, Bulgaria, China, Czechia, Germany, Hungary, Democratic People's Republic of Korea, the Lao People's Democratic Republic, Latvia, Moldova, Mongolia, Poland, Romania, the Russian Federation, South Africa, Ukraine, Viet Nam and Zambia.
Russian Federation	Apr-19	Poultry meat	Trade agreement	Agreed with China to buy each other's poultry and related products.
	May-19	All	Market access	Confirmed that 26 meatpacking plants were approved by China, Hong Kong SAR to export pig meat and bovine meat to the country.
	Jun-19	All	Import ban extended	Extended until the end of 2020 the ban on the import of agricultural products, including meat, from countries that applied economic sanctions against the Russian Federation.
	Aug-19	Bovine meat	Market access	Granted market access for one Brazilian firm to supply bovine meat products to its market, by signing the veterinary certificates.
Saudi Arabia	Aug-19	Pig meat	Import ban	Banned imports of pig meat from Serbia following news that ASF had reached the Balkan country for the first time.
	Oct-19	Poultry meat	Import ban lifted	Lifted a ban on imports of hatching eggs and day-old-chicks from several countries, including Denmark, Italy and the Russian Federation, as these countries have been free of highly pathogenic avian flu for at least three months.
Serbia	Aug-19	Pig meat	Export ban	Halted pig meat exports to Bosnia and Herzegovina, North Macedonia and Montenegro due to reported cases of ASF.
Singapore	Jul-19	Poultry meat	Market access	Authorized imports of frozen poultry meat from the Russian Federation, following recognition that avian flu is present in only one region of the country.
South Africa	Jul-19	Bovine meat	Market access	Resumed bovine meat exports to China, following the removal of a ban imposed on its exports due to an outbreak of FMD in January.
Thailand	Jun-19	Pig meat	Import ban	Banned imports of live pigs and wild boars from the Lao People's Democratic Republic for 90 days, after the country confirmed its first case of ASF.
	Aug-19	Pig meat	Import ban	Banned imports of live pigs and wild boars from Myanmar for 90 days, after the country confirmed its first case of ASF.
United States of America	Apr-19	All	Market access	Finalized export certificates with the Government of Tunisia, allowing exports of bovine, poultry meat and egg products.



COUNTRY	DATE	PRODUCT	POLICY INSTRUMENT	DESCRIPTION
Ukraine	Aug-19	Poultry meat	Market access	Obtained formal approval to export poultry meat to Japan for the first time after the two countries agreed on required veterinary certificates.
	Aug-19	Poultry meat	Trade agreement	Ratified a trade agreement with Israel including tariff-rate quota for poultry meat exports.
Viet Nam	Sep-19	All	Market access	Authorized imports of meat from Lithuania after Vietnamese inspectors gave a positive assessment of control systems in the Baltic country.

\* A collection of major meat policy developments starting in January 2011 is available at:  
<http://www.fao.org/economic/est/est-commodities/commodity-policy-archive/en/?groupANDcommodity=Meat>

## DAIRY: MAJOR POLICY DEVELOPMENTS MID-APRIL TO MID-OCTOBER 2019\*

COUNTRY	DATE	PRODUCT	POLICY INSTRUMENT	DESCRIPTION
Belarus	Apr-19	Dairy products	Market access	Signed a protocol with China on quarantine and health requirements to export dairy fodder products.
Brazil	Sep-19	Dairy products	Market access	Announced the reopening of the Egyptian market for its dairy products following acceptance of the International Health Certificate, which is required for exports to Egypt. Exports of dairy products from Brazil to Egypt had been suspended since 2015.
China (Mainland)	Sep-19	Whey	Tariff rate	Exempted US feed whey from tariffs.
European Union	Jun-19	Dairy products	Trade agreement	Signed a trade agreement and an investment protection agreement, offering duty-free access for dairy (currently up to 20 percent tariff) into Viet Nam over a 5-year period.
	Jun-19	Dairy products	Trade agreement	Reached an agreement with the Southern Common Market (MERCOSUR), comprising Argentina, Brazil, Paraguay and Uruguay, aimed at strengthening trade and guaranteeing European geographical indicators, including for dairy products.
	Apr-19	Dairy products	Import ban extended	Extended the ban on imports of milk and its products from China, which was first imposed due to the presence of melamine in some milk consignments from China in 2008.
Japan	Oct-19	Milk powder	Import quota	Lowered the amount of planned skimmed milk powder (SMP) import volumes in Japanese fiscal year 2019 from 20 000 tonnes to 16 000 tonnes.
Mexico	May-19	Dairy products	Import ban lifted	Removed retaliatory tariffs on US products, including dairy products, on May 20 2019, in response to the lifting of tariffs imposed by the United States on steel and aluminium.
Russian Federation	Jun-19	Dairy products	Import ban extended	Extended the ban until the end of 2020 on imports of agricultural products, including dairy products, from countries that applied economic sanctions against the Russian Federation.
Serbia	Jun-19	Dairy products	Trade agreement	Announced an agreement enabling exports of dairy products to China.
Slovakia	Apr-19	Dairy products	Market access	Signed an agreement with China, allowing exports of dairy products to China.
Turkey	Sep-19	Dairy products	Market access	Reached an agreement with China to export dairy products, which will allow those Turkish firms registered with China's food import system (CIFER) to begin exports, following approval from the Chinese authorities.
Ukraine	May-19	Dairy products	Market access	Agreed with Bosnia and Herzegovina on issuing veterinary certificates to export milk and dairy products.
	Aug-19	Dairy products	Trade agreement	Ratified a trade agreement with Israel including tariff rate quota for dairy product exports.

COUNTRY	DATE	PRODUCT	POLICY INSTRUMENT	DESCRIPTION
United States	Jun-19	Dairy products	Tariff rate quota	Ended duty-free access for about USD 5.7 billion worth of Indian exports under its Generalized System of Preferences (GSP) programme. India was the largest beneficiary of the GSP, which was designed to help developing countries, and dates from the 1970s.
	Sep-19	Dairy products	Trade agreement	Signed a trade deal with Japan, allowing exports worth some USD 7 billion to enter Japan annually, and cutting Japanese tariffs on cheese.
	Oct-19	Cheese	Import tariffs	Imposed tariffs worth USD 7.5 billion on EU goods, including cheese, with import tariffs ranging from 10 to 25 percent, on October 18 after a World Trade Organization ruling allowed the United States to take retaliatory actions over EU subsidies to aircraft manufacturing.
Uruguay	Sep-19	Milk powder	Market access	Announced that one of its largest dairy exporters has signed an agreement to export 4 000 tonnes of milk powder to China.
Zimbabwe	Jul-19	Dairy products	Production support	Received development assistance worth USD 11 million from the United States for a five-year programme to boost milk yields and improve livelihoods.

\* A collection of major dairy policy developments starting in January 2012 is available at: <http://www.fao.org/economic/est-commodities/commodity-policy-archive/en/2groupANDcommodity=Milk,%20Dairy%20products>

# Statistical appendix tables

<b>Appendix Table 1 (A &amp; B): Cereal statistics</b>	54-55
<b>Appendix Table 2 (A &amp; B): Wheat statistics</b>	56-57
<b>Appendix Table 3 (A &amp; B): Coarse grains statistics</b>	58-59
<b>Appendix Table 4 (A &amp; B): Maize statistics</b>	60-61
<b>Appendix Table 5 (A &amp; B): Barley statistics</b>	62-63
<b>Appendix Table 6 (A &amp; B): Sorghum statistics</b>	64-65
<b>Appendix Table 7 (A &amp; B): Other Coarse grains statistics</b>	64-65
<b>Appendix Table 8 (A &amp; B): Rice statistics</b>	66-67
<b>Appendix Table 9: Cereal supply and utilization in main exporting countries</b>	68
<b>Appendix Table 10: Total oilcrops statistics</b>	69
<b>Appendix Table 11: Total oils and fats statistics</b>	70
<b>Appendix Table 12: Total meals and cakes statistics</b>	71
<b>Appendix Table 13: Sugar statistics</b>	72
<b>Appendix Table 14: Total meat statistics</b>	73
<b>Appendix Table 15: Bovine meat statistics</b>	74
<b>Appendix Table 16: Ovine meat statistics</b>	75
<b>Appendix Table 17: Pigmeat statistics</b>	76
<b>Appendix Table 18: Poultry meat statistics</b>	77
<b>Appendix Table 19: Milk and milk products statistics</b>	78
<b>Appendix Table 20: Fish and fishery products statistics</b>	79
<b>Appendix Table 21: Selected international prices for wheat and coarse grains</b>	80
<b>Appendix Table 22: Wheat and maize futures prices</b>	80
<b>Appendix Table 23: Selected international prices for rice and price indices</b>	81
<b>Appendix Table 24: Selected international prices for oilcrop products and price indices</b>	82
<b>Appendix Table 25: Selected international prices for sugar and sugar price index</b>	83
<b>Appendix Table 26: Selected international prices for milk products and dairy price indices</b>	84
<b>Appendix Table 27: Selected international meat prices</b>	85
<b>Appendix Table 28: Selected international meat prices and FAO meat price index</b>	86
<b>Appendix Table 29: Fish price indices</b>	87
<b>Appendix Table 30: Selected international commodity prices</b>	88

## 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. The totals shown for Central America include countries in the Caribbean.
- Estimates for China also include those for the Taiwan Province - Hong Kong SAR and Macao SAR - unless otherwise stated.
- Up to 2012/13 - the European Union includes 27 member states. From 2013/14 - the European Union includes 28 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 2002-2004 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) assistance (i.e. USD 1 945 in 2011). 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		
	2015-2017 average	2018 <i>estim.</i>	2019 <i>f'cast</i>	15/16-17/18 average	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>	15/16-17/18 average	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>
<i>million tonnes</i>									
<b>ASIA</b>	<b>1 184.5</b>	<b>1 200.0</b>	<b>1 209.7</b>	<b>207.4</b>	<b>203.0</b>	<b>206.4</b>	<b>59.5</b>	<b>61.9</b>	<b>59.9</b>
Bangladesh	38.7	40.4	41.2	7.8	7.5	7.8	-	-	-
China	552.2	545.3	543.0	34.8	25.2	24.5	1.6	3.5	3.9
India	244.7	261.7	262.1	2.9	0.2	0.2	13.0	12.6	13.4
Indonesia	67.3	72.4	73.1	12.7	12.8	12.5	0.2	0.1	0.2
Iran, Islamic Republic of	17.8	19.1	20.6	12.0	13.6	14.4	0.5	0.1	0.1
Iraq	3.7	3.0	5.5	4.1	5.2	4.3	-	-	-
Japan	8.7	8.4	8.4	23.4	24.0	24.8	0.3	0.3	0.3
Kazakhstan	19.1	19.6	17.7	0.1	0.1	0.1	8.9	10.6	7.5
Korea, Republic of	4.4	4.1	4.1	14.6	14.3	15.2	0.1	0.1	0.1
Myanmar	19.7	21.2	21.3	0.5	0.5	0.5	3.5	3.7	3.8
Pakistan	39.1	39.1	39.3	0.2	0.2	0.2	4.7	5.1	5.2
Philippines	19.6	20.0	20.0	7.5	10.8	11.0	0.1	-	0.1
Saudi Arabia	0.3	0.8	1.0	17.4	15.2	17.5	-	-	-
Thailand	25.2	26.4	26.6	4.4	3.6	4.1	11.4	9.0	8.9
Turkey	36.3	34.0	33.9	6.9	9.6	9.9	4.9	4.7	4.5
Viet Nam	33.6	33.5	33.6	13.6	13.9	14.8	6.6	7.5	7.5
<b>AFRICA</b>	<b>176.8</b>	<b>193.8</b>	<b>182.9</b>	<b>92.4</b>	<b>89.7</b>	<b>95.6</b>	<b>6.6</b>	<b>6.5</b>	<b>6.0</b>
Algeria	3.6	6.0	6.1	13.3	12.5	12.2	-	-	-
Egypt	21.9	20.2	20.9	20.9	22.1	22.6	0.2	-	-
Ethiopia	25.8	27.7	27.5	1.8	1.8	2.0	1.2	1.3	1.3
Morocco	8.3	10.5	6.0	7.3	6.2	8.5	0.1	0.1	0.1
Nigeria	22.5	24.7	24.1	7.7	8.0	8.1	0.7	0.7	0.7
South Africa	14.3	15.6	14.0	4.2	2.8	3.2	1.5	1.7	1.6
Sudan	6.0	8.3	6.7	2.8	2.8	2.9	0.3	0.4	0.2
<b>CENTRAL AMERICA</b>	<b>43.2</b>	<b>42.2</b>	<b>41.1</b>	<b>33.3</b>	<b>36.2</b>	<b>37.9</b>	<b>2.9</b>	<b>1.3</b>	<b>2.2</b>
Mexico	36.8	35.7	34.7	20.9	23.1	24.6	2.7	1.1	2.0
<b>SOUTH AMERICA</b>	<b>192.1</b>	<b>196.5</b>	<b>227.2</b>	<b>31.5</b>	<b>32.9</b>	<b>32.6</b>	<b>71.2</b>	<b>77.1</b>	<b>92.7</b>
Argentina	65.7	71.2	84.7	0.1	0.1	0.1	37.4	44.3	50.1
Brazil	98.4	97.7	115.8	9.6	10.0	9.4	28.1	27.9	37.2
Chile	3.8	3.4	3.3	3.1	3.5	3.6	0.1	0.1	0.1
Colombia	3.1	3.1	3.0	7.3	7.6	7.7	-	-	-
Peru	4.2	4.4	4.1	5.6	6.0	6.1	0.1	0.1	0.1
Venezuela	1.6	0.9	0.8	3.5	3.4	3.5	-	-	-
<b>NORTH AMERICA</b>	<b>503.2</b>	<b>497.2</b>	<b>482.5</b>	<b>9.7</b>	<b>10.3</b>	<b>10.3</b>	<b>116.6</b>	<b>122.1</b>	<b>107.4</b>
Canada	56.3	58.5	61.1	1.8	3.2	2.2	26.2	31.0	29.8
United States of America	446.8	438.7	421.4	7.8	7.1	8.1	90.4	91.0	77.6
<b>EUROPE</b>	<b>511.8</b>	<b>497.7</b>	<b>530.9</b>	<b>27.6</b>	<b>38.2</b>	<b>30.6</b>	<b>124.3</b>	<b>129.3</b>	<b>132.1</b>
European Union	309.0	294.6	316.8	23.4	33.1	26.0	37.8	31.1	35.2
Russian Federation	116.8	109.5	116.3	0.9	0.6	0.6	41.2	43.9	43.5
Serbia	8.7	10.5	9.8	0.1	0.1	0.1	2.7	3.6	2.1
Ukraine	62.1	69.3	72.5	0.2	0.1	0.2	41.5	49.5	50.2
<b>OCEANIA</b>	<b>41.0</b>	<b>29.9</b>	<b>29.7</b>	<b>1.7</b>	<b>1.8</b>	<b>1.8</b>	<b>26.1</b>	<b>14.1</b>	<b>14.7</b>
Australia	40.0	28.8	28.6	0.2	0.2	0.2	26.1	14.1	14.7
<b>WORLD</b>	<b>2 652.5</b>	<b>2 657.3</b>	<b>2 704.0</b>	<b>403.6</b>	<b>412.2</b>	<b>415.1</b>	<b>407.3</b>	<b>412.2</b>	<b>415.1</b>
LIFDC	448.6	474.4	476.2	71.4	70.1	71.7	23.8	24.5	25.0
LDC	175.3	187.7	186.6	39.0	39.1	40.0	9.4	9.8	9.7



# APPENDIX TABLE 1(B): CEREAL STATISTICS

	Total Utilization			Stocks ending in			Per caput food use		
	15/16-17/18 average	2018/19 estim.	2019/20 f'cast	2016-2018 average	2019 estim.	2020 f'cast	15/16-17/18 average	2018/19 estim.	2019/20 f'cast
	(..... million tonnes .....)						(..... Kg/year.....)		
<b>ASIA</b>	<b>1 309.1</b>	<b>1 342.8</b>	<b>1 362.0</b>	<b>551.6</b>	<b>569.4</b>	<b>562.3</b>	<b>158.0</b>	<b>157.8</b>	<b>158.2</b>
Bangladesh	46.0	48.8	49.5	8.0	8.8	8.2	214.2	216.1	217.8
China	553.8	568.8	572.5	405.8	426.0	417.2	154.6	153.4	153.5
India	236.6	241.8	247.0	39.7	50.3	52.4	146.8	146.5	147.1
Indonesia	79.8	85.8	86.0	9.5	10.4	9.6	188.5	189.8	190.8
Iran, Islamic Republic of	31.1	33.3	34.7	8.2	5.1	4.9	202.9	203.4	203.7
Iraq	8.5	8.5	9.3	0.7	0.4	0.9	188.3	187.9	188.5
Japan	32.1	32.1	32.8	6.9	6.5	6.5	93.6	93.3	93.0
Kazakhstan	10.5	10.1	9.7	4.1	3.0	3.7	157.0	156.5	156.5
Korea, Republic of	19.1	18.7	19.0	3.9	2.5	2.6	128.1	126.2	124.7
Myanmar	16.9	17.5	17.9	2.9	3.3	3.5	211.0	214.0	214.6
Pakistan	35.1	35.5	35.9	5.8	3.8	2.2	147.5	147.0	146.7
Philippines	27.0	30.3	31.3	3.9	4.9	4.9	156.8	159.7	162.5
Saudi Arabia	18.2	16.7	17.7	7.0	5.4	6.1	143.6	139.9	139.4
Thailand	21.6	20.0	21.4	10.5	7.9	7.9	117.7	117.2	120.1
Turkey	38.6	39.1	40.1	6.8	6.7	5.5	239.1	238.5	238.4
Viet Nam	39.8	41.7	41.2	5.2	3.9	3.9	177.7	177.9	176.9
<b>AFRICA</b>	<b>259.3</b>	<b>274.0</b>	<b>275.7</b>	<b>56.5</b>	<b>60.7</b>	<b>56.3</b>	<b>148.2</b>	<b>149.1</b>	<b>147.8</b>
Algeria	16.7	17.4	18.2	5.5	6.4	6.4	227.3	227.7	227.5
Egypt	42.4	43.2	43.5	6.8	5.5	5.6	269.2	270.3	267.2
Ethiopia	25.6	27.6	28.0	4.9	6.3	6.5	187.1	192.7	193.5
Morocco	15.2	15.9	15.6	7.0	7.2	6.0	236.0	237.3	237.5
Nigeria	29.5	30.4	31.4	2.8	3.7	3.6	125.6	122.6	121.7
South Africa	16.4	17.7	16.9	3.5	3.6	2.3	163.8	165.1	164.5
Sudan	8.4	9.6	9.4	3.0	3.3	2.5	179.0	182.4	179.3
<b>CENTRAL AMERICA</b>	<b>72.7</b>	<b>77.1</b>	<b>77.8</b>	<b>10.8</b>	<b>11.4</b>	<b>10.7</b>	<b>159.5</b>	<b>162.5</b>	<b>162.2</b>
Mexico	54.1	57.3	58.1	6.2	7.5	6.9	186.2	186.9	187.6
<b>SOUTH AMERICA</b>	<b>150.8</b>	<b>163.3</b>	<b>163.9</b>	<b>39.0</b>	<b>44.2</b>	<b>45.2</b>	<b>118.9</b>	<b>119.7</b>	<b>119.5</b>
Argentina	27.8	32.6	32.2	9.2	12.1	12.3	135.1	135.6	134.9
Brazil	80.7	84.1	86.1	15.6	16.8	18.7	113.1	112.3	111.7
Chile	6.1	7.2	7.0	4.1	4.3	3.9	145.1	147.6	147.5
Colombia	9.9	10.6	10.7	2.1	2.5	2.5	107.8	119.5	119.8
Peru	9.5	10.2	10.5	1.0	1.1	1.0	149.9	152.2	152.9
Venezuela	5.5	4.6	4.3	0.9	0.3	0.2	115.9	109.4	108.5
<b>NORTH AMERICA</b>	<b>388.3</b>	<b>395.6</b>	<b>389.3</b>	<b>98.1</b>	<b>97.9</b>	<b>90.7</b>	<b>110.1</b>	<b>110.1</b>	<b>110.0</b>
Canada	31.5	33.0	32.8	11.2	9.3	10.1	96.2	96.3	96.3
United States of America	356.9	362.7	356.5	86.9	88.6	80.6	111.7	111.7	111.6
<b>EUROPE</b>	<b>413.9</b>	<b>418.3</b>	<b>422.8</b>	<b>74.4</b>	<b>71.3</b>	<b>77.9</b>	<b>133.3</b>	<b>133.3</b>	<b>133.6</b>
European Union	294.4	297.7	302.6	40.7	45.1	50.1	133.8	134.1	134.4
Russian Federation	73.2	75.6	74.9	18.3	13.5	12.0	126.5	126.1	126.1
Serbia	6.4	6.5	6.5	1.0	1.1	2.4	173.8	175.4	172.6
Ukraine	23.0	21.6	21.7	7.9	4.8	5.6	144.1	143.2	143.6
<b>OCEANIA</b>	<b>16.7</b>	<b>17.7</b>	<b>17.8</b>	<b>8.5</b>	<b>7.3</b>	<b>6.3</b>	<b>93.1</b>	<b>93.1</b>	<b>93.2</b>
Australia	14.2	15.0	15.1	8.0	6.8	5.8	102.9	102.9	103.0
<b>WORLD</b>	<b>2 610.9</b>	<b>2 688.8</b>	<b>2 709.2</b>	<b>838.7</b>	<b>862.3</b>	<b>849.5</b>	<b>149.1</b>	<b>149.3</b>	<b>149.3</b>
LIFDC	494.8	514.5	521.2	92.2	103.8	104.7	149.4	150.0	149.9
LDC	203.5	216.3	218.3	41.9	45.3	43.0	154.5	155.8	154.9

## APPENDIX TABLE 2(A): WHEAT STATISTICS

	Production			Imports			Exports		
	2015-2017 average	2018 <i>estim.</i>	2019 <i>f'cast</i>	15/16-17/18 average	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>	15/16-17/18 average	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>
<i>million tonnes</i>									
<b>ASIA</b>	<b>326.1</b>	<b>326.7</b>	<b>336.3</b>	<b>86.0</b>	<b>85.1</b>	<b>85.7</b>	<b>16.7</b>	<b>17.1</b>	<b>14.2</b>
Bangladesh	1.3	1.1	1.3	5.3	5.6	5.8	-	-	-
China	133.4	131.4	134.0	5.7	4.9	5.4	0.3	0.4	0.3
of which Taiwan Prov.	-	-	-	1.4	1.4	1.4	-	-	-
India	92.4	99.9	102.2	2.6	-	-	0.6	0.5	0.5
Indonesia	-	-	-	10.2	11.3	11.2	0.1	0.1	0.1
Iran, Islamic Republic of	11.7	13.4	14.5	2.1	0.1	0.1	0.5	0.1	0.1
Iraq	2.9	2.2	4.3	2.8	3.7	2.7	-	-	-
Japan	0.9	0.8	0.8	5.6	5.5	5.6	0.2	0.2	0.2
Kazakhstan	14.5	13.9	11.5	0.1	0.1	0.1	7.8	8.6	6.0
Korea, Republic of	-	-	-	4.3	3.7	4.5	-	-	-
Pakistan	25.8	25.1	25.2	-	-	-	0.8	0.7	0.6
Philippines	-	-	-	5.5	7.1	7.4	0.1	-	-
Saudi Arabia	-	0.5	0.7	3.3	2.9	3.2	-	-	-
Thailand	-	-	-	3.9	2.8	3.3	-	-	-
Turkey	21.6	20.0	19.0	4.8	6.5	6.3	4.7	4.6	4.4
<b>AFRICA</b>	<b>26.4</b>	<b>29.3</b>	<b>27.3</b>	<b>49.3</b>	<b>48.3</b>	<b>48.9</b>	<b>0.9</b>	<b>0.8</b>	<b>0.9</b>
Algeria	2.5	3.9	4.0	8.3	7.4	7.0	-	-	-
Egypt	9.1	8.6	9.0	11.9	12.5	12.5	-	-	-
Ethiopia	4.6	4.8	4.8	1.3	1.3	1.5	-	-	-
Morocco	6.0	7.3	4.5	4.5	3.7	5.0	0.1	0.1	0.1
Nigeria	0.1	0.1	0.1	4.9	5.1	4.8	0.4	0.4	0.4
South Africa	1.6	1.9	1.8	1.8	1.6	1.6	0.1	0.1	0.1
Tunisia	1.0	1.1	1.7	2.1	1.9	1.7	0.1	-	-
<b>CENTRAL AMERICA</b>	<b>3.7</b>	<b>2.9</b>	<b>3.3</b>	<b>9.0</b>	<b>9.3</b>	<b>9.5</b>	<b>1.3</b>	<b>0.6</b>	<b>1.4</b>
Cuba	-	-	-	0.8	0.8	0.8	-	-	-
Mexico	3.7	2.9	3.3	5.0	5.0	5.2	1.2	0.5	1.3
<b>SOUTH AMERICA</b>	<b>25.3</b>	<b>28.9</b>	<b>28.5</b>	<b>14.7</b>	<b>15.3</b>	<b>15.4</b>	<b>13.1</b>	<b>13.8</b>	<b>15.2</b>
Argentina	16.1	19.5	19.6	-	-	-	11.4	12.4	14.0
Brazil	5.5	5.4	5.1	6.7	7.3	7.3	0.6	0.6	0.5
Chile	1.5	1.4	1.4	1.2	1.1	1.2	-	-	-
Colombia	-	-	-	1.9	1.7	1.7	-	-	-
Peru	0.2	0.2	0.2	2.0	2.1	2.1	-	-	-
Venezuela	-	-	-	1.3	1.4	1.4	-	-	-
<b>NORTH AMERICA</b>	<b>85.5</b>	<b>83.5</b>	<b>85.9</b>	<b>3.7</b>	<b>3.6</b>	<b>4.0</b>	<b>45.8</b>	<b>50.5</b>	<b>50.3</b>
Canada	30.0	32.2	32.5	0.1	0.1	0.1	21.0	24.4	24.1
United States of America	55.4	51.3	53.4	3.6	3.5	3.9	24.8	26.1	26.2
<b>EUROPE</b>	<b>260.5</b>	<b>242.9</b>	<b>265.8</b>	<b>8.1</b>	<b>8.2</b>	<b>7.6</b>	<b>78.4</b>	<b>75.6</b>	<b>80.6</b>
European Union	152.5	138.6	154.0	5.7	5.4	5.0	27.7	22.4	27.0
Russian Federation	73.7	72.1	75.5	0.5	0.4	0.3	31.3	35.7	33.5
Ukraine	26.3	24.6	28.0	-	-	-	17.8	15.9	18.5
<b>OCEANIA</b>	<b>25.4</b>	<b>17.7</b>	<b>17.9</b>	<b>0.9</b>	<b>0.9</b>	<b>0.9</b>	<b>17.8</b>	<b>9.8</b>	<b>9.5</b>
Australia	25.0	17.3	17.5	-	-	-	17.8	9.8	9.5
<b>WORLD</b>	<b>752.9</b>	<b>731.9</b>	<b>765.0</b>	<b>171.9</b>	<b>170.6</b>	<b>172.1</b>	<b>173.9</b>	<b>168.2</b>	<b>172.1</b>
LIFDC	116.6	121.4	127.3	38.7	36.5	36.3	1.5	1.4	1.4
LDC	13.7	12.7	14.6	22.4	23.4	22.7	0.1	0.1	0.1

## APPENDIX TABLE 2(B): WHEAT STATISTICS

	Total Utilization			Stocks ending in			Per caput food use		
	15/16-17/18 average	2018/19 estim.	2019/20 f'cast	2016-2018 average	2019 estim.	2020 f'cast	15/16-17/18 average	2018/19 estim.	2019/20 f'cast
	(..... million tonnes .....)						(..... Kg/year .....)		
<b>ASIA</b>	<b>382.2</b>	<b>392.5</b>	<b>399.7</b>	<b>157.5</b>	<b>174.3</b>	<b>181.9</b>	<b>65.8</b>	<b>65.8</b>	<b>66.0</b>
Bangladesh	6.1	7.2	7.4	1.9	1.9	1.6	29.6	32.5	32.8
China	122.6	128.3	129.6	95.8	119.7	129.1	64.8	63.6	63.7
of which Taiwan Prov.	1.4	1.4	1.4	0.4	0.4	0.4	45.7	45.6	45.7
India	96.0	97.9	100.4	17.2	19.5	20.8	59.8	59.9	60.1
Indonesia	9.8	11.1	11.1	1.1	1.1	1.0	25.5	26.4	26.3
Iran, Islamic Republic of	14.6	14.6	14.8	5.8	2.1	1.8	166.4	166.4	166.4
Iraq	6.2	6.2	6.5	0.6	0.2	0.7	149.3	148.7	149.0
Japan	6.3	6.3	6.3	1.6	1.4	1.1	40.5	40.6	40.6
Kazakhstan	6.9	6.4	6.2	3.6	2.6	2.0	142.6	142.0	142.0
Korea, Republic of	4.1	3.7	4.3	0.9	1.0	1.1	47.8	47.7	47.6
Pakistan	25.4	25.4	25.9	3.8	2.4	1.0	124.4	124.2	124.1
Philippines	5.4	7.0	7.4	0.8	1.1	1.0	23.3	24.0	24.5
Saudi Arabia	3.5	3.6	3.6	3.2	2.8	3.1	99.2	98.6	98.4
Thailand	3.6	2.9	3.3	1.6	1.7	1.7	16.3	16.3	16.8
Turkey	21.8	22.1	22.2	4.7	4.5	3.3	210.0	210.0	209.7
<b>AFRICA</b>	<b>73.5</b>	<b>76.3</b>	<b>76.7</b>	<b>21.7</b>	<b>19.4</b>	<b>17.3</b>	<b>50.3</b>	<b>50.1</b>	<b>49.7</b>
Algeria	10.6	10.8	10.9	3.8	4.3	4.3	208.8	209.5	209.5
Egypt	21.0	21.6	21.8	4.6	3.4	3.2	185.9	186.2	186.3
Ethiopia	5.8	6.3	6.4	0.9	0.8	0.6	45.5	48.2	48.1
Morocco	9.9	10.7	10.4	5.6	5.6	4.6	205.1	206.1	206.1
Nigeria	4.0	4.1	4.3	0.2	0.2	0.2	20.3	20.0	20.2
South Africa	3.2	3.4	3.3	0.6	0.5	0.4	56.5	56.6	56.8
Tunisia	3.0	3.0	3.1	0.5	0.4	0.6	209.4	209.3	209.6
<b>CENTRAL AMERICA</b>	<b>11.2</b>	<b>11.7</b>	<b>11.8</b>	<b>2.2</b>	<b>2.2</b>	<b>2.0</b>	<b>44.0</b>	<b>45.6</b>	<b>45.4</b>
Cuba	0.8	0.8	0.8	0.1	0.1	0.1	58.1	60.5	61.3
Mexico	7.3	7.4	7.6	1.0	1.1	1.0	48.6	48.9	49.1
<b>SOUTH AMERICA</b>	<b>27.7</b>	<b>29.6</b>	<b>29.0</b>	<b>7.0</b>	<b>7.6</b>	<b>7.7</b>	<b>59.4</b>	<b>60.2</b>	<b>60.2</b>
Argentina	5.7	6.2	5.8	1.7	2.0	2.3	117.5	117.7	117.8
Brazil	11.5	11.9	11.9	1.9	2.0	2.0	53.1	53.6	53.7
Chile	2.5	3.1	2.8	1.1	0.8	0.6	108.8	109.9	110.2
Colombia	1.7	1.8	1.7	0.9	0.9	0.9	32.1	33.9	31.5
Peru	2.2	2.2	2.3	0.3	0.3	0.3	63.9	64.6	65.9
Venezuela	1.3	1.4	1.4	0.1	0.1	0.1	41.5	42.6	42.1
<b>NORTH AMERICA</b>	<b>40.0</b>	<b>38.5</b>	<b>40.5</b>	<b>35.7</b>	<b>35.3</b>	<b>34.4</b>	<b>82.7</b>	<b>82.5</b>	<b>82.3</b>
Canada	9.0	8.5	8.7	6.2	5.9	6.0	81.1	81.2	81.1
United States of America	31.0	30.0	31.8	29.5	29.4	28.4	82.9	82.6	82.5
<b>EUROPE</b>	<b>186.6</b>	<b>189.0</b>	<b>191.2</b>	<b>34.3</b>	<b>26.6</b>	<b>28.2</b>	<b>107.7</b>	<b>107.6</b>	<b>107.9</b>
European Union	128.3	127.2	129.6	16.6	14.5	17.0	109.4	109.5	109.7
Russian Federation	40.4	44.7	44.2	12.6	8.0	6.2	100.1	99.9	99.9
Ukraine	9.6	8.7	8.8	2.9	2.1	2.8	112.0	111.7	112.0
<b>OCEANIA</b>	<b>9.2</b>	<b>10.4</b>	<b>10.5</b>	<b>5.3</b>	<b>4.5</b>	<b>3.3</b>	<b>68.9</b>	<b>68.7</b>	<b>68.8</b>
Australia	7.9	9.1	9.2	5.0	4.2	3.0	82.5	82.4	82.5
<b>WORLD</b>	<b>730.4</b>	<b>748.0</b>	<b>759.5</b>	<b>263.8</b>	<b>269.8</b>	<b>274.9</b>	<b>67.3</b>	<b>67.1</b>	<b>67.1</b>
LIFDC	154.5	158.1	161.5	33.6	32.3	32.3	48.9	49.1	49.0
LDC	35.4	37.3	38.0	10.6	8.7	7.4	30.4	31.1	31.1

# APPENDIX TABLE 3(A): COARSE GRAIN STATISTICS

	Production			Imports			Exports		
	2015-2017 average	2018 <i>estim.</i>	2019 <i>f'cast</i>	15/16-17/18 average	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>	15/16-17/18 average	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>
<i>million tonnes</i>									
<b>ASIA</b>	<b>404.3</b>	<b>406.5</b>	<b>407.3</b>	<b>100.0</b>	<b>97.8</b>	<b>100.8</b>	<b>4.7</b>	<b>6.0</b>	<b>5.4</b>
China	272.4	267.3	264.4	23.0	15.9	15.0	0.1	0.1	0.1
of which Taiwan Prov.	0.2	0.2	0.2	4.4	5.1	5.1	-	-	-
India	43.3	45.4	44.1	0.3	0.2	0.2	0.9	0.9	0.8
Indonesia	21.4	25.7	26.3	1.2	1.1	0.9	0.2	-	0.1
Iran, Islamic Republic of	4.3	3.7	4.1	9.3	11.9	12.9	-	-	-
Japan	0.2	0.2	0.2	17.2	17.8	18.5	-	-	-
Korea, Republic of	0.2	0.2	0.2	9.9	10.1	10.4	-	-	-
Malaysia	0.1	0.1	0.1	3.8	3.5	3.6	-	-	-
Pakistan	6.3	6.8	6.8	0.2	0.2	0.2	-	-	-
Philippines	7.5	7.8	7.7	0.7	0.7	0.7	-	-	-
Saudi Arabia	0.3	0.3	0.3	12.8	11.0	12.9	-	-	-
Thailand	4.9	5.2	5.3	0.2	0.4	0.4	0.4	0.2	0.3
Turkey	14.2	13.4	14.3	1.8	2.8	3.3	0.1	0.1	0.1
Viet Nam	5.2	4.9	4.9	8.6	9.9	10.1	0.1	0.4	0.3
<b>AFRICA</b>	<b>129.2</b>	<b>142.5</b>	<b>134.2</b>	<b>26.9</b>	<b>24.1</b>	<b>28.0</b>	<b>5.1</b>	<b>5.2</b>	<b>4.9</b>
Algeria	1.0	2.0	2.1	4.9	5.0	5.1	-	-	-
Egypt	8.5	8.3	8.4	8.8	8.9	9.7	-	-	-
Ethiopia	21.1	22.8	22.6	-	-	-	1.2	1.3	1.3
Morocco	2.3	3.1	1.4	2.8	2.5	3.5	-	-	-
Nigeria	17.8	19.2	19.2	0.5	0.4	0.4	0.2	0.2	0.2
South Africa	12.6	13.7	12.2	1.5	0.3	0.7	1.4	1.7	1.5
Sudan	5.4	7.6	6.0	0.3	0.2	0.3	0.3	0.4	0.2
Tanzania, United Rep. of	7.0	7.3	7.4	-	-	-	0.3	0.3	0.3
<b>CENTRAL AMERICA</b>	<b>37.7</b>	<b>37.3</b>	<b>35.8</b>	<b>21.8</b>	<b>24.6</b>	<b>26.0</b>	<b>1.5</b>	<b>0.6</b>	<b>0.8</b>
Mexico	32.9	32.6	31.2	15.2	17.4	18.7	1.4	0.6	0.8
<b>SOUTH AMERICA</b>	<b>150.0</b>	<b>150.8</b>	<b>183.2</b>	<b>14.8</b>	<b>15.7</b>	<b>15.1</b>	<b>54.8</b>	<b>60.0</b>	<b>74.1</b>
Argentina	48.6	50.8	64.3	0.1	0.1	0.1	25.6	31.5	35.6
Brazil	84.9	84.1	103.5	2.2	1.9	1.2	26.7	26.6	36.0
Chile	2.1	1.9	1.7	1.7	2.3	2.3	0.1	0.1	0.1
Colombia	1.4	1.3	1.2	5.2	5.6	5.7	-	-	-
Peru	1.8	1.8	1.8	3.3	3.6	3.7	-	-	-
Venezuela	1.3	0.7	0.6	1.8	1.6	1.6	-	-	-
<b>NORTH AMERICA</b>	<b>411.4</b>	<b>406.6</b>	<b>390.6</b>	<b>4.8</b>	<b>5.4</b>	<b>5.0</b>	<b>67.6</b>	<b>68.6</b>	<b>54.0</b>
Canada	26.3	26.3	28.6	1.3	2.7	1.7	5.1	6.6	5.7
United States of America	385.1	380.3	362.0	3.4	2.7	3.3	62.5	62.0	48.3
<b>EUROPE</b>	<b>248.8</b>	<b>252.4</b>	<b>262.6</b>	<b>17.0</b>	<b>27.3</b>	<b>20.2</b>	<b>45.4</b>	<b>53.2</b>	<b>51.0</b>
European Union	154.8	154.3	161.1	15.8	25.5	18.8	9.8	8.5	7.9
Russian Federation	42.4	36.6	40.1	0.2	0.1	0.1	9.8	8.0	9.9
Serbia	6.2	7.6	7.3	0.1	0.1	0.1	1.7	2.5	1.1
Ukraine	35.8	44.6	44.5	0.1	0.1	0.1	23.7	33.6	31.7
<b>OCEANIA</b>	<b>15.2</b>	<b>11.7</b>	<b>11.7</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>	<b>8.2</b>	<b>4.2</b>	<b>5.2</b>
Australia	14.6	11.1	11.1	-	-	-	8.2	4.2	5.2
<b>WORLD</b>	<b>1 396.5</b>	<b>1 407.9</b>	<b>1 425.5</b>	<b>185.6</b>	<b>195.3</b>	<b>195.3</b>	<b>187.3</b>	<b>197.8</b>	<b>195.3</b>
LIFDC	141.8	152.9	148.7	16.8	18.4	19.0	3.9	4.5	4.1
LDC	86.4	95.5	92.1	4.7	5.0	5.6	5.0	5.2	5.0

# APPENDIX TABLE 3(B): COARSE GRAIN STATISTICS

	Total Utilization			Stocks ending in			Per caput food use		
	15/16-17/18 average	2018/19 estim.	2019/20 f'cast	2016-2018 average	2019 estim.	2020 f'cast	15/16-17/18 average	2018/19 estim.	2019/20 f'cast
	(. . . . . million tonnes . . . . .)						(. . . . . Kg/year . . . . .)		
<b>ASIA</b>	<b>489.9</b>	<b>508.9</b>	<b>515.3</b>	<b>233.8</b>	<b>223.0</b>	<b>209.1</b>	<b>14.8</b>	<b>14.8</b>	<b>14.4</b>
China	284.3	292.6	294.6	209.2	200.5	184.7	13.2	13.2	13.1
of which Taiwan Prov.	4.6	5.2	5.3	0.3	0.5	0.5	7.0	7.0	6.9
India	43.0	45.3	44.4	2.5	1.9	1.2	18.7	18.7	17.5
Indonesia	23.1	26.7	26.9	1.8	2.0	2.0	29.1	29.5	29.6
Iran, Islamic Republic of	13.3	15.3	16.5	1.8	2.3	2.4	1.3	1.2	1.2
Japan	17.3	17.8	18.5	2.1	2.0	2.2	3.3	3.3	3.3
Korea, Republic of	10.4	10.6	10.6	1.4	0.6	0.6	4.3	4.3	4.3
Malaysia	3.8	3.6	3.7	0.1	0.2	0.2	1.8	2.0	2.0
Pakistan	6.7	7.0	6.9	1.3	0.8	0.8	10.6	10.3	10.1
Philippines	8.2	8.4	8.6	0.8	1.2	1.0	18.7	18.0	18.1
Saudi Arabia	13.3	11.8	12.7	3.5	2.4	2.9	3.0	2.9	2.8
Thailand	4.6	5.3	5.6	0.7	0.8	0.6	2.7	2.7	2.7
Turkey	16.0	16.2	17.1	2.1	2.1	2.2	19.8	19.7	19.4
Viet Nam	13.6	15.0	15.0	1.5	0.6	0.4	7.1	7.5	7.7
<b>AFRICA</b>	<b>149.3</b>	<b>158.5</b>	<b>159.2</b>	<b>29.2</b>	<b>36.0</b>	<b>34.0</b>	<b>72.0</b>	<b>72.2</b>	<b>71.3</b>
Algeria	6.0	6.5	7.2	1.7	2.1	2.1	15.8	15.2	15.0
Egypt	17.4	17.3	17.8	1.6	1.5	1.9	45.1	44.7	43.9
Ethiopia	19.2	20.6	20.9	3.9	5.4	5.7	137.2	139.1	140.0
Morocco	5.2	5.1	5.2	1.3	1.6	1.4	29.8	29.5	29.6
Nigeria	18.3	18.7	19.4	1.6	2.5	2.5	72.0	68.6	68.1
South Africa	12.3	13.4	12.6	2.8	2.9	1.7	91.5	92.4	91.8
Sudan	5.6	6.6	6.3	1.1	1.9	1.7	111.3	112.3	108.4
Tanzania, United Rep. of	6.8	7.1	7.2	1.5	1.3	1.1	86.7	87.3	86.6
<b>CENTRAL AMERICA</b>	<b>57.4</b>	<b>61.2</b>	<b>61.7</b>	<b>8.1</b>	<b>8.7</b>	<b>8.0</b>	<b>97.6</b>	<b>98.9</b>	<b>98.7</b>
Mexico	46.0	49.0	49.6	5.2	6.3	5.8	131.2	131.5	131.9
<b>SOUTH AMERICA</b>	<b>107.9</b>	<b>118.7</b>	<b>120.1</b>	<b>29.6</b>	<b>34.2</b>	<b>35.7</b>	<b>27.6</b>	<b>28.4</b>	<b>28.4</b>
Argentina	21.5	25.9	25.9	7.2	9.9	9.9	7.3	7.3	7.3
Brazil	61.2	64.6	66.7	13.3	14.4	16.4	25.5	25.7	25.7
Chile	3.4	3.9	4.0	3.0	3.5	3.3	25.1	25.4	25.2
Colombia	6.5	6.9	7.0	0.9	1.1	1.1	42.3	51.1	51.5
Peru	4.9	5.5	5.7	0.3	0.4	0.3	20.9	21.7	21.4
Venezuela	3.5	2.6	2.3	0.7	0.1	0.1	54.3	49.9	49.3
<b>NORTH AMERICA</b>	<b>343.9</b>	<b>352.1</b>	<b>344.2</b>	<b>61.0</b>	<b>61.2</b>	<b>55.1</b>	<b>18.0</b>	<b>18.0</b>	<b>18.0</b>
Canada	22.1	24.0	23.7	4.9	3.4	4.1	4.7	4.6	4.6
United States of America	321.8	328.1	320.5	56.1	57.8	51.0	19.6	19.5	19.5
<b>EUROPE</b>	<b>222.8</b>	<b>224.8</b>	<b>226.9</b>	<b>39.3</b>	<b>44.1</b>	<b>48.9</b>	<b>20.5</b>	<b>20.3</b>	<b>20.4</b>
European Union	162.8	167.0	169.5	23.5	30.0	32.5	18.9	18.8	18.9
Russian Federation	32.1	30.1	30.0	5.6	5.4	5.8	21.6	21.2	21.2
Serbia	4.8	4.8	4.8	0.6	0.6	2.1	23.6	24.3	21.0
Ukraine	13.3	12.7	12.7	5.0	2.8	2.8	29.4	28.7	28.8
<b>OCEANIA</b>	<b>6.8</b>	<b>6.5</b>	<b>6.6</b>	<b>2.9</b>	<b>2.4</b>	<b>2.8</b>	<b>8.1</b>	<b>7.9</b>	<b>7.9</b>
Australia	6.0	5.6	5.6	2.8	2.3	2.7	9.7	9.5	9.4
<b>WORLD</b>	<b>1 378.2</b>	<b>1 430.7</b>	<b>1 433.9</b>	<b>403.9</b>	<b>409.4</b>	<b>393.6</b>	<b>28.0</b>	<b>28.3</b>	<b>28.1</b>
LIFDC	153.5	165.3	164.1	25.1	28.7	28.3	36.4	37.1	36.3
LDC	85.3	93.2	93.2	17.2	21.2	20.5	58.0	59.0	58.2



## APPENDIX TABLE 4(A): MAIZE STATISTICS

	Production			Imports			Exports		
	2015-2017 average	2018 <i>estim.</i>	2019 <i>f'cast</i>	15/16-17/18 average	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>	15/16-17/18 average	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>
<i>million tonnes</i>									
<b>ASIA</b>	<b>356.1</b>	<b>357.9</b>	<b>357.5</b>	<b>67.7</b>	<b>76.4</b>	<b>77.4</b>	<b>3.4</b>	<b>3.8</b>	<b>3.9</b>
China	262.7	257.3	254.2	7.9	9.5	8.1	0.1	-	-
of which Taiwan Prov.	0.2	0.2	0.2	4.3	5.0	5.0	-	-	-
India	25.8	27.2	28.4	0.2	0.1	0.1	0.7	0.7	0.8
Indonesia	21.4	25.7	26.3	1.2	1.0	0.8	0.2	-	0.1
Iran, Islamic Republic of	1.2	0.9	1.1	7.4	9.2	9.9	-	-	-
Japan	-	-	-	15.2	16.0	16.5	-	-	-
Korea, Republic of	0.1	0.1	0.1	9.8	10.0	10.2	-	-	-
Malaysia	0.1	0.1	0.1	3.8	3.5	3.6	-	-	-
Pakistan	5.8	6.3	6.3	-	-	-	-	-	-
Philippines	7.5	7.8	7.7	0.6	0.7	0.7	-	-	-
Thailand	4.7	5.0	5.1	0.1	0.4	0.4	0.4	0.2	0.2
Turkey	6.2	5.7	6.0	1.5	2.5	3.0	0.1	-	0.1
Viet Nam	5.2	4.9	4.9	8.5	9.8	10.0	0.1	0.4	0.3
<b>AFRICA</b>	<b>76.7</b>	<b>83.0</b>	<b>78.8</b>	<b>22.7</b>	<b>20.5</b>	<b>23.8</b>	<b>3.8</b>	<b>3.8</b>	<b>3.6</b>
Algeria	-	-	-	4.2	4.4	4.5	-	-	-
Egypt	7.6	7.3	7.4	8.8	8.9	9.7	-	-	-
Ethiopia	8.0	9.5	9.4	-	-	-	0.7	0.8	0.8
Kenya	3.4	4.0	3.2	1.1	0.7	1.2	-	-	-
Morocco	0.1	0.1	0.1	2.2	2.3	2.6	-	-	-
Nigeria	10.1	11.0	11.0	0.4	0.4	0.4	0.2	0.2	0.2
South Africa	12.1	13.1	11.6	2.1	0.2	0.5	1.3	1.6	1.5
Tanzania, United Rep. of	5.9	6.1	6.2	-	-	-	0.3	0.3	0.3
<b>CENTRAL AMERICA</b>	<b>31.4</b>	<b>31.1</b>	<b>29.9</b>	<b>21.1</b>	<b>23.9</b>	<b>25.3</b>	<b>1.5</b>	<b>0.6</b>	<b>0.8</b>
Mexico	26.9	26.7	25.6	14.5	16.8	18.0	1.4	0.6	0.8
<b>SOUTH AMERICA</b>	<b>136.8</b>	<b>137.0</b>	<b>169.5</b>	<b>13.4</b>	<b>14.3</b>	<b>13.8</b>	<b>51.3</b>	<b>56.8</b>	<b>71.1</b>
Argentina	41.0	43.5	57.0	-	-	-	22.3	28.5	32.8
Brazil	82.2	80.7	100.0	1.5	1.2	0.6	26.7	26.5	36.0
Chile	1.3	1.1	1.0	1.6	2.1	2.2	-	-	-
Colombia	1.4	1.2	1.2	4.8	5.3	5.4	-	-	-
Peru	1.6	1.6	1.5	3.2	3.4	3.6	-	-	-
Venezuela	1.3	0.7	0.6	1.7	1.6	1.6	-	-	-
<b>NORTH AMERICA</b>	<b>381.0</b>	<b>380.2</b>	<b>362.1</b>	<b>2.6</b>	<b>3.4</b>	<b>2.6</b>	<b>56.8</b>	<b>61.7</b>	<b>47.6</b>
Canada	13.9	13.9	14.1	1.2	2.6	1.6	1.6	2.2	1.6
United States of America	367.1	366.3	348.0	1.4	0.7	1.0	55.1	59.5	46.0
<b>EUROPE</b>	<b>110.9</b>	<b>128.2</b>	<b>124.3</b>	<b>15.7</b>	<b>25.2</b>	<b>18.4</b>	<b>28.1</b>	<b>39.1</b>	<b>34.4</b>
European Union	62.5	69.3	66.7	14.9	24.2	17.5	2.2	3.5	2.0
Russian Federation	13.9	11.4	13.0	0.1	-	-	5.3	2.9	4.4
Serbia	5.6	7.0	6.7	-	-	-	1.6	2.4	1.0
Ukraine	25.4	35.8	34.0	0.1	-	-	18.6	29.8	26.5
<b>OCEANIA</b>	<b>0.6</b>	<b>0.6</b>	<b>0.6</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>
<b>WORLD</b>	<b>1 093.5</b>	<b>1 118.1</b>	<b>1 122.6</b>	<b>143.3</b>	<b>163.8</b>	<b>161.5</b>	<b>144.9</b>	<b>165.9</b>	<b>161.5</b>
LIFDC	81.9	88.6	87.9	15.0	16.6	17.6	2.6	3.0	2.9
LDC	47.3	52.2	51.4	3.9	4.3	4.7	3.8	3.9	3.9

# APPENDIX TABLE 4(B): MAIZE STATISTICS

	Total Utilization			Stocks ending in			Per caput food use		
	15/16-17/18 average	2018/19 estim.	2019/20 f'cast	2016-2018 average	2019 estim.	2020 f'cast	15/16-17/18 average	2018/19 estim.	2019/20 f'cast
	(..... million tonnes .....) )						(..... Kg/year .....) )		
<b>ASIA</b>	<b>410.7</b>	<b>439.9</b>	<b>448.0</b>	<b>221.1</b>	<b>211.9</b>	<b>193.5</b>	<b>9.3</b>	<b>9.4</b>	<b>9.3</b>
China	260.3	275.9	279.4	205.3	196.7	179.0	9.9	9.9	9.9
of which Taiwan Prov.	4.4	5.1	5.2	0.3	0.5	0.5	5.5	5.5	5.5
India	25.1	27.1	28.3	1.4	1.5	1.0	6.3	6.4	6.4
Indonesia	23.0	26.7	26.8	1.8	2.0	2.0	28.8	29.2	29.3
Iran, Islamic Republic of	8.5	9.9	10.6	1.0	1.5	1.5	0.9	0.9	0.9
Japan	15.2	15.7	16.3	1.8	1.7	1.9	0.8	0.8	0.8
Korea, Republic of	10.1	10.3	10.3	1.4	0.6	0.5	1.9	2.0	1.9
Malaysia	3.8	3.6	3.7	0.1	0.2	0.2	1.8	2.0	2.0
Pakistan	6.0	6.3	6.2	1.3	0.8	0.8	8.3	8.3	8.1
Philippines	8.1	8.4	8.6	0.8	1.2	1.0	18.6	17.9	18.1
Thailand	4.4	5.1	5.4	0.7	0.8	0.6	1.2	1.2	1.2
Turkey	7.7	8.2	8.5	1.0	1.0	1.0	16.1	16.1	15.9
Viet Nam	13.5	14.9	14.9	1.5	0.6	0.4	7.0	7.5	7.7
<b>AFRICA</b>	<b>93.6</b>	<b>99.4</b>	<b>100.4</b>	<b>18.0</b>	<b>21.9</b>	<b>20.4</b>	<b>39.5</b>	<b>39.6</b>	<b>39.6</b>
Algeria	4.2	4.4	4.5	1.3	1.2	1.2	3.4	3.3	3.3
Egypt	16.4	16.3	16.8	1.5	1.4	1.8	42.0	41.8	41.0
Ethiopia	7.2	8.2	8.3	0.7	1.3	1.6	44.3	48.3	48.1
Kenya	4.4	4.8	4.7	0.5	0.4	0.2	81.7	83.0	82.9
Morocco	2.3	2.2	2.7	0.7	1.1	1.2	10.2	10.4	10.4
Nigeria	10.4	10.6	11.2	1.2	2.0	2.0	33.0	31.1	31.1
South Africa	11.6	12.5	11.8	2.5	2.7	1.5	88.8	89.7	89.1
Tanzania, United Rep. of	5.7	5.9	6.0	1.3	1.1	1.0	69.7	69.6	69.1
<b>CENTRAL AMERICA</b>	<b>50.4</b>	<b>54.4</b>	<b>55.0</b>	<b>7.7</b>	<b>8.1</b>	<b>7.5</b>	<b>96.8</b>	<b>98.2</b>	<b>98.0</b>
Mexico	39.3	42.6	43.2	4.9	5.8	5.4	130.8	131.2	131.5
<b>SOUTH AMERICA</b>	<b>96.3</b>	<b>107.2</b>	<b>108.5</b>	<b>26.9</b>	<b>31.5</b>	<b>33.1</b>	<b>25.9</b>	<b>26.8</b>	<b>26.8</b>
Argentina	16.9	22.0	22.0	6.3	9.0	9.0	7.1	7.1	7.1
Brazil	57.8	60.5	62.5	12.8	14.0	16.0	24.1	24.2	24.2
Chile	2.5	3.0	3.1	2.4	2.8	2.8	21.2	21.4	21.2
Colombia	6.1	6.6	6.6	0.9	1.1	1.1	41.3	50.6	51.0
Peru	4.6	5.1	5.4	0.3	0.4	0.3	14.5	15.4	15.8
Venezuela	3.4	2.6	2.2	0.7	-	-	53.8	49.4	48.8
<b>NORTH AMERICA</b>	<b>322.0</b>	<b>330.3</b>	<b>320.9</b>	<b>54.7</b>	<b>55.7</b>	<b>48.8</b>	<b>14.8</b>	<b>14.8</b>	<b>14.8</b>
Canada	13.1	15.2	14.0	2.4	2.0	1.8	3.2	3.2	3.1
United States of America	308.9	315.2	307.0	52.3	53.7	47.0	16.1	16.1	16.1
<b>EUROPE</b>	<b>99.2</b>	<b>109.6</b>	<b>108.0</b>	<b>18.7</b>	<b>27.3</b>	<b>27.5</b>	<b>8.1</b>	<b>8.1</b>	<b>8.1</b>
European Union	74.8	85.7	83.7	11.3	20.0	18.5	9.5	9.5	9.5
Russian Federation	8.5	8.1	8.5	1.2	1.7	1.8	1.4	1.4	1.4
Serbia	4.2	4.3	4.3	0.6	0.5	1.9	21.8	22.5	19.2
Ukraine	7.9	7.6	7.6	3.3	1.0	0.9	11.2	11.1	11.1
<b>OCEANIA</b>	<b>0.7</b>	<b>0.7</b>	<b>0.7</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>2.3</b>	<b>2.3</b>	<b>2.3</b>
<b>WORLD</b>	<b>1 072.9</b>	<b>1 141.6</b>	<b>1 141.5</b>	<b>347.0</b>	<b>356.4</b>	<b>331.0</b>	<b>17.9</b>	<b>18.1</b>	<b>18.2</b>
LIFDC	93.0	102.6	103.5	13.9	15.5	14.6	17.3	17.7	17.8
LDC	46.9	52.4	52.8	8.2	9.9	9.2	27.6	28.1	28.1

# APPENDIX TABLE 5(A): BARLEY STATISTICS

	Production			Imports			Exports		
	2015-2017 average	2018 estim.	2019 f'cast	15/16-17/18 average	2018/19 estim.	2019/20 f'cast	15/16-17/18 average	2018/19 estim.	2019/20 f'cast
<i>million tonnes</i>									
<b>ASIA</b>	<b>20.6</b>	<b>20.6</b>	<b>24.2</b>	<b>24.0</b>	<b>19.6</b>	<b>20.8</b>	<b>1.0</b>	<b>1.8</b>	<b>1.4</b>
China	1.9	1.8	2.0	7.9	5.5	5.5	-	-	-
India	1.6	1.8	1.8	0.3	0.1	0.1	-	-	-
Iran, Islamic Republic of	3.1	2.8	3.0	1.9	2.7	3.0	-	-	-
Iraq	0.4	0.4	0.7	-	-	-	-	-	-
Japan	0.2	0.2	0.2	1.2	1.2	1.3	-	-	-
Kazakhstan	3.1	4.0	4.5	-	-	-	1.0	1.8	1.3
Saudi Arabia	-	-	-	9.1	6.5	7.7	-	-	-
Syrian Arab Republic	0.6	0.4	2.0	0.4	0.6	-	-	-	-
Turkey	7.3	7.0	7.6	0.5	0.3	0.3	-	-	-
<b>AFRICA</b>	<b>6.2</b>	<b>7.7</b>	<b>6.5</b>	<b>3.1</b>	<b>2.5</b>	<b>3.0</b>	-	-	-
Algeria	1.0	2.0	2.0	0.7	0.6	0.6	-	-	-
Ethiopia	2.0	1.8	1.8	-	-	-	-	-	-
Libya	0.1	0.1	0.1	1.1	1.0	1.0	-	-	-
Morocco	2.2	2.9	1.3	0.6	0.2	0.8	-	-	-
Tunisia	0.4	0.3	0.7	0.6	0.7	0.5	-	-	-
<b>CENTRAL AMERICA</b>	<b>0.9</b>	<b>1.0</b>	<b>1.0</b>	<b>0.2</b>	-	-	-	-	-
Mexico	0.9	1.0	1.0	0.2	-	-	-	-	-
<b>SOUTH AMERICA</b>	<b>5.1</b>	<b>6.5</b>	<b>6.4</b>	<b>1.1</b>	<b>1.2</b>	<b>1.1</b>	<b>2.8</b>	<b>3.0</b>	<b>2.6</b>
Argentina	4.0	5.1	5.0	-	-	-	2.7	2.9	2.5
<b>NORTH AMERICA</b>	<b>12.4</b>	<b>11.7</b>	<b>13.7</b>	<b>0.3</b>	<b>0.2</b>	<b>0.3</b>	<b>1.7</b>	<b>2.5</b>	<b>2.0</b>
Canada	8.3	8.4	10.0	0.1	-	-	1.6	2.4	1.9
United States of America	4.1	3.3	3.7	0.3	0.1	0.3	0.1	0.1	0.1
<b>EUROPE</b>	<b>90.6</b>	<b>83.3</b>	<b>93.0</b>	<b>0.7</b>	<b>0.5</b>	<b>1.0</b>	<b>16.5</b>	<b>12.9</b>	<b>15.8</b>
Belarus	1.5	0.9	1.5	0.1	0.2	0.1	-	-	-
European Union	60.2	56.5	61.9	0.4	0.1	0.7	7.2	4.6	5.5
Russian Federation	18.7	17.0	19.0	0.1	-	-	4.3	4.6	5.2
Ukraine	8.7	7.3	9.0	-	-	-	4.8	3.6	5.0
<b>OCEANIA</b>	<b>11.0</b>	<b>8.7</b>	<b>8.4</b>	-	-	-	<b>7.0</b>	<b>3.8</b>	<b>4.5</b>
Australia	10.6	8.3	8.0	-	-	-	7.0	3.8	4.5
<b>WORLD</b>	<b>146.9</b>	<b>139.6</b>	<b>153.1</b>	<b>29.3</b>	<b>24.1</b>	<b>26.2</b>	<b>29.1</b>	<b>24.1</b>	<b>26.2</b>
LIFDC	5.4	4.9	6.6	0.8	0.9	0.4	-	-	-
LDC	2.5	2.0	2.0	-	-	-	-	-	-

## APPENDIX TABLE 5(B): BARLEY STATISTICS

	Total Utilization			Stocks ending in			Per caput food use		
	15/16-17/18 average	2018/19 estim.	2019/20 f'cast	2016-2018 average	2019 estim.	2020 f'cast	15/16-17/18 average	2018/19 estim.	2019/20 f'cast
	(..... million tonnes.....)						(..... Kg/year.....)		
<b>ASIA</b>	<b>43.7</b>	<b>39.3</b>	<b>39.4</b>	<b>9.6</b>	<b>8.6</b>	<b>12.8</b>	<b>0.7</b>	<b>0.7</b>	<b>0.7</b>
China	9.8	7.9	6.0	2.4	2.2	3.6	0.2	0.2	0.2
India	1.7	1.9	1.9	-	-	-	1.1	1.2	1.2
Iran, Islamic Republic of	4.8	5.4	5.9	0.8	0.8	0.9	0.3	0.3	0.3
Iraq	0.5	0.4	0.8	-	-	-	3.5	3.3	3.2
Japan	1.4	1.4	1.5	0.2	0.2	0.2	2.3	2.4	2.4
Kazakhstan	2.1	2.2	2.0	0.3	0.2	1.4	1.1	1.1	1.1
Saudi Arabia	9.4	7.0	7.2	3.2	2.1	2.6	0.9	0.8	0.8
Syrian Arab Republic	1.0	0.9	1.4	0.3	0.4	1.1	15.1	15.3	15.1
Turkey	7.6	7.3	7.8	1.0	1.0	1.1	1.0	1.0	1.0
<b>AFRICA</b>	<b>9.5</b>	<b>9.7</b>	<b>9.7</b>	<b>1.7</b>	<b>2.0</b>	<b>1.7</b>	<b>2.6</b>	<b>2.3</b>	<b>2.3</b>
Algeria	1.8	2.0	2.6	0.4	0.8	0.8	12.3	11.9	11.7
Ethiopia	2.1	1.8	1.8	0.2	-	-	17.6	14.6	13.9
Libya	1.2	1.1	1.1	-	-	-	13.5	13.3	13.1
Morocco	2.8	2.9	2.4	0.6	0.5	0.2	19.5	19.1	19.1
Tunisia	1.0	1.0	1.1	0.4	0.4	0.4	7.9	7.7	7.6
<b>CENTRAL AMERICA</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	-	-	-
Mexico	1.0	1.0	1.0	0.1	0.1	0.1	-	-	-
<b>SOUTH AMERICA</b>	<b>3.7</b>	<b>4.1</b>	<b>4.4</b>	<b>0.5</b>	<b>0.9</b>	<b>0.9</b>	<b>0.5</b>	<b>0.5</b>	<b>0.4</b>
Argentina	1.4	1.6	1.9	0.4	0.8	0.8	-	-	-
<b>NORTH AMERICA</b>	<b>10.9</b>	<b>10.0</b>	<b>10.9</b>	<b>3.8</b>	<b>2.8</b>	<b>3.8</b>	<b>0.5</b>	<b>0.5</b>	<b>0.5</b>
Canada	6.8	6.5	7.2	1.6	0.9	1.7	0.3	0.3	0.3
United States of America	4.1	3.5	3.7	2.2	1.9	2.1	0.6	0.6	0.6
<b>EUROPE</b>	<b>75.4</b>	<b>70.8</b>	<b>76.0</b>	<b>11.0</b>	<b>11.1</b>	<b>13.3</b>	<b>1.1</b>	<b>1.1</b>	<b>1.1</b>
Belarus	1.5	1.5	1.5	0.9	0.5	0.6	-	-	-
European Union	54.0	50.5	56.1	6.5	7.5	8.5	0.7	0.7	0.7
Russian Federation	14.4	13.6	13.1	2.2	1.4	2.2	1.8	1.8	1.8
Ukraine	3.9	3.7	3.8	1.1	1.3	1.6	2.8	2.6	2.6
<b>OCEANIA</b>	<b>3.7</b>	<b>3.7</b>	<b>3.7</b>	<b>1.9</b>	<b>1.5</b>	<b>1.7</b>	<b>0.2</b>	<b>0.1</b>	<b>0.1</b>
Australia	3.3	3.3	3.3	1.8	1.5	1.7	0.2	0.2	0.2
<b>WORLD</b>	<b>147.9</b>	<b>138.7</b>	<b>145.1</b>	<b>28.6</b>	<b>27.0</b>	<b>34.4</b>	<b>1.0</b>	<b>1.0</b>	<b>0.9</b>
LIFDC	6.2	5.8	6.2	1.0	1.3	2.1	1.5	1.4	1.4
LDC	2.5	2.0	2.0	0.2	0.1	0.1	2.0	1.6	1.6

## APPENDIX TABLE 6(A): SORGHUM STATISTICS

	Production			Imports			Exports		
	2015-2017 average	2018 <i>estim.</i>	2019 <i>f'cast</i>	15/16-17/18 average	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>	15/16-17/18 average	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>
<i>million tonnes</i>									
<b>ASIA</b>	<b>8.7</b>	<b>9.2</b>	<b>8.2</b>	<b>7.6</b>	<b>1.1</b>	<b>1.8</b>	<b>0.1</b>	<b>0.2</b>	<b>-</b>
China	3.0	3.4	3.5	6.9	0.5	1.1	-	-	-
India	4.7	4.8	3.8	-	-	-	0.1	0.1	-
Japan	-	-	-	0.6	0.5	0.6	-	-	-
<b>AFRICA</b>	<b>26.9</b>	<b>28.6</b>	<b>27.7</b>	<b>1.0</b>	<b>1.0</b>	<b>1.1</b>	<b>0.8</b>	<b>1.0</b>	<b>0.8</b>
Burkina Faso	1.5	1.9	1.6	-	-	-	-	-	-
Ethiopia	4.9	5.0	5.0	-	-	-	0.4	0.5	0.5
Nigeria	6.2	6.0	6.3	-	-	-	-	-	-
Sudan	4.4	5.0	4.5	0.2	0.2	0.3	0.3	0.3	0.2
<b>CENTRAL AMERICA</b>	<b>5.4</b>	<b>5.1</b>	<b>4.8</b>	<b>0.4</b>	<b>0.4</b>	<b>0.5</b>	<b>-</b>	<b>-</b>	<b>-</b>
Mexico	5.0	4.8	4.5	0.4	0.4	0.5	-	-	-
<b>SOUTH AMERICA</b>	<b>5.8</b>	<b>4.9</b>	<b>4.9</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.6</b>	<b>0.1</b>	<b>0.3</b>
Argentina	2.9	1.6	1.6	-	-	-	0.6	0.1	0.3
Brazil	1.7	2.1	2.1	-	-	-	-	-	-
Venezuela	0.1	-	-	-	-	-	-	-	-
<b>NORTH AMERICA</b>	<b>12.2</b>	<b>9.3</b>	<b>8.9</b>	<b>0.1</b>	<b>-</b>	<b>-</b>	<b>7.0</b>	<b>2.2</b>	<b>2.1</b>
United States of America	12.2	9.3	8.9	0.1	-	-	7.0	2.2	2.1
<b>EUROPE</b>	<b>1.1</b>	<b>1.1</b>	<b>1.2</b>	<b>0.2</b>	<b>0.8</b>	<b>0.3</b>	<b>0.2</b>	<b>0.1</b>	<b>0.1</b>
European Union	0.7	0.8	1.0	0.2	0.8	0.2	-	-	-
<b>OCEANIA</b>	<b>1.7</b>	<b>1.3</b>	<b>1.3</b>	<b>0.1</b>	<b>-</b>	<b>-</b>	<b>0.7</b>	<b>0.2</b>	<b>0.4</b>
Australia	1.7	1.3	1.3	-	-	-	0.7	0.2	0.4
<b>WORLD</b>	<b>61.7</b>	<b>59.4</b>	<b>57.0</b>	<b>9.5</b>	<b>3.4</b>	<b>3.8</b>	<b>9.5</b>	<b>3.8</b>	<b>3.8</b>
LIFDC	24.9	26.7	24.6	0.8	0.8	0.9	0.8	1.0	0.8
LDC	19.0	20.6	19.6	0.7	0.6	0.8	0.7	0.9	0.7

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

	Production			Imports			Exports		
	2015-2017 average	2018 <i>estim.</i>	2019 <i>f'cast</i>	15/16-17/18 average	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>	15/16-17/18 average	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>
<i>million tonnes</i>									
ASIA	18.9	18.8	17.4	0.8	0.7	0.8	0.2	0.2	#VALUE!
AFRICA	19.4	23.2	21.2	0.2	0.1	0.1	0.5	0.4	0.5
CENTRAL AMERICA	0.1	0.1	0.1	0.1	0.3	0.2	-	-	-
SOUTH AMERICA	2.4	2.4	2.4	0.2	0.1	0.1	0.1	0.1	0.1
NORTH AMERICA	5.7	5.4	5.9	1.8	1.8	2.1	2.1	2.2	2.3
EUROPE	46.1	39.8	44.1	0.4	0.8	0.5	0.7	1.1	0.7
OCEANIA	1.9	1.1	1.4	-	0.1	0.1	0.3	0.1	0.2
<b>WORLD</b>	<b>94.4</b>	<b>90.8</b>	<b>92.8</b>	<b>3.5</b>	<b>4.0</b>	<b>3.8</b>	<b>3.8</b>	<b>4.0</b>	<b>3.8</b>

## APPENDIX TABLE 6(B): SORGHUM STATISTICS

	Total Utilization			Stocks ending in			Per caput food use		
	15/16-17/18 average	2018/19 estim.	2019/20 f'cast	2016-2018 average	2019 estim.	2020 f'cast	15/16-17/18 average	2018/19 estim.	2019/20 f'cast
	(..... million tonnes .....) )						(..... Kg/year .....) )		
<b>ASIA</b>	<b>15.6</b>	<b>10.0</b>	<b>9.3</b>	<b>1.2</b>	<b>1.4</b>	<b>2.0</b>	<b>1.3</b>	<b>1.3</b>	<b>1.1</b>
China	9.1	3.8	4.0	0.8	1.0	1.6	0.5	0.5	0.5
India	4.7	4.7	3.8	0.4	-	-	3.5	3.4	2.7
Japan	0.6	0.5	0.6	0.1	0.1	0.1	-	-	-
<b>AFRICA</b>	<b>27.7</b>	<b>28.7</b>	<b>28.3</b>	<b>3.9</b>	<b>3.7</b>	<b>3.4</b>	<b>18.0</b>	<b>17.7</b>	<b>17.3</b>
Burkina Faso	1.6	1.8	1.6	0.4	0.5	0.5	74.4	84.8	72.8
Ethiopia	4.4	4.5	4.5	0.6	0.8	0.8	32.4	31.7	31.8
Nigeria	6.4	6.0	6.3	0.1	-	-	32.2	28.6	29.2
Sudan	4.7	5.2	4.8	0.7	0.3	0.1	95.3	92.8	89.4
<b>CENTRAL AMERICA</b>	<b>5.8</b>	<b>5.4</b>	<b>5.4</b>	<b>0.3</b>	<b>0.5</b>	<b>0.4</b>	<b>0.6</b>	<b>0.5</b>	<b>0.5</b>
Mexico	5.5	5.1	5.1	0.2	0.4	0.3	-	-	-
<b>SOUTH AMERICA</b>	<b>5.7</b>	<b>5.0</b>	<b>4.6</b>	<b>1.6</b>	<b>1.1</b>	<b>1.1</b>	<b>0.1</b>	<b>0.0</b>	<b>0.0</b>
Argentina	2.4	1.6	1.2	0.5	0.1	0.1	-	-	-
Brazil	1.8	2.1	2.1	0.3	0.2	0.2	-	-	-
Venezuela	0.1	-	0.1	-	-	-	-	-	-
<b>NORTH AMERICA</b>	<b>5.5</b>	<b>6.2</b>	<b>6.6</b>	<b>0.9</b>	<b>1.6</b>	<b>1.3</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>
United States of America	5.5	6.2	6.6	0.9	1.6	1.3	0.1	0.1	0.1
<b>EUROPE</b>	<b>1.2</b>	<b>1.4</b>	<b>1.0</b>	<b>0.3</b>	<b>0.8</b>	<b>1.1</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>
European Union	0.9	1.3	0.8	0.2	0.7	1.1	0.3	0.3	0.3
<b>OCEANIA</b>	<b>0.8</b>	<b>0.9</b>	<b>0.8</b>	<b>0.8</b>	<b>0.7</b>	<b>0.9</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>
Australia	0.7	0.9	0.8	0.8	0.7	0.9	-	-	-
<b>WORLD</b>	<b>62.2</b>	<b>57.6</b>	<b>56.1</b>	<b>9.1</b>	<b>9.7</b>	<b>10.2</b>	<b>3.8</b>	<b>3.8</b>	<b>3.6</b>
LIFDC	25.4	26.6	25.0	4.0	3.7	3.4	8.2	8.3	7.7
LDC	19.2	20.5	19.9	3.6	3.5	3.2	15.0	15.3	14.7

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

	Total Utilization			Stocks ending in			Per caput food use		
	15/16-17/18 average	2018/19 estim.	2019/20 f'cast	2016-2018 average	2019 estim.	2020 f'cast	15/16-17/18 average	2018/19 estim.	2019/20 f'cast
	(..... million tonnes .....) )						(..... Kg/year .....) )		
ASIA	20.0	19.7	18.6	1.9	1.1	0.8	3.5	3.4	3.3
AFRICA	18.5	20.7	20.8	5.5	8.4	8.5	11.8	12.6	12.1
CENTRAL AMERICA	0.3	0.4	0.3	-	-	-	0.2	0.2	0.2
SOUTH AMERICA	2.3	2.4	2.6	0.7	0.7	0.6	1.1	1.1	1.2
NORTH AMERICA	5.4	5.6	5.8	1.7	1.1	1.2	2.6	2.6	2.6
EUROPE	47.1	43.0	41.9	9.3	4.9	7.0	11.0	10.9	11.0
OCEANIA	1.6	1.2	1.4	0.1	0.1	0.1	5.5	5.3	5.3
<b>WORLD</b>	<b>95.2</b>	<b>92.8</b>	<b>91.2</b>	<b>19.2</b>	<b>16.3</b>	<b>18.0</b>	<b>5.3</b>	<b>5.4</b>	<b>5.4</b>



## APPENDIX TABLE 8(A): RICE STATISTICS

	Production			Imports			Exports		
	2015-2017 average	2018 <i>estim.</i>	2019 <i>f'cast</i>	2016-2018 average	2019 <i>estim.</i>	2020 <i>f'cast</i>	2016-2018 average	2019 <i>estim.</i>	2020 <i>f'cast</i>
<i>... million tonnes, milled equivalent ...</i>									
<b>ASIA</b>	<b>454.1</b>	<b>466.7</b>	<b>466.1</b>	<b>21.3</b>	<b>20.0</b>	<b>19.9</b>	<b>38.2</b>	<b>38.8</b>	<b>40.4</b>
Bangladesh	34.8	36.1	36.6	1.4	0.2	0.3	-	-	-
China	146.4	146.6	144.6	6.0	4.5	4.1	1.3	3.0	3.4
of which Taiwan Prov.	1.2	1.3	1.2	0.1	0.1	0.1	0.1	0.1	-
India	109.0	116.4	115.8	-	-	-	11.5	11.2	12.1
Indonesia	45.9	46.7	46.8	1.3	0.4	0.4	-	-	-
Iran, Islamic Republic of	1.8	1.9	1.9	1.3	1.6	1.5	-	-	-
Iraq	0.1	0.1	0.1	1.0	1.3	1.3	-	-	-
Japan	7.6	7.4	7.4	0.7	0.7	0.7	0.1	0.1	0.1
Korea, Republic of	4.2	3.9	3.9	0.4	0.4	0.4	0.1	0.1	-
Malaysia	1.8	1.8	1.8	0.9	1.1	1.2	-	-	-
Myanmar	17.2	18.2	18.3	-	-	-	2.3	2.3	2.5
Pakistan	7.0	7.2	7.3	-	-	-	3.9	4.4	4.5
Philippines	12.1	12.2	12.3	1.4	3.0	2.9	-	-	-
Saudi Arabia	-	-	-	1.2	1.3	1.4	-	-	-
Sri Lanka	2.6	2.7	3.2	0.5	-	-	-	-	-
Thailand	20.4	21.2	21.3	0.3	0.4	0.4	10.9	8.8	8.6
Viet Nam	28.4	28.6	28.7	0.6	0.6	0.6	6.4	7.0	7.2
<b>AFRICA</b>	<b>21.3</b>	<b>22.0</b>	<b>21.4</b>	<b>16.2</b>	<b>17.3</b>	<b>18.6</b>	<b>0.6</b>	<b>0.4</b>	<b>0.3</b>
Cote D'ivoire	0.5	0.5	0.5	1.6	1.8	1.9	-	-	-
Egypt	4.3	3.4	3.4	0.1	0.6	0.4	0.2	-	-
Madagascar	2.4	2.2	2.6	0.5	0.4	0.4	-	-	-
Nigeria	4.6	5.3	4.8	2.4	2.4	2.9	-	-	-
Senegal	0.7	0.8	0.8	1.4	1.2	1.4	-	-	-
South Africa	-	-	-	0.9	0.9	0.9	-	-	-
Tanzania, United Rep. of	1.9	2.0	2.0	0.2	0.3	0.3	0.2	0.2	0.2
<b>CENTRAL AMERICA</b>	<b>1.8</b>	<b>1.9</b>	<b>2.0</b>	<b>2.5</b>	<b>2.3</b>	<b>2.4</b>	<b>0.1</b>	<b>0.1</b>	<b>-</b>
Cuba	0.3	0.3	0.3	0.5	0.5	0.5	-	-	-
Mexico	0.2	0.2	0.2	0.8	0.7	0.7	0.1	-	-
<b>SOUTH AMERICA</b>	<b>16.7</b>	<b>16.9</b>	<b>15.4</b>	<b>1.9</b>	<b>1.9</b>	<b>2.1</b>	<b>3.3</b>	<b>3.3</b>	<b>3.3</b>
Argentina	1.0	0.9	0.8	-	-	-	0.4	0.4	0.5
Brazil	8.0	8.2	7.1	0.7	0.8	0.9	0.8	0.8	0.6
Peru	2.1	2.4	2.1	0.3	0.3	0.3	0.1	0.1	0.1
Uruguay	1.0	0.9	0.8	-	-	-	0.9	0.7	0.8
<b>NORTH AMERICA</b>	<b>6.3</b>	<b>7.1</b>	<b>6.0</b>	<b>1.2</b>	<b>1.3</b>	<b>1.3</b>	<b>3.2</b>	<b>3.0</b>	<b>3.1</b>
Canada	-	-	-	0.4	0.4	0.4	-	-	-
United States of America	6.3	7.1	6.0	0.8	0.9	0.9	3.2	3.0	3.1
<b>EUROPE</b>	<b>2.6</b>	<b>2.4</b>	<b>2.5</b>	<b>2.4</b>	<b>2.7</b>	<b>2.8</b>	<b>0.5</b>	<b>0.5</b>	<b>0.5</b>
European Union	1.8	1.7	1.7	1.9	2.2	2.2	0.3	0.3	0.3
Russian Federation	0.7	0.7	0.7	0.2	0.2	0.2	0.2	0.2	0.2
<b>OCEANIA</b>	<b>0.4</b>	<b>0.4</b>	<b>0.1</b>	<b>0.5</b>	<b>0.6</b>	<b>0.6</b>	<b>0.2</b>	<b>0.1</b>	<b>-</b>
Australia	0.4	0.4	-	0.2	0.2	0.2	0.2	0.1	-
<b>WORLD</b>	<b>503.1</b>	<b>517.5</b>	<b>513.4</b>	<b>46.0</b>	<b>46.2</b>	<b>47.7</b>	<b>46.0</b>	<b>46.2</b>	<b>47.7</b>
LIFDC	190.2	200.1	200.2	15.9	15.2	16.4	18.4	18.6	19.5
LDC	75.3	79.5	79.9	11.9	10.7	11.7	4.2	4.5	4.6

# APPENDIX TABLE 8(B): RICE STATISTICS

	Total Utilization			Stocks ending in			Per caput food use		
	15/16-17/18 average	2018/19 estim.	2019/20 f'cast	2016-2018 average	2019 estim.	2020 f'cast	15/16-17/18 average	2018/19 estim.	2019/20 f'cast
	million tonnes, milled equivalent						Kg/year		
<b>ASIA</b>	<b>437.0</b>	<b>441.3</b>	<b>447.0</b>	<b>160.3</b>	<b>172.2</b>	<b>171.4</b>	<b>77.4</b>	<b>77.2</b>	<b>77.8</b>
Bangladesh	36.2	36.8	37.1	5.8	6.6	6.4	180.7	180.3	181.7
China	146.9	147.9	148.3	100.6	105.9	103.4	76.6	76.6	76.6
of which Taiwan Prov.	1.3	1.3	1.3	0.2	0.3	0.3	48.3	48.4	48.7
India	97.6	98.6	102.2	20.1	28.8	30.4	68.2	68.0	69.5
Indonesia	46.8	47.9	47.9	6.6	7.3	6.6	133.9	133.9	134.9
Iran, Islamic Republic of	3.2	3.3	3.4	0.6	0.7	0.8	35.3	35.7	36.1
Iraq	1.2	1.3	1.4	0.1	0.1	0.1	33.0	33.5	34.0
Japan	8.5	8.0	7.9	3.2	3.0	3.2	49.9	49.3	49.1
Korea, Republic of	4.7	4.5	4.2	1.6	0.8	0.9	76.0	74.2	72.8
Malaysia	2.7	2.8	2.8	0.3	0.2	0.3	80.2	79.5	81.2
Myanmar	15.0	15.4	15.6	2.7	3.0	3.3	193.8	196.7	197.1
Pakistan	3.0	3.1	3.1	0.7	0.6	0.4	12.6	12.5	12.5
Philippines	13.5	14.9	15.3	2.3	2.6	2.9	114.9	117.7	119.9
Saudi Arabia	1.4	1.3	1.3	0.4	0.1	0.1	41.5	38.4	38.2
Sri Lanka	3.0	2.8	3.0	0.5	0.3	0.5	123.1	122.7	124.8
Thailand	13.4	11.8	12.5	8.2	5.4	5.6	98.8	98.2	100.6
Viet Nam	22.0	22.4	22.1	3.1	3.0	3.2	154.0	153.3	152.0
<b>AFRICA</b>	<b>36.4</b>	<b>39.2</b>	<b>39.7</b>	<b>5.6</b>	<b>5.4</b>	<b>4.9</b>	<b>25.9</b>	<b>26.8</b>	<b>26.8</b>
Cote D'ivoire	2.1	2.3	2.4	0.4	0.4	0.4	80.6	86.3	87.4
Egypt	4.0	4.3	4.0	0.7	0.6	0.5	38.2	39.4	37.0
Madagascar	2.8	2.8	3.0	0.3	0.2	0.3	99.0	97.5	99.2
Nigeria	7.2	7.7	7.7	1.0	1.0	0.9	33.4	34.1	33.4
Senegal	2.0	2.2	2.2	0.4	0.3	0.3	118.8	122.0	121.2
South Africa	0.9	0.9	0.9	0.1	0.2	0.1	15.7	16.0	15.9
Tanzania, United Rep. of	2.0	2.0	2.1	0.4	0.3	0.3	27.3	28.2	28.8
<b>CENTRAL AMERICA</b>	<b>4.1</b>	<b>4.2</b>	<b>4.3</b>	<b>0.5</b>	<b>0.6</b>	<b>0.6</b>	<b>17.8</b>	<b>17.9</b>	<b>18.1</b>
Cuba	0.8	0.8	0.8	0.1	-	0.1	67.4	67.0	67.0
Mexico	0.8	0.9	0.9	0.1	0.1	0.1	6.4	6.4	6.6
<b>SOUTH AMERICA</b>	<b>15.2</b>	<b>15.0</b>	<b>14.8</b>	<b>2.4</b>	<b>2.4</b>	<b>1.9</b>	<b>31.9</b>	<b>31.1</b>	<b>30.9</b>
Argentina	0.5	0.6	0.5	0.3	0.2	0.1	10.3	10.7	9.8
Brazil	7.9	7.6	7.4	0.5	0.5	0.4	34.5	33.0	32.3
Peru	2.4	2.5	2.4	0.3	0.4	0.3	65.2	65.9	65.5
Uruguay	0.1	0.1	0.1	0.2	0.1	0.1	10.9	11.8	12.0
<b>NORTH AMERICA</b>	<b>4.4</b>	<b>5.0</b>	<b>4.6</b>	<b>1.3</b>	<b>1.5</b>	<b>1.2</b>	<b>9.4</b>	<b>9.7</b>	<b>9.7</b>
Canada	0.4	0.4	0.4	0.1	-	-	10.4	10.5	10.6
United States of America	4.0	4.6	4.2	1.3	1.4	1.2	9.3	9.6	9.6
<b>EUROPE</b>	<b>4.5</b>	<b>4.6</b>	<b>4.7</b>	<b>0.7</b>	<b>0.7</b>	<b>0.8</b>	<b>5.2</b>	<b>5.4</b>	<b>5.4</b>
European Union	3.3	3.5	3.6	0.5	0.6	0.7	5.5	5.8	5.8
Russian Federation	0.8	0.8	0.8	0.1	0.1	0.1	4.9	4.9	4.9
<b>OCEANIA</b>	<b>0.7</b>	<b>0.7</b>	<b>0.7</b>	<b>0.2</b>	<b>0.3</b>	<b>0.2</b>	<b>16.0</b>	<b>16.4</b>	<b>16.6</b>
Australia	0.3	0.3	0.3	0.2	0.3	0.2	10.8	11.1	11.2
<b>WORLD</b>	<b>502.2</b>	<b>510.1</b>	<b>515.9</b>	<b>171.1</b>	<b>183.1</b>	<b>180.9</b>	<b>53.8</b>	<b>53.8</b>	<b>54.2</b>
LIFDC	186.9	191.2	195.6	33.4	42.8	44.1	64.1	63.8	64.6
LDC	82.7	85.8	87.1	14.1	15.3	15.1	66.1	65.6	65.6

Note: Totals and percentage changes are computed from unrounded data.

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

	Wheat <sup>1</sup>			Coarse Grains <sup>2</sup>			Rice (milled basis)		
	2017/18	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>	2017/18	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>	2017/18	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>
<b>UNITED STATES of AMERICA (Jun/May)</b>				<b>UNITED STATES of AMERICA</b>			<b>UNITED STATES of AMERICA (Aug/Jul)</b>		
Opening Stocks	32.1	29.9	29.4	62.2	57.9	57.8	1.5	0.9	1.4
Production	47.4	51.3	53.4	384.8	380.3	362.0	5.7	7.1	6.0
Imports	4.3	3.7	3.3	3.0	2.7	3.5	0.9	0.9	0.9
<b>Total Supply</b>	<b>83.8</b>	<b>84.9</b>	<b>86.1</b>	<b>450.0</b>	<b>440.9</b>	<b>423.3</b>	<b>8.1</b>	<b>8.9</b>	<b>8.3</b>
Domestic use	29.2	30.0	31.8	324.7	328.1	320.5	4.3	4.6	4.2
Exports	24.7	25.5	25.9	67.3	55.0	51.7	2.8	3.0	3.0
Closing stocks	29.9	29.4	28.4	57.9	57.8	51.0	0.9	1.4	1.2
<b>CANADA (August/July)</b>				<b>CANADA</b>			<b>THAILAND (Aug/July)</b>		
Opening Stocks	6.9	6.5	5.9	5.5	4.6	3.4	8.2	5.6	5.4
Production	30.4	32.2	32.5	26.4	26.3	28.6	21.8	21.2	21.3
Imports	0.1	0.1	0.1	1.8	2.9	1.7	0.2	0.3	0.4
<b>Total Supply</b>	<b>37.4</b>	<b>38.8</b>	<b>38.5</b>	<b>33.7</b>	<b>33.8</b>	<b>33.7</b>	<b>30.2</b>	<b>27.1</b>	<b>27.1</b>
Domestic use	9.0	8.5	8.7	23.2	24.0	23.7	13.2	11.8	12.5
Exports	21.9	24.3	23.8	5.9	6.3	5.9	11.5	9.9	9.0
Closing stocks	6.5	5.9	6.0	4.6	3.4	4.1	5.6	5.4	5.6
<b>ARGENTINA (Dec./Nov.)</b>				<b>ARGENTINA</b>			<b>INDIA (Oct./Sept.)</b>		
Opening Stocks	1.3	1.6	2.0	5.9	10.6	9.9	19.5	21.8	28.8
Production	18.5	19.5	19.6	56.4	50.8	64.3	112.8	116.4	115.8
Imports	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
<b>Total Supply</b>	<b>19.8</b>	<b>21.1</b>	<b>21.6</b>	<b>62.4</b>	<b>61.5</b>	<b>74.3</b>	<b>132.3</b>	<b>138.2</b>	<b>144.6</b>
Domestic use	5.8	6.2	5.8	22.7	25.9	25.9	98.2	98.6	102.2
Exports	12.5	12.8	13.5	29.0	25.7	38.4	12.3	10.8	12.0
Closing stocks	1.6	2.0	2.3	10.6	9.9	9.9	21.8	28.8	30.4
<b>AUSTRALIA (Oct./Sept.)</b>				<b>AUSTRALIA</b>			<b>PAKISTAN (Sept./Aug.)</b>		
Opening Stocks	6.0	4.4	4.2	3.0	3.2	2.3	0.7	0.9	0.6
Production	20.9	17.3	17.5	12.1	11.1	11.1	7.5	7.2	7.3
Imports	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total Supply</b>	<b>26.9</b>	<b>21.7</b>	<b>21.7</b>	<b>15.1</b>	<b>14.3</b>	<b>13.4</b>	<b>8.2</b>	<b>8.1</b>	<b>7.9</b>
Domestic use	8.7	9.1	9.2	5.7	5.6	5.6	3.1	3.1	3.1
Exports	13.8	8.5	9.5	6.2	6.4	5.1	4.1	4.4	4.4
Closing stocks	4.4	4.2	3.0	3.2	2.3	2.7	0.9	0.6	0.4
<b>EU (July/June)</b>				<b>EU</b>			<b>VIET NAM (Jan./Dec.)</b>		
Opening Stocks	12.9	20.2	14.5	21.9	24.9	30.0	3.3	3.1	3.0
Production	152.0	138.6	154.0	156.0	154.3	161.1	27.8	28.6	28.7
Imports	5.5	5.4	5.0	18.4	25.9	18.8	0.7	0.6	0.6
<b>Total Supply</b>	<b>170.4</b>	<b>164.2</b>	<b>173.5</b>	<b>196.3</b>	<b>205.1</b>	<b>209.9</b>	<b>31.8</b>	<b>32.3</b>	<b>32.3</b>
Domestic use	127.4	127.2	129.6	164.3	167.0	169.5	22.3	22.4	22.1
Exports	22.7	22.6	27.0	7.1	8.0	7.9	6.3	6.8	7.0
Closing stocks	20.2	14.5	17.0	24.9	30.0	32.5	3.1	3.0	3.2
<b>TOTAL OF ABOVE</b>				<b>TOTAL OF ABOVE</b>			<b>TOTAL OF ABOVE</b>		
Opening Stocks	59.2	62.6	56.0	98.5	101.2	103.4	33.2	32.3	39.2
Production	269.2	258.9	277.0	635.7	622.8	627.1	175.6	180.5	179.1
Imports	9.9	9.2	8.4	23.3	31.6	24.1	1.8	1.8	1.9
<b>Total Supply</b>	<b>338.3</b>	<b>330.7</b>	<b>341.4</b>	<b>757.5</b>	<b>755.6</b>	<b>754.6</b>	<b>210.6</b>	<b>214.6</b>	<b>220.2</b>
Domestic use	180.1	181.0	185.1	540.6	550.6	545.2	141.1	140.5	144.1
Exports	95.6	93.7	99.7	115.5	101.4	109.0	37.0	34.9	35.4
Closing stocks	62.6	56.0	56.7	101.2	103.4	100.2	32.3	39.2	40.8

<sup>1</sup> Trade data include wheat flour in wheat grain equivalent. For the **EU** semolina is also included.

<sup>2</sup> **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 of America** (June/May) for rye, barley and oats, (September/August) for maize and sorghum.

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

	Production <sup>1</sup>			Imports			Exports		
	15/16-17/18	2018/19	2019/20	15/16-17/18	2018/19	2019/20	15/16-17/18	2018/19	2019/20
	average	estim.	f'cast	average	estim.	f'cast	average	estim.	f'cast
<b>ASIA</b>	<b>133.7</b>	<b>143.2</b>	<b>145.2</b>	<b>128.4</b>	<b>123.8</b>	<b>126.8</b>	<b>3.8</b>	<b>3.6</b>	<b>3.5</b>
China	58.0	61.5	63.0	98.5	90.7	93.1	1.0	0.8	0.8
of which Taiwan Prov.	0.1	0.1	0.1	2.6	2.6	2.7	-	-	-
India	38.0	41.2	41.1	0.4	0.2	0.4	1.2	1.2	1.1
Indonesia	11.7	13.4	13.8	2.7	3.0	3.3	0.1	0.1	0.1
Iran, Islamic Republic of	0.8	0.9	0.9	2.2	2.4	2.5	0.1	0.1	0.1
Japan	0.3	0.2	0.2	6.0	6.1	6.2	-	-	-
Korea, Republic of	0.2	0.2	0.2	1.6	1.6	1.7	-	-	-
Malaysia	4.9	5.3	5.2	0.9	1.0	1.0	0.1	-	-
Pakistan	4.2	4.3	4.5	3.0	4.0	3.8	-	-	-
Thailand	1.1	1.2	1.2	2.8	2.9	3.0	-	-	-
Turkey	3.3	3.6	3.7	3.0	3.3	2.9	0.2	0.2	0.2
<b>AFRICA</b>	<b>20.4</b>	<b>21.2</b>	<b>20.9</b>	<b>3.9</b>	<b>5.4</b>	<b>6.1</b>	<b>0.8</b>	<b>1.0</b>	<b>0.9</b>
Nigeria	4.6	4.7	4.6	0.1	0.1	0.1	0.1	0.1	0.1
<b>CENTRAL AMERICA</b>	<b>2.1</b>	<b>2.0</b>	<b>2.1</b>	<b>7.0</b>	<b>8.8</b>	<b>8.7</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>
Mexico	1.4	1.3	1.4	6.3	7.9	7.8	-	-	-
<b>SOUTH AMERICA</b>	<b>186.3</b>	<b>198.0</b>	<b>206.2</b>	<b>4.3</b>	<b>8.8</b>	<b>5.7</b>	<b>80.4</b>	<b>93.3</b>	<b>94.8</b>
Argentina	55.4	61.0	59.3	2.3	6.7	3.5	7.2	10.0	10.1
Brazil	114.1	121.4	128.3	0.3	0.2	0.2	64.9	75.3	75.4
Paraguay	10.1	8.7	10.8	-	-	-	5.7	5.2	5.5
Uruguay	2.7	3.1	3.3	-	-	-	2.4	2.7	2.8
<b>NORTH AMERICA</b>	<b>153.3</b>	<b>160.2</b>	<b>135.6</b>	<b>2.3</b>	<b>2.7</b>	<b>2.1</b>	<b>74.4</b>	<b>65.7</b>	<b>65.0</b>
Canada	27.9	28.9	27.0	0.7	1.5	0.7	16.2	16.2	15.3
United States of America	125.3	131.3	108.6	1.6	1.3	1.4	58.2	49.5	49.7
<b>EUROPE</b>	<b>70.8</b>	<b>78.8</b>	<b>77.0</b>	<b>23.1</b>	<b>25.5</b>	<b>26.4</b>	<b>7.0</b>	<b>9.3</b>	<b>9.6</b>
European Union	33.5	33.6	30.5	20.3	22.0	22.9	1.0	0.9	0.9
Russian Federation	15.5	19.4	20.6	2.1	2.7	2.7	0.9	2.2	2.5
Ukraine	19.5	22.7	22.8	-	-	-	4.4	5.3	5.4
<b>OCEANIA</b>	<b>5.4</b>	<b>3.6</b>	<b>3.9</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>3.0</b>	<b>1.9</b>	<b>1.6</b>
Australia	5.0	3.1	3.4	-	-	-	2.9	1.8	1.5
<b>WORLD</b>	<b>571.9</b>	<b>607.0</b>	<b>590.9</b>	<b>168.9</b>	<b>175.1</b>	<b>175.5</b>	<b>169.6</b>	<b>175.1</b>	<b>175.5</b>
LIFDC	55.2	58.3	58.4	4.2	4.4	4.9	2.1	2.2	2.0
LDC	32.9	33.7	34.1	9.8	13.0	13.6	1.4	1.7	1.5

<sup>1</sup> 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 STATISTICS<sup>1</sup> (million tonnes)

	Imports			Exports			Utilization		
	15/16-17/18	2018/19	2019/20	15/16-17/18	2018/19	2019/20	15/16-17/18	2018/19	2019/20
	average	estim.	f'cast	average	estim.	f'cast	average	estim.	f'cast
<b>ASIA</b>	<b>47.4</b>	<b>53.8</b>	<b>55.2</b>	<b>50.8</b>	<b>56.3</b>	<b>57.2</b>	<b>116.4</b>	<b>130.1</b>	<b>134.1</b>
Bangladesh	2.3	2.6	2.7	-	-	-	2.7	3.0	3.1
China	9.8	12.9	13.7	0.6	0.5	0.5	40.3	44.1	45.2
of which Taiwan Prov.	0.5	0.5	0.5	-	-	-	0.9	1.0	1.0
India	15.3	15.7	16.2	0.2	0.2	0.1	25.2	26.7	27.3
Indonesia	0.1	0.1	0.1	28.6	31.8	33.1	12.8	17.1	18.7
Iran, Islamic Republic of	1.2	1.7	1.4	0.1	-	-	2.0	2.4	2.4
Japan	1.3	1.4	1.4	-	-	-	3.3	3.4	3.4
Korea, Republic of	1.2	1.4	1.4	-	-	-	1.6	1.7	1.7
Malaysia	1.3	1.9	1.8	17.7	19.9	19.5	4.9	5.4	5.8
Pakistan	3.3	3.5	3.6	0.1	0.1	0.1	5.2	5.7	5.7
Philippines	1.2	1.4	1.4	0.8	1.1	0.9	2.1	2.4	2.3
Singapore	0.8	0.8	0.8	0.2	0.2	0.2	0.7	0.7	0.7
Turkey	1.8	1.7	1.7	0.6	0.5	0.6	3.2	3.3	3.3
<b>AFRICA</b>	<b>11.5</b>	<b>12.2</b>	<b>12.2</b>	<b>1.8</b>	<b>1.9</b>	<b>2.0</b>	<b>18.8</b>	<b>19.7</b>	<b>20.0</b>
Algeria	0.9	1.0	1.0	0.1	0.1	0.1	1.0	1.1	1.0
Egypt	2.1	2.1	2.1	0.2	0.2	0.2	2.5	2.8	2.8
Nigeria	1.4	1.5	1.5	0.1	0.1	0.1	3.2	3.3	3.4
South Africa	0.9	1.0	0.9	0.1	-	-	1.5	1.6	1.6
<b>CENTRAL AMERICA</b>	<b>2.6</b>	<b>2.5</b>	<b>2.5</b>	<b>1.5</b>	<b>1.8</b>	<b>1.8</b>	<b>5.3</b>	<b>5.8</b>	<b>5.7</b>
Mexico	1.5	1.5	1.5	0.1	-	-	3.6	3.9	3.8
<b>SOUTH AMERICA</b>	<b>3.2</b>	<b>3.2</b>	<b>3.2</b>	<b>10.3</b>	<b>10.6</b>	<b>10.9</b>	<b>18.2</b>	<b>19.5</b>	<b>20.0</b>
Argentina	0.1	-	0.1	6.1	6.8	7.2	4.1	4.2	4.1
Brazil	0.6	0.6	0.6	1.7	1.3	1.2	9.2	10.3	10.8
Paraguay	-	-	-	0.7	0.7	0.7	0.1	0.1	0.1
Uruguay	0.1	0.1	0.1	-	-	-	0.1	0.1	0.1
<b>NORTH AMERICA</b>	<b>5.6</b>	<b>5.5</b>	<b>5.6</b>	<b>7.2</b>	<b>7.3</b>	<b>7.0</b>	<b>21.7</b>	<b>23.0</b>	<b>23.4</b>
Canada	0.5	0.4	0.4	3.8	4.0	3.9	1.6	1.6	1.7
United States of America	5.1	5.1	5.2	3.5	3.3	3.2	20.1	21.4	21.7
<b>EUROPE</b>	<b>15.1</b>	<b>15.9</b>	<b>15.8</b>	<b>12.1</b>	<b>14.1</b>	<b>14.3</b>	<b>39.8</b>	<b>41.4</b>	<b>41.0</b>
European Union	12.3	12.7	12.6	3.2	3.2	3.0	33.0	34.2	33.9
Russian Federation	1.4	1.7	1.7	2.9	3.9	4.4	4.5	4.9	4.8
Ukraine	0.3	0.3	0.3	5.5	6.4	6.4	0.9	0.9	0.9
<b>OCEANIA</b>	<b>0.7</b>	<b>0.8</b>	<b>0.8</b>	<b>1.9</b>	<b>2.0</b>	<b>2.0</b>	<b>1.3</b>	<b>1.4</b>	<b>1.4</b>
Australia	0.5	0.6	0.6	0.7	0.7	0.7	0.9	1.0	1.1
<b>WORLD</b>	<b>86.0</b>	<b>94.0</b>	<b>95.3</b>	<b>85.7</b>	<b>94.0</b>	<b>95.3</b>	<b>221.4</b>	<b>240.9</b>	<b>245.7</b>
LIFDC	25.2	26.5	27.2	1.6	1.6	1.6	40.4	42.9	43.7
LDC	25.1	27.2	27.6	3.3	3.4	3.5	36.1	38.8	39.3

<sup>1</sup> Includes oils and fats of vegetable, marine and animal origin.

**APPENDIX TABLE 12: TOTAL MEALS AND CAKES STATISTICS<sup>1</sup> (million tonnes)**

	Imports			Exports			Utilization		
	15/16-17/18	2018/19	2019/20	15/16-17/18	2018/19	2019/20	15/16-17/18	2018/19	2019/20
	average	estim.	f'cast	average	estim.	f'cast	average	estim.	f'cast
<b>ASIA</b>	<b>37.7</b>	<b>43.0</b>	<b>44.2</b>	<b>13.5</b>	<b>15.2</b>	<b>14.4</b>	<b>170.2</b>	<b>177.2</b>	<b>180.5</b>
China	3.6	5.4	6.2	1.8	1.4	1.1	94.7	95.8	97.1
of which Taiwan Prov.	0.5	0.4	0.5	-	-	-	2.5	2.6	2.6
India	0.5	0.5	0.5	2.2	3.4	2.7	15.3	16.3	17.2
Indonesia	4.5	4.8	5.0	4.7	5.5	5.7	5.1	5.3	5.4
Iran, Islamic Republic of	1.6	3.0	2.5	-	0.1	-	3.7	4.9	5.0
Japan	2.2	2.3	2.2	-	-	-	6.5	6.6	6.6
Korea, Republic of	3.4	3.6	3.7	0.1	0.1	0.1	4.7	4.8	4.9
Malaysia	1.5	1.5	1.6	2.5	2.6	2.6	2.3	2.5	2.6
Pakistan	0.6	0.6	0.5	0.1	0.1	0.1	4.4	4.9	4.9
Philippines	2.8	3.1	3.1	0.3	0.4	0.4	3.4	3.7	3.8
Saudi Arabia	1.4	1.7	1.7	0.1	0.1	0.1	1.9	2.4	2.3
Thailand	3.4	3.6	3.6	0.2	0.2	0.2	6.4	6.8	6.8
Turkey	2.2	2.2	2.3	0.1	0.1	0.1	5.8	6.2	6.1
Viet Nam	5.8	6.1	6.6	0.3	0.3	0.3	7.5	7.8	8.2
<b>AFRICA</b>	<b>5.9</b>	<b>4.8</b>	<b>4.8</b>	<b>1.1</b>	<b>1.2</b>	<b>1.2</b>	<b>14.0</b>	<b>14.4</b>	<b>14.9</b>
Egypt	1.6	0.4	0.5	-	-	-	3.4	3.4	3.7
South Africa	0.7	0.7	0.7	0.1	0.1	0.1	2.0	2.1	2.1
<b>CENTRAL AMERICA</b>	<b>4.3</b>	<b>4.1</b>	<b>4.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>10.3</b>	<b>10.9</b>	<b>11.2</b>
Mexico	2.4	2.2	2.2	0.1	0.1	0.1	7.7	8.2	8.5
<b>SOUTH AMERICA</b>	<b>5.3</b>	<b>5.6</b>	<b>5.7</b>	<b>51.0</b>	<b>52.3</b>	<b>54.3</b>	<b>32.8</b>	<b>35.7</b>	<b>36.3</b>
Argentina	-	-	-	30.5	30.3	32.2	7.1	8.1	7.9
Bolivia	-	-	-	1.7	1.8	1.5	0.3	0.3	0.3
Brazil	-	-	-	14.9	16.2	16.6	17.6	19.2	19.9
Chile	1.1	1.0	1.1	0.2	0.2	0.2	1.5	1.4	1.5
Paraguay	-	-	-	2.5	2.4	2.6	0.4	0.5	0.5
Peru	1.2	1.4	1.4	0.9	1.1	1.0	1.7	1.9	1.9
Uruguay	0.2	0.2	0.2	-	-	0.1	0.2	0.2	0.2
Venezuela	0.8	0.7	0.7	-	-	-	1.0	0.9	0.9
<b>NORTH AMERICA</b>	<b>5.1</b>	<b>5.3</b>	<b>5.0</b>	<b>17.3</b>	<b>18.5</b>	<b>18.7</b>	<b>39.7</b>	<b>41.7</b>	<b>42.2</b>
Canada	1.0	1.1	1.1	5.4	5.5	5.4	2.5	2.8	3.0
United States of America	4.1	4.2	4.0	11.9	13.0	13.3	37.2	38.9	39.2
<b>EUROPE</b>	<b>30.2</b>	<b>30.9</b>	<b>31.4</b>	<b>8.5</b>	<b>9.9</b>	<b>10.0</b>	<b>69.7</b>	<b>73.7</b>	<b>74.9</b>
European Union	27.7	28.6	29.1	1.4	1.3	1.1	58.6	61.8	62.4
Russian Federation	0.4	0.1	0.1	1.9	2.6	2.9	6.7	7.1	7.4
Ukraine	-	-	-	4.6	5.4	5.4	1.7	2.1	2.3
<b>OCEANIA</b>	<b>3.4</b>	<b>3.7</b>	<b>3.7</b>	<b>0.3</b>	<b>0.2</b>	<b>0.2</b>	<b>4.3</b>	<b>4.4</b>	<b>4.6</b>
Australia	1.1	1.5	1.5	0.1	0.1	0.1	1.9	2.2	2.3
<b>WORLD</b>	<b>91.9</b>	<b>97.4</b>	<b>99.1</b>	<b>91.9</b>	<b>97.4</b>	<b>99.1</b>	<b>341.1</b>	<b>358.0</b>	<b>364.5</b>
LIFDC	8.3	8.8	9.4	3.3	4.5	3.9	30.5	31.9	33.6
LDC	8.3	7.1	7.1	2.6	2.7	2.7	24.9	26.2	26.8

<sup>1</sup> 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	
	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>	2018/19 <i>estim.</i>	2019/20 <i>f'cast</i>
<b>ASIA</b>	<b>75.4</b>	<b>69.3</b>	<b>33.3</b>	<b>33.8</b>	<b>18.0</b>	<b>18.1</b>	<b>84.9</b>	<b>85.9</b>
Bangladesh	0.1	0.1	2.4	2.5	0.1	0.1	2.5	2.6
China	10.8	10.9	6.3	6.7	0.2	0.4	17.0	17.2
India	32.4	28.0	1.8	1.5	3.7	3.8	26.0	26.2
Indonesia	2.3	2.4	4.8	4.9	-	-	7.1	7.2
Japan	0.8	0.8	1.4	1.3	0.0	0.0	2.1	2.1
Korea, Republic of	-	-	1.9	1.9	0.3	0.3	1.6	1.6
Malaysia	-	-	2.1	2.1	0.1	0.1	2.0	2.0
Pakistan	5.9	5.2	0.4	0.3	0.5	0.2	5.8	5.9
Philippines	2.1	2.2	0.1	0.2	0.1	0.2	2.0	2.0
Thailand	14.4	12.9	-	-	10.6	10.2	2.9	2.9
Turkey	2.7	2.7	0.0	0.0	0.3	0.4	2.4	2.4
Viet Nam	1.4	1.2	0.3	0.5	0.0	0.1	1.6	1.6
<b>AFRICA</b>	<b>11.8</b>	<b>12.0</b>	<b>12.4</b>	<b>12.4</b>	<b>4.1</b>	<b>4.1</b>	<b>19.5</b>	<b>20.2</b>
Algeria	-	-	2.5	2.6	0.5	0.5	1.5	1.5
Egypt	2.5	2.7	1.1	0.8	0.2	0.2	3.4	3.5
Eswatini	0.8	0.8	-	-	0.7	0.7	0.1	0.1
Ethiopia	0.6	0.6	0.1	0.1	0.1	0.1	0.6	0.7
Kenya	0.6	0.6	0.5	0.5	-	-	1.1	1.1
Mauritius	0.3	0.3	0.0	0.0	0.3	0.3	0.0	0.0
Morocco	0.6	0.6	1.0	0.7	0.4	0.2	1.2	1.2
Mozambique	0.5	0.5	-	-	0.2	0.2	0.2	0.3
South Africa	2.2	2.2	0.2	0.2	0.7	0.7	1.7	1.7
Sudan	0.6	0.6	1.3	1.6	0.2	0.4	1.8	1.9
Tanzania, United Rep. of	0.3	0.3	0.2	0.3	0.0	0.0	0.6	0.6
Zambia	0.4	0.4	-	-	0.2	0.2	0.2	0.2
<b>CENTRAL AMERICA AND THE CARIBBEAN</b>	<b>14.8</b>	<b>15.0</b>	<b>0.4</b>	<b>0.4</b>	<b>6.2</b>	<b>6.7</b>	<b>8.2</b>	<b>8.3</b>
Cuba	1.3	1.6	-	-	0.8	1.0	0.5	0.5
Dominican Republic	0.6	0.6	0.0	-	0.2	0.2	0.4	0.4
Guatemala	3.0	3.0	-	-	2.0	2.1	0.8	0.9
Mexico	7.0	6.9	0.0	0.0	1.5	1.6	4.7	4.8
<b>SOUTH AMERICA</b>	<b>38.5</b>	<b>38.9</b>	<b>1.4</b>	<b>1.4</b>	<b>19.7</b>	<b>20.3</b>	<b>20.1</b>	<b>20.3</b>
Argentina	1.8	1.9	-	-	0.3	0.4	1.5	1.5
Brazil	30.8	31.1	-	-	17.9	18.5	12.7	12.9
Colombia	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1
Peru	1.3	1.3	0.3	0.3	0.1	0.1	1.5	1.5
Venezuela	0.3	0.3	0.4	0.4	-	-	0.6	0.6
<b>NORTH AMERICA</b>	<b>8.9</b>	<b>8.9</b>	<b>3.9</b>	<b>4.1</b>	<b>0.1</b>	<b>0.1</b>	<b>13.3</b>	<b>13.5</b>
Canada	0.1	0.1	1.2	1.1	0.0	0.0	1.2	1.3
United States	8.8	8.8	2.7	3.1	0.0	0.0	12.0	12.2
<b>EUROPE</b>	<b>25.8</b>	<b>26.1</b>	<b>3.5</b>	<b>3.6</b>	<b>3.5</b>	<b>2.8</b>	<b>27.7</b>	<b>28.0</b>
European Union	16.7	16.8	2.7	2.8	2.2	1.3	18.9	19.0
Russian Federation	6.0	6.3	0.2	0.2	0.4	0.8	5.8	6.0
Ukraine	1.8	1.6	-	-	0.4	0.3	1.5	1.5
<b>OCEANIA</b>	<b>5.0</b>	<b>5.0</b>	<b>0.4</b>	<b>0.4</b>	<b>4.1</b>	<b>4.2</b>	<b>1.3</b>	<b>1.3</b>
Australia	4.7	4.7	0.1	0.1	3.9	4.0	0.9	1.0
Fiji	0.2	0.2	0.0	0.0	0.2	0.2	0.0	0.0
<b>WORLD</b>	<b>180.1</b>	<b>175.1</b>	<b>55.3</b>	<b>56.2</b>	<b>55.6</b>	<b>56.3</b>	<b>175.0</b>	<b>177.5</b>
LIFDC	39.9	35.3	12.0	12.9	5.4	5.8	42.2	43.0
LDC	4.7	4.7	8.4	9.2	1.4	1.5	11.8	12.4

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

	Production		Imports		Exports		Utilization	
	2018 <i>estim.</i>	2019 <i>f'cast</i>	2018 <i>estim.</i>	2019 <i>f'cast</i>	2018 <i>estim.</i>	2019 <i>f'cast</i>	2018 <i>estim.</i>	2019 <i>f'cast</i>
<b>ASIA</b>	<b>141 518</b>	<b>134 770</b>	<b>18 208</b>	<b>20 198</b>	<b>4 695</b>	<b>4 828</b>	<b>154 998</b>	<b>150 143</b>
China	87 014	79 972	5 482	7 385	637	597	91 879	86 760
India	7 463	7 508	1	2	1 472	1 534	5 993	5 975
Indonesia	3 334	3 430	214	267	6	6	3 541	3 690
Iran, Islamic Republic of	3 073	3 129	197	198	56	53	3 214	3 273
Japan	4 022	4 081	3 687	3 746	19	19	7 701	7 801
Korea, Republic of	2 513	2 585	1 493	1 514	43	50	3 871	4 020
Malaysia	2 008	2 032	342	339	67	67	2 283	2 305
Pakistan	3 784	3 925	26	29	57	62	3 753	3 892
Philippines	3 576	3 720	628	622	6	9	4 199	4 332
Saudi Arabia	996	1 018	866	864	78	86	1 783	1 796
Singapore	117	116	367	381	56	40	428	457
Thailand	2 836	2 912	32	29	1 304	1 440	1 572	1 539
Turkey	3 721	3 838	67	19	531	548	3 276	3 310
Viet Nam	5 273	4 710	1 599	1 523	28	18	6 845	6 215
<b>AFRICA</b>	<b>19 165</b>	<b>19 188</b>	<b>2 992</b>	<b>3 003</b>	<b>255</b>	<b>246</b>	<b>21 902</b>	<b>21 946</b>
Algeria	734	740	63	62	2	2	796	801
Angola	301	313	541	500	-	-	842	812
Egypt	2 228	2 286	334	364	8	6	2 553	2 644
Nigeria	1 423	1 421	3	3	1	1	1 425	1 423
South Africa	3 210	3 160	641	637	137	128	3 713	3 669
<b>CENTRAL AMERICA</b>	<b>10 170</b>	<b>10 433</b>	<b>3 609</b>	<b>3 682</b>	<b>725</b>	<b>809</b>	<b>13 054</b>	<b>13 305</b>
Cuba	387	398	419	423	-	-	806	821
Mexico	7 002	7 217	2 231	2 288	473	548	8 760	8 957
<b>SOUTH AMERICA</b>	<b>44 213</b>	<b>45 354</b>	<b>1 287</b>	<b>1 398</b>	<b>8 897</b>	<b>9 844</b>	<b>36 603</b>	<b>36 908</b>
Argentina	5 878	6 141	85	79	748	1 035	5 215	5 184
Brazil	27 692	28 610	58	46	6 942	7 567	20 809	21 089
Chile	1 515	1 559	683	764	376	449	1 822	1 875
Colombia	2 799	2 722	230	270	28	24	3 000	2 967
Uruguay	663	637	79	92	438	434	304	295
<b>NORTH AMERICA</b>	<b>51 885</b>	<b>53 185</b>	<b>2 930</b>	<b>2 855</b>	<b>9 823</b>	<b>10 219</b>	<b>44 982</b>	<b>45 792</b>
Canada	4 930	5 083	739	707	1 926	2 007	3 733	3 794
United States of America	46 954	48 101	2 178	2 134	7 896	8 212	41 235	41 984
<b>EUROPE</b>	<b>64 890</b>	<b>65 548</b>	<b>2 991</b>	<b>3 067</b>	<b>6 258</b>	<b>6 928</b>	<b>61 636</b>	<b>61 680</b>
Belarus	1 234	1 211	58	64	426	414	866	861
European Union	48 881	49 296	1 439	1 496	5 017	5 614	45 303	45 178
Russian Federation	10 677	10 865	806	801	321	345	11 174	11 314
Ukraine	2 374	2 439	172	175	384	455	2 163	2 159
<b>OCEANIA</b>	<b>6 739</b>	<b>6 736</b>	<b>489</b>	<b>534</b>	<b>3 138</b>	<b>3 167</b>	<b>4 090</b>	<b>4 103</b>
Australia	4 766	4 759	247	286	2 101	2 122	2 913	2 923
New Zealand	1 403	1 406	82	84	1 033	1 041	451	450
<b>WORLD</b>	<b>338 579</b>	<b>335 214</b>	<b>32 507</b>	<b>34 738</b>	<b>33 790</b>	<b>36 042</b>	<b>337 263</b>	<b>333 877</b>
LIFDC	25 828	25 308	3 006	2 945	1 700	1 751	27 134	26 501
LDC	13 148	13 124	1 482	1 491	39	39	14 591	14 577

Notes:

Meat aggregates have been standardized to comply with FAO statistical methods for calculating meat categories.

Total meat includes "other meat".

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

	Production		Imports		Exports		Utilization	
	2018 <i>estim.</i>	2019 <i>f'cast</i>	2018 <i>estim.</i>	2019 <i>f'cast</i>	2018 <i>estim.</i>	2019 <i>f'cast</i>	2018 <i>estim.</i>	2019 <i>f'cast</i>
<b>ASIA</b>	<b>18 330</b>	<b>18 875</b>	<b>5 976</b>	<b>6 584</b>	<b>1 798</b>	<b>1 866</b>	<b>22 528</b>	<b>23 591</b>
China	6 456	6 866	2 017	2 608	63	59	8 430	9 415
India	2 534	2 549	-	-	1 445	1 510	1 089	1 039
Indonesia	568	570	208	262	-	1	775	831
Iran, Islamic Republic of	506	527	159	152	3	3	662	676
Japan	475	475	842	856	5	6	1 300	1 321
Korea, Republic of	279	289	524	578	4	4	792	865
Malaysia	51	52	201	204	9	9	243	247
Pakistan	1 898	1 919	1	1	48	52	1 851	1 868
Philippines	309	307	175	184	3	5	481	487
<b>AFRICA</b>	<b>6 897</b>	<b>6 870</b>	<b>606</b>	<b>621</b>	<b>91</b>	<b>75</b>	<b>7 412</b>	<b>7 416</b>
Algeria	150	150	61	60	-	-	211	210
Angola	102	103	114	110	-	-	216	213
Egypt	827	846	269	286	1	1	1 096	1 130
South Africa	996	950	21	20	53	46	964	924
<b>CENTRAL AMERICA</b>	<b>2 776</b>	<b>2 832</b>	<b>415</b>	<b>417</b>	<b>475</b>	<b>526</b>	<b>2 717</b>	<b>2 722</b>
Mexico	1 983	2 024	225	222	274	318	1 934	1 928
<b>SOUTH AMERICA</b>	<b>16 040</b>	<b>16 355</b>	<b>422</b>	<b>460</b>	<b>3 310</b>	<b>3 716</b>	<b>13 151</b>	<b>13 099</b>
Argentina	3 050	3 160	18	20	524	749	2 544	2 431
Brazil	9 900	10 307	45	34	1 989	2 194	7 955	8 147
Chile	201	208	296	342	12	23	485	527
Colombia	768	622	6	8	24	22	751	608
Uruguay	596	571	22	32	415	411	202	192
<b>NORTH AMERICA</b>	<b>13 519</b>	<b>13 621</b>	<b>1 569</b>	<b>1 556</b>	<b>1 957</b>	<b>2 012</b>	<b>13 119</b>	<b>13 167</b>
Canada	1 265	1 330	259	232	467	531	1 049	1 038
United States of America	12 254	12 291	1 306	1 321	1 490	1 481	12 068	12 126
<b>EUROPE</b>	<b>10 734</b>	<b>10 647</b>	<b>955</b>	<b>901</b>	<b>728</b>	<b>746</b>	<b>10 961</b>	<b>10 801</b>
European Union	8 006	7 934	336	323	384	416	7 958	7 841
Russian Federation	1 664	1 686	462	410	46	48	2 080	2 048
Ukraine	363	334	3	3	50	48	316	289
<b>OCEANIA</b>	<b>2 978</b>	<b>3 001</b>	<b>52</b>	<b>53</b>	<b>2 092</b>	<b>2 133</b>	<b>938</b>	<b>921</b>
Australia	2 306	2 315	14	14	1 514	1 541	805	788
New Zealand	658	672	12	13	575	589	96	96
<b>WORLD</b>	<b>71 273</b>	<b>72 199</b>	<b>9 994</b>	<b>10 591</b>	<b>10 450</b>	<b>11 074</b>	<b>70 827</b>	<b>71 717</b>
LIFDC	8 616	8 639	904	798	1 604	1 668	7 916	7 769
LDC	4 635	4 636	170	165	16	14	4 789	4 787

Note: Meat aggregates have been standardized to comply with FAO statistical methods for calculating meat categories.

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

	Production		Imports		Exports		Utilization	
	2018 <i>estim.</i>	2019 <i>f'cast</i>	2018 <i>estim.</i>	2019 <i>f'cast</i>	2018 <i>estim.</i>	2019 <i>f'cast</i>	2018 <i>estim.</i>	2019 <i>f'cast</i>
<b>ASIA</b>	<b>9 159</b>	<b>9 279</b>	<b>685</b>	<b>698</b>	<b>43</b>	<b>36</b>	<b>9 801</b>	<b>9 941</b>
Bangladesh	230	232	-	-	-	-	230	232
China	4 714	4 826	348	366	1	1	5 061	5 191
India	732	730	-	-	19	17	713	713
Iran, Islamic Republic of	355	352	38	45	-	-	393	397
Pakistan	473	475	-	-	3	4	470	471
Saudi Arabia	121	123	35	26	3	1	154	148
Turkey	400	401	1	1	-	-	401	402
<b>AFRICA</b>	<b>3 059</b>	<b>3 068</b>	<b>25</b>	<b>23</b>	<b>29</b>	<b>29</b>	<b>3 055</b>	<b>3 062</b>
Algeria	292	295	-	-	-	-	292	295
Nigeria	395	395	-	-	-	-	395	395
South Africa	165	165	7	6	1	-	172	171
Sudan	361	359	-	-	2	2	359	357
<b>CENTRAL AMERICA</b>	<b>128</b>	<b>129</b>	<b>18</b>	<b>19</b>	<b>-</b>	<b>1</b>	<b>145</b>	<b>147</b>
Mexico	102	103	8	9	-	1	109	111
<b>SOUTH AMERICA</b>	<b>298</b>	<b>301</b>	<b>8</b>	<b>6</b>	<b>20</b>	<b>20</b>	<b>286</b>	<b>288</b>
Brazil	117	119	8	6	-	-	125	125
<b>NORTH AMERICA</b>	<b>92</b>	<b>91</b>	<b>146</b>	<b>148</b>	<b>4</b>	<b>4</b>	<b>235</b>	<b>235</b>
United States of America	76	75	125	123	4	4	197	194
<b>EUROPE</b>	<b>1 302</b>	<b>1 317</b>	<b>152</b>	<b>127</b>	<b>46</b>	<b>50</b>	<b>1 408</b>	<b>1 394</b>
European Union	950	960	142	117	26	28	1 066	1 048
Russian Federation	227	232	3	3	12	14	218	221
<b>OCEANIA</b>	<b>1 212</b>	<b>1 183</b>	<b>26</b>	<b>27</b>	<b>901</b>	<b>892</b>	<b>336</b>	<b>318</b>
Australia	760	738	1	2	493	488	268	252
New Zealand	451	444	3	2	409	404	45	42
<b>WORLD</b>	<b>15 250</b>	<b>15 368</b>	<b>1 059</b>	<b>1 047</b>	<b>1 043</b>	<b>1 031</b>	<b>15 266</b>	<b>15 384</b>
LIFDC	3 604	3 608	8	8	44	43	3 568	3 572
LDC	2 236	2 243	6	6	18	16	2 224	2 233

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

	Production		Imports		Exports		Utilization	
	2018 <i>estim.</i>	2019 <i>f'cast</i>	2018 <i>estim.</i>	2019 <i>f'cast</i>	2018 <i>estim.</i>	2019 <i>f'cast</i>	2018 <i>estim.</i>	2019 <i>f'cast</i>
<b>ASIA</b>	<b>66 579</b>	<b>55 154</b>	<b>4 745</b>	<b>5 615</b>	<b>197</b>	<b>161</b>	<b>71 061</b>	<b>60 578</b>
China	54 978	44 127	1 924	2 819	105	75	56 797	46 871
India	300	295	1	1	1	-	300	296
Indonesia	345	347	4	2	-	-	349	349
Japan	1 294	1 306	1 487	1 516	4	3	2 790	2 809
Korea, Republic of	1 329	1 364	761	709	2	2	2 008	2 051
Malaysia	195	197	33	29	5	4	223	221
Philippines	1 883	1 963	163	149	2	2	2 044	2 110
Thailand	902	904	1	1	25	28	878	876
Viet Nam	3 830	3 160	79	97	25	15	3 884	3 242
<b>AFRICA</b>	<b>1 522</b>	<b>1 536</b>	<b>285</b>	<b>274</b>	<b>28</b>	<b>30</b>	<b>1 779</b>	<b>1 779</b>
Madagascar	66	65	-	-	-	-	66	65
Nigeria	280	279	1	1	-	-	281	280
South Africa	251	263	45	38	24	27	272	274
Uganda	126	125	1	-	-	-	127	126
<b>CENTRAL AMERICA</b>	<b>2 092</b>	<b>2 172</b>	<b>1 289</b>	<b>1 332</b>	<b>207</b>	<b>239</b>	<b>3 174</b>	<b>3 265</b>
Cuba	249	257	22	23	-	-	271	280
Mexico	1 504	1 571	1 006	1 048	186	218	2 324	2 401
<b>SOUTH AMERICA</b>	<b>6 115</b>	<b>6 408</b>	<b>492</b>	<b>553</b>	<b>1 010</b>	<b>1 235</b>	<b>5 597</b>	<b>5 727</b>
Argentina	622	660	52	49	8	13	666	697
Brazil	3 722	3 927	2	2	804	989	2 921	2 940
Chile	526	536	235	269	190	227	571	578
Colombia	386	421	128	153	2	-	512	574
<b>NORTH AMERICA</b>	<b>14 086</b>	<b>14 709</b>	<b>849</b>	<b>798</b>	<b>3 828</b>	<b>4 140</b>	<b>11 111</b>	<b>11 357</b>
Canada	2 138	2 187	263	260	1 284	1 304	1 123	1 147
United States of America	11 948	12 522	582	534	2 544	2 836	9 983	10 206
<b>EUROPE</b>	<b>29 772</b>	<b>29 943</b>	<b>365</b>	<b>431</b>	<b>3 065</b>	<b>3 560</b>	<b>27 072</b>	<b>26 814</b>
Belarus	400	372	24	33	46	39	378	366
European Union	24 112	24 209	16	17	2 916	3 401	21 212	20 825
Russian Federation	3 763	3 870	112	166	65	82	3 811	3 954
Serbia	302	311	52	49	21	21	333	339
Ukraine	701	690	36	38	3	2	734	726
<b>OCEANIA</b>	<b>562</b>	<b>537</b>	<b>307</b>	<b>347</b>	<b>44</b>	<b>39</b>	<b>825</b>	<b>845</b>
Australia	413	390	217	257	42	37	588	609
Papua New Guinea	81	81	8	8	-	-	89	89
<b>WORLD</b>	<b>120 727</b>	<b>110 457</b>	<b>8 333</b>	<b>9 350</b>	<b>8 379</b>	<b>9 403</b>	<b>120 619</b>	<b>110 364</b>
LIFDC	5 177	4 499	227	250	29	18	5 376	4 732
LDC	2 089	2 061	173	170	-	-	2 262	2 230

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

	Production		Imports		Exports		Utilization	
	2018 <i>estim.</i>	2019 <i>f'cast</i>	2018 <i>estim.</i>	2019 <i>f'cast</i>	2018 <i>estim.</i>	2019 <i>f'cast</i>	2018 <i>estim.</i>	2019 <i>f'cast</i>
<b>ASIA</b>	<b>44 741</b>	<b>48 754</b>	<b>6 696</b>	<b>7 173</b>	<b>2 464</b>	<b>2 584</b>	<b>48 985</b>	<b>53 378</b>
China	19 020	22 306	1 130	1 513	454	448	19 696	23 371
India	3 707	3 744	-	-	7	7	3 700	3 737
Indonesia	2 290	2 380	-	-	2	2	2 288	2 378
Iran, Islamic Republic of	2 196	2 233	-	-	52	48	2 144	2 186
Japan	2 246	2 293	1 325	1 337	10	10	3 571	3 627
Korea, Republic of	900	927	186	204	37	44	1 044	1 077
Kuwait	58	59	150	158	8	9	200	208
Malaysia	1 757	1 778	72	73	52	53	1 777	1 798
Saudi Arabia	729	749	652	650	37	44	1 343	1 355
Singapore	96	95	172	184	15	17	254	262
Thailand	1 777	1 850	2	2	1 135	1 274	652	616
Turkey	2 229	2 305	6	3	502	511	1 734	1 797
Yemen	147	126	91	99	-	-	238	225
<b>AFRICA</b>	<b>5 927</b>	<b>5 955</b>	<b>2 066</b>	<b>2 074</b>	<b>92</b>	<b>99</b>	<b>7 902</b>	<b>7 930</b>
Angola	40	41	329	301	-	-	369	342
South Africa	1 755	1 739	567	572	55	53	2 267	2 258
<b>CENTRAL AMERICA</b>	<b>5 075</b>	<b>5 202</b>	<b>1 784</b>	<b>1 812</b>	<b>40</b>	<b>41</b>	<b>6 820</b>	<b>6 973</b>
Cuba	34	36	286	293	-	-	320	329
Mexico	3 330	3 437	990	1 006	10	9	4 311	4 433
<b>SOUTH AMERICA</b>	<b>21 575</b>	<b>22 107</b>	<b>366</b>	<b>378</b>	<b>4 423</b>	<b>4 705</b>	<b>17 518</b>	<b>17 780</b>
Argentina	2 079	2 193	14	10	194	252	1 899	1 951
Brazil	13 931	14 235	3	4	4 050	4 248	9 885	9 991
Chile	766	793	152	153	167	193	752	753
<b>NORTH AMERICA</b>	<b>23 883</b>	<b>24 459</b>	<b>353</b>	<b>340</b>	<b>4 017</b>	<b>4 044</b>	<b>20 215</b>	<b>20 734</b>
Canada	1 486	1 525	194	190	164	159	1 509	1 556
United States of America	22 396	22 934	154	145	3 853	3 885	18 701	19 173
<b>EUROPE</b>	<b>21 902</b>	<b>22 461</b>	<b>1 286</b>	<b>1 331</b>	<b>2 375</b>	<b>2 525</b>	<b>20 825</b>	<b>21 259</b>
European Union	15 248	15 629	736	779	1 652	1 727	14 331	14 682
Russian Federation	4 448	4 502	215	212	197	199	4 479	4 508
Ukraine	1 276	1 381	134	133	331	404	1 079	1 110
<b>OCEANIA</b>	<b>1 515</b>	<b>1 543</b>	<b>102</b>	<b>104</b>	<b>81</b>	<b>84</b>	<b>1 536</b>	<b>1 564</b>
Australia	1 260	1 289	15	14	44	49	1 231	1 254
New Zealand	220	219	1	1	37	34	184	186
<b>WORLD</b>	<b>124 618</b>	<b>130 480</b>	<b>12 652</b>	<b>13 212</b>	<b>13 491</b>	<b>14 081</b>	<b>123 800</b>	<b>129 618</b>
LIFDC	6 770	6 900	1 858	1 880	10	10	8 618	8 770
LDC	3 256	3 252	1 129	1 146	2	6	4 383	4 392

Note: Meat aggregates have been standardized to comply with FAO statistical methods for calculating meat categories.



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

	Production			Imports			Exports		
	2015-2017 average	2018 <i>estim.</i>	2019 <i>f'cast</i>	2015-2017 average	2018 <i>estim.</i>	2019 <i>f'cast</i>	2015-2017 average	2018 <i>estim.</i>	2019 <i>f'cast</i>
<b>ASIA</b>	<b>320 334</b>	<b>344 988</b>	<b>355 025</b>	<b>41 185</b>	<b>45 012</b>	<b>46 137</b>	<b>6 553</b>	<b>7 649</b>	<b>8 040</b>
China	32 479	32 316	33 060	12 200	14 602	14 979	45	53	56
India <sup>1</sup>	165 766	184 028	191 757	124	71	56	258	615	838
Indonesia	1 507	1 535	1 538	2 708	2 972	3 227	53	39	41
Iran, Islamic Republic of	6 889	7 610	7 582	394	289	317	665	634	560
Japan	7 351	7 293	7 337	2 030	2 215	2 396	8	10	11
Korea, Republic of	2 108	2 034	2 020	1 117	1 233	1 302	35	36	39
Malaysia	45	46	46	2 216	2 397	2 439	684	628	634
Pakistan	42 944	45 623	46 992	575	498	462	37	32	34
Philippines	20	20	20	2 234	2 582	2 949	137	86	92
Saudi Arabia	2 423	2 472	2 491	2 976	2 664	2 560	1 412	1 663	1 662
Singapore	-	-	-	1 586	1 600	1 581	552	407	459
Thailand	841	405	394	1 541	1 596	1 732	246	282	294
Turkey	19 281	22 121	21 789	161	109	106	742	812	1 018
<b>AFRICA</b>	<b>47 684</b>	<b>47 739</b>	<b>47 906</b>	<b>10 282</b>	<b>10 727</b>	<b>10 140</b>	<b>1 254</b>	<b>1 209</b>	<b>1 185</b>
Algeria	3 333	3 280	3 366	3 101	3 837	3 272	1	-	-
Egypt	4 969	4 624	4 654	1 447	1 288	1 285	525	556	539
Kenya	4 882	5 122	5 226	116	199	220	5	2	3
South Africa	3 558	3 796	3 814	294	339	327	364	340	339
Sudan	4 444	4 470	4 460	295	290	277	-	-	-
Tunisia	1 410	1 348	1 358	76	113	117	51	59	60
<b>CENTRAL AMERICA</b>	<b>17 490</b>	<b>17 931</b>	<b>18 159</b>	<b>5 703</b>	<b>6 313</b>	<b>6 422</b>	<b>1 011</b>	<b>1 653</b>	<b>831</b>
Costa Rica	1 128	1 152	1 158	62	67	70	144	128	129
Mexico	11 822	12 234	12 454	3 661	4 206	4 301	497	1 182	361
<b>SOUTH AMERICA</b>	<b>63 387</b>	<b>64 343</b>	<b>64 265</b>	<b>3 561</b>	<b>3 626</b>	<b>2 827</b>	<b>3 889</b>	<b>4 139</b>	<b>4 112</b>
Argentina	10 817	10 527	10 284	24	20	20	1 725	1 979	1 824
Brazil	34 677	35 433	36 130	1 242	1 025	1 078	243	68	75
Colombia	6 793	7 171	6 640	320	318	423	28	33	20
Uruguay	2 077	2 219	2 171	29	28	31	1 368	1 556	1 649
<b>NORTH AMERICA</b>	<b>105 419</b>	<b>108 631</b>	<b>108 867</b>	<b>2 695</b>	<b>2 574</b>	<b>2 809</b>	<b>10 786</b>	<b>12 897</b>	<b>11 619</b>
Canada	9 176	9 940	9 890	644	625	696	751	1 101	937
United States of America	96 241	98 690	98 975	2 036	1 935	2 100	10 034	11 794	10 681
<b>EUROPE</b>	<b>222 334</b>	<b>225 837</b>	<b>226 819</b>	<b>6 707</b>	<b>5 753</b>	<b>6 314</b>	<b>25 660</b>	<b>26 250</b>	<b>27 071</b>
Belarus	7 170	7 344	7 417	135	53	52	3 850	3 745	3 886
European Union	163 500	166 600	167 300	1 305	1 052	1 093	19 376	20 377	21 159
Russian Federation	30 924	31 621	32 064	4 264	3 436	3 884	292	252	225
Ukraine	10 428	10 099	9 927	53	98	125	723	776	701
<b>OCEANIA</b>	<b>31 480</b>	<b>31 063</b>	<b>30 990</b>	<b>1 401</b>	<b>1 668</b>	<b>1 616</b>	<b>22 392</b>	<b>21 847</b>	<b>23 371</b>
Australia <sup>2</sup>	9 805	9 622	9 076	944	1 131	1 139	3 243	3 109	2 924
New Zealand <sup>3</sup>	21 606	21 372	21 845	277	339	280	19 144	18 733	20 443
<b>WORLD</b>	<b>808 129</b>	<b>840 533</b>	<b>852 030</b>	<b>71 535</b>	<b>75 672</b>	<b>76 264</b>	<b>71 545</b>	<b>75 643</b>	<b>76 231</b>
LIFDC	218 173	237 665	245 770	5 792	6 263	6 356	946	1 212	1 420
LDC	33 827	33 139	33 076	4 086	4 284	4 300	202	187	183

<sup>1</sup> For production, the annual dairy cycle starting in April is applied.

<sup>2</sup> For production, the annual dairy cycle starting in July is applied.

<sup>3</sup> For production, the annual dairy cycle starting in June 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), skim condensed/evaporated milk (1.90), 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 STATISTICS<sup>1</sup>

	Capture fisheries production		Aquaculture fisheries production		Exports			Imports		
	2016	2017	2016	2017	2017	2018 <i>estim.</i>	2019 <i>f'cast</i>	2017	2018 <i>estim.</i>	2019 <i>f'cast</i>
	<i>Million tonnes (live weight equivalent)</i>				<i>USD billion</i>			<i>USD billion</i>		
<b>ASIA<sup>2</sup></b>	<b>48.8</b>	<b>49.2</b>	<b>67.9</b>	<b>71.3</b>	<b>59.2</b>	<b>61.1</b>	<b>59.4</b>	<b>48.6</b>	<b>54.6</b>	<b>57.0</b>
China	16.7	16.3	46.1	47.1	23.1	24.2	22.7	15.9	19.9	22.2
of which: Hong Kong SAR	0.1	0.1	-	-	0.8	0.7	0.6	3.6	3.8	3.5
Taiwan Prov.	0.8	0.7	0.3	0.3	1.9	2.0	1.8	1.4	1.6	1.6
India	5.1	5.4	5.7	6.2	7.2	6.9	6.6	0.1	0.1	0.1
Indonesia	6.5	6.7	4.9	6.2	4.2	4.5	4.4	0.4	0.4	0.4
Japan	3.2	3.2	0.7	0.6	2.0	2.0	1.8	15.0	15.3	15.5
Korea, Republic of	1.4	1.4	0.5	0.5	1.7	1.7	1.8	5.1	5.9	5.7
Philippines	2.0	1.9	0.8	0.8	0.9	0.9	0.8	0.6	0.6	0.5
Thailand	1.5	1.5	0.9	0.9	6.0	6.0	5.7	3.5	3.9	3.7
Viet Nam	3.1	3.3	3.6	3.8	8.5	9.0	9.5	1.7	1.9	2.0
<b>AFRICA</b>	<b>9.3</b>	<b>9.7</b>	<b>2.0</b>	<b>2.1</b>	<b>7.2</b>	<b>7.3</b>	<b>7.2</b>	<b>5.0</b>	<b>5.4</b>	<b>5.5</b>
Egypt	0.3	0.4	1.4	1.5	-	-	0.1	0.6	0.8	0.9
Morocco	1.4	1.4	-	-	2.2	2.3	2.3	0.2	0.2	0.2
Namibia	0.5	0.5	-	-	0.7	0.7	0.6	-	0.1	-
Nigeria	0.7	0.9	0.3	0.3	-	0.1	0.1	0.8	0.8	0.8
Senegal	0.5	0.5	-	-	0.4	0.5	0.6	-	0.1	0.1
South Africa	0.6	0.5	-	-	0.6	0.7	0.6	0.4	0.5	0.5
<b>CENTRAL AMERICA</b>	<b>2.1</b>	<b>2.3</b>	<b>0.4</b>	<b>0.4</b>	<b>2.8</b>	<b>3.0</b>	<b>2.7</b>	<b>2.0</b>	<b>1.9</b>	<b>1.8</b>
Mexico	1.5	1.6	0.2	0.2	1.3	1.5	1.4	0.9	0.9	0.9
Panama	0.1	0.1	-	-	0.1	0.2	0.1	0.1	0.1	0.1
<b>SOUTH AMERICA</b>	<b>8.1</b>	<b>8.9</b>	<b>2.3</b>	<b>2.5</b>	<b>16.5</b>	<b>18.1</b>	<b>18.4</b>	<b>2.9</b>	<b>3.0</b>	<b>2.9</b>
Argentina	0.8	0.8	-	-	2.0	2.1	1.9	0.2	0.2	0.1
Brazil	0.7	0.7	0.6	0.6	0.3	0.3	0.3	1.4	1.4	1.3
Chile	1.5	1.9	1.0	1.2	6.0	6.8	6.7	0.4	0.4	0.4
Ecuador	0.7	0.6	0.5	0.5	4.6	4.9	5.4	0.1	0.1	0.2
Peru	3.8	4.2	0.1	0.1	2.8	3.3	3.2	0.3	0.3	0.3
<b>NORTH AMERICA</b>	<b>6.0</b>	<b>6.2</b>	<b>0.6</b>	<b>0.6</b>	<b>12.5</b>	<b>12.1</b>	<b>11.8</b>	<b>24.6</b>	<b>25.6</b>	<b>25.5</b>
Canada	0.9	0.8	0.2	0.2	5.4	5.4	5.5	2.9	3.0	3.1
United States of America	4.9	5.0	0.4	0.4	6.1	6.0	5.5	21.6	22.6	22.4
<b>EUROPE</b>	<b>13.7</b>	<b>14.8</b>	<b>2.9</b>	<b>3.0</b>	<b>55.0</b>	<b>57.9</b>	<b>57.6</b>	<b>61.2</b>	<b>65.3</b>	<b>62.3</b>
European Union <sup>2</sup>	5.2	5.6	1.3	1.4	35.5	37.2	36.2	55.8	59.3	56.5
of which extra-EU	-	-	-	-	6.2	6.6	6.9	29.0	31.0	30.7
Iceland	1.1	1.2	-	-	2.0	2.4	2.3	0.1	0.1	0.1
Norway	2.0	2.4	1.3	1.3	11.3	12.0	11.9	1.2	1.3	1.3
Russian Federation	4.8	4.9	0.2	0.2	4.5	4.5	5.4	2.0	2.2	2.0
<b>OCEANIA</b>	<b>1.4</b>	<b>1.4</b>	<b>0.2</b>	<b>0.2</b>	<b>3.3</b>	<b>3.3</b>	<b>3.4</b>	<b>2.0</b>	<b>2.0</b>	<b>1.9</b>
Australia	0.2	0.2	0.1	0.1	1.1	1.1	1.0	1.6	1.6	1.5
New Zealand	0.4	0.4	0.1	0.1	1.2	1.2	1.4	0.2	0.2	0.2
<b>WORLD<sup>3</sup></b>	<b>89.4</b>	<b>92.5</b>	<b>76.4</b>	<b>80.1</b>	<b>156.5</b>	<b>162.9</b>	<b>160.5</b>	<b>146.3</b>	<b>157.9</b>	<b>157.0</b>
Excl. intra-EU	-	-	-	-	127.2	132.3	131.2	119.6	129.6	131.3
LIFDC	15.0	16.0	11.9	12.8	19.1	19.4	19.7	3.8	4.2	4.3
LDC	9.2	9.7	3.7	4.0	3.6	3.9	4.1	1.2	1.2	1.2

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

<sup>2</sup> EU 28. Including intra-trade. Cyprus is included in Asia as well as in the European Union.

<sup>3</sup> For capture fisheries production, the aggregate includes 5 229 tonnes in 2016 from non-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. <sup>1</sup>	US Soft Red Winter No. 2 <sup>2</sup>	Argentina Trigo Pan <sup>3</sup>	US No. 2 Yellow <sup>2</sup>	Argentina <sup>3</sup>	France feed Rouen	Australia feed Southern States	US No. 2 Yellow <sup>2</sup>
<i>(USD/tonne)</i>								
<b>Annual (July/June)</b>								
2008/09	270	201	234	188	180	178	179	170
2009/10	209	185	224	160	168	146	154	165
2010/11	316	289	311	254	260	266	248	248
2011/12	300	259	264	281	269	270	249	264
2012/13	348	310	336	311	277	297	298	281
2013/14	318	265	335	216	219	243	241	218
2014/15	266	221	246	173	177	205	243	210
2015/16	211	194	208	166	170	174	185	174
2016/17	197	170	190	156	172	159	162	151
2017/18	230	188	203	159	165	193	222	174
2018/19	232	210	233	166	166	219	265	163
2018 - October	240	210	233	160	162	239	305	159
2018 - November	232	210	220	160	161	235	269	157
2018 - December	241	218	228	167	171	238	270	164
2019 - January	238	219	234	166	173	234	266	162
2019 - February	235	217	244	170	170	208	251	170
2019 - March	224	201	231	167	163	199	245	170
2019 - April	213	195	220	161	155	197	250	164
2019 - May	212	203	218	172	166	188	237	164
2019 - June	227	222	243	196	183	189	249	164
2019 - July	216	202	244	188	177	180	244	158
2019 - August	203	197	238	162	151	175	223	147
2019 - September	200	200	228	157	145	172	223	149
2019 - October	212	213	229	168	157	187	221	164

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

## APPENDIX TABLE 22: TOTAL WHEAT AND MAIZE FUTURES PRICES

	December		March		May		July	
	Dec. 2019	Dec. 2018	Mar. 2020	Mar. 2019	May 2020	May 2019	July 2020	July 2019
<i>(USD/tonne)</i>								
<b>Wheat</b>								
Sept 26	178	190	180	197	182	201	183	201
Oct 3	180	189	182	196	191	201	186	203
Oct 10	181	188	184	195	186	200	187	202
Oct 17	193	190	195	198	196	202	197	204
Oct 24	190	184	192	191	193	196	195	198
Oct 31	187	184	189	190	191	194	192	196
<b>Maize</b>								
Sept 26	147	143	151	148	154	151	156	153
Oct 3	153	144	158	148	160	151	161	153
Oct 10	150	143	154	148	156	150	158	153
Oct 17	155	147	160	152	162	155	164	157
Oct 24	152	145	157	150	159	153	162	155
Oct 31	154	143	157	148	159	151	161	153

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 <sup>1</sup>	Thai broken <sup>2</sup>	US long grain <sup>3</sup>	Pakistan Basmati <sup>4</sup>	Total	Indica Higher quality	Indica Lower quality	Japonica	Aromatic
<b>Annual (Jan/Dec)</b>	.....(USD per tonne) .....				..... (2002-2004=100) .....				
2012	588	540	567	1137	231	225	241	235	222
2013	534	483	628	1372	233	219	226	230	268
2014	435	322	571	1324	235	207	201	266	255
2015	395	327	490	849	211	184	184	263	176
2016	407	348	438	795	194	180	187	228	153
2017	415	334	456	1131	206	183	195	232	204
2018	445	365	531	1023	224	201	208	256	216
<b>Monthly</b>									
2018 – October	432	358	510	961	216	197	200	247	204
2018 – November	423	356	509	938	215	194	199	244	207
2018 – December	425	365	511	921	216	192	197	249	209
2019 – January	432	377	519	919	223	192	196	269	211
2019 – February	427	379	497	901	221	189	192	266	211
2019 – March	421	374	495	915	222	189	194	267	211
2019 – April	429	374	486	983	222	191	195	265	217
2019 – May	425	374	481	1004	222	190	195	264	219
2019 – June	436	382	479	1038	224	190	192	267	223
2019 – July	431	387	499	1031	224	190	194	267	224
2019 – August	444	389	508	1039	228	193	195	270	232
2019 – September	444	399	508	1045	228	192	195	271	232
2019 – October	440	398	509	989	225	192	197	270	219

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

<sup>2</sup> A1 super - f.o.b. Bangkok - indicative traded prices.

<sup>3</sup> US No.2 - 4% broken f.o.b.

<sup>4</sup> 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 16 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 20 percent broken. The sub-index for Aromatic Rice follows movements in prices of Basmati and Fragrant rice.

Sources: FAO for indices. Rice prices: Livericeindex.com - Thai Department of Foreign Trade (DFT) and other public sources.

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

	International prices <sup>1</sup>					FAO indices <sup>8</sup>		
Period	Soybeans <sup>2</sup>	Soybean oil <sup>3</sup>	Palm oil <sup>4</sup>	Soybean cake <sup>5</sup>	Rapeseed meal <sup>6</sup>	Oilseeds	Vegetable oils	Oilcakes/meals
..... (USD per tonne) .....						..... (2002-2004=100) .....		
Annual (Oct/Sept)								
2004/05	275	545	419	212	130	104	103	101
2005/06	259	572	451	202	130	100	107	96
2006/07	335	772	684	264	184	129	150	128
2008/09	437	849	682	409	206	157	146	179
2009/10	429	924	806	388	220	162	177	183
2010/11	549	1308	1147	418	279	214	259	200
2011/12	562	1235	1051	461	295	214	232	219
2012/13	563	1099	835	539	345	213	193	255
2013/14	521	949	867	534	324	194	189	253
2014/15	407	777	658	406	270	155	153	194
2015/16	396	773	655	351	232	151	155	168
2016/17	404	806	729	336	225	154	160	171
2017/18	402	820	648	381	258	152	154	182
2018/19	370	744	523	328	247	142	159	130
Monthly								
2018 - January	404	865	679	361	239	153	163	171
2018 - February	416	848	660	400	265	157	158	190
2018 - March	432	830	684	427	294	162	157	203
2018 - April	441	824	663	447	304	164	155	213
2018 - May	432	787	659	443	282	161	151	211
2018 - June	389	783	631	391	264	148	146	187
2018 - July	378	774	591	382	267	145	142	184
2018 - August	379	763	561	365	282	146	138	178
2018 - September	357	755	545	347	277	139	135	169
2018 - October	369	759	529	347	272	142	133	169
2018 - November	372	735	482	340	276	143	125	166
2018 - December	382	720	494	344	273	145	126	166
2019 - January	381	746	534	343	273	146	131	165
2019 - February	380	766	558	330	263	145	134	156
2019 - March	371	730	527	320	248	142	128	155
2019 - April	365	733	534	318	244	140	129	153
2019 - May	347	738	510	320	234	135	127	154
2019 - June	369	725	505	337	236	141	125	163
2019 - July	374	738	498	322	225	143	126	156
2019 - August	363	775	540	315	215	139	134	152
2019 - September	366	765	563	315	201	140	136	151
2019 - October <sup>7</sup>	386	761	553	319	215	147	136	153

<sup>1</sup> Spot prices for nearest forward shipment

<sup>2</sup> Soybeans: US - No.2 yellow - c.i.f. Rotterdam

<sup>3</sup> Soybean oil: Dutch - fob ex-mill

<sup>4</sup> Palm oil: Crude - c.i.f. Northwest Europe

<sup>5</sup> Soybean cake: Pellets - 44/45 percent - Argentina - c.i.f. Rotterdam

<sup>6</sup> Rapeseed meal: 34 percent - Hamburg - f.o.b. ex-mill

<sup>7</sup> The international prices shown represent averages for the first three weeks of the month.

<sup>8</sup> 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 the export values of each commodity for the 2002-2004 period.

Sources: FAO and Oil World.

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

	I.S.A. daily price average <sup>1</sup>	FAO Sugar Price Index (2002/04 = 100)
	Raw sugar	
Annual (Jan/Dec)	(US Cents/lb)	(2002/04=100)
2009	18.1	257.3
2010	21.3	302.0
2011	26.0	368.9
2012	21.5	305.7
2013	17.7	251.0
2014	17.0	241.2
2015	13.4	190.7
2016	18.0	256.0
2017	16.0	227.3
2018	12.5	177.5
<b>Monthly</b>		
2017 - October	14.3	203.5
2017 - November	15.0	212.7
2017 - December	14.4	204.1
2018 - January	14.1	199.9
2018 - February	13.6	192.4
2018 - March	13.1	185.5
2018 - April	12.0	176.1
2018 - May	12.4	175.3
2018 - June	12.5	177.4
2018 - July	11.7	166.3
2018 - August	11.1	157.3
2018 - September	11.4	161.4
2018 - October	12.5	175.4
2018 - November	12.9	183.1
2018 - December	12.7	179.6
2019 - January	12.8	181.9
2019 - February	13.0	184.2
2019 - March	12.7	180.4
2019 - April	12.8	181.7
2019 - May	12.4	176.0
2019 - June	12.9	183.3
2019 - July	12.8	182.1
2019 - August	12.3	174.8
2019 - September	11.9	168.0
2019 - October	12.6	

<sup>1</sup> 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 <sup>1</sup>	Skim milk powder <sup>2</sup>	Whole milk powder <sup>3</sup>	Cheddar cheese <sup>4</sup>	
<b>Annual (Jan/Dec)</b>	..... (USD per tonne) .....				... (2002-2004=100) ...
2008	3 701	3 251	3 891	4 633	223
2009	2 736	2 332	2 556	2 957	150
2010	4 270	3 081	3 514	4 010	207
2011	4 876	3 556	4 018	4 310	230
2012	3 547	3 119	3 358	3 821	194
2013	4 484	4 293	4 745	4 402	243
2014	4 010	3 647	3 868	4 456	224
2015	3 212	2 113	2 509	3 340	160
2016	3 350	1 983	2 457	3 094	154
2017	5 573	2 025	3 179	3 848	202
2018	5 325	1 911	3 087	3 648	193
<b>Monthly</b>					
2018 – October	4 702	1 935	2 910	3 513	182
2018 – November	4 507	1 960	2 834	3 375	176
2018 – December	4 265	1 967	2 814	3 238	170
2019 – January	4 527	2 291	2 922	3 475	182
2019 – February	4 660	2 477	3 134	3 675	192
2019 – March	4 871	2 431	3 271	4 019	204
2019 – April	5 246	2 404	3 326	4 288	215
2019 – May	5 261	2 450	3 282	4 731	226
2019 – June	4 683	2 367	3 188	3 944	199
2019 – July	4 300	2 457	3 132	3 856	194
2019 – August	4 104	2 497	3 166	3 938	195
2019 – September	4 074	2 557	3 189	3 875	193
2019 – October	4 074	2 681	3 226	3 763	192

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

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

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

<sup>4</sup> Cheddar Cheese - 39% max. moisture - f.o.b. Oceania - 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.

Sources: FAO for indices. Product prices: Mid-point of price ranges reported by Dairy Market News (USDA).

## 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	United States of America	Brazil	Germany	United States of America	Brazil
<b>Annual (Jan/Dec)</b>	<i>(USD per tonne)</i>								
2008	3 024	4 325	3 785	2 975	2 270	3 000	2 364	997	1 896
2009	2 562	3 897	3 118	3 495	2 202	2 223	2 035	989	1 552
2010	3 272	4 378	3 919	3 662	2 454	2 747	1 913	1 032	1 781
2011	3 944	4 516	4 816	5 370	2 648	3 023	2 169	1 147	2 083
2012	4 176	4 913	4 492	4 754	2 676	2 784	2 233	1 228	1 931
2013	4 009	5 535	4 326	4 130	2 717	2 872	2 311	1 229	2 014
2014	5 016	6 678	4 515	4 687	3 183	3 434	2 106	1 206	1 940
2015	4 638	6 201	4 130	3 641	2 576	2 499	1 582	1 003	1 642
2016	4 059	5 569	3 836	3 571	2 424	2 143	1 682	914	1 532
2017	4 378	5 871	4 047	4 486	2 529	2 482	1 871	999	1 653
2018	4 110	6 416	3 931	5 249	2 506	1 965	1 728	971	1 552
<b>Monthly</b>									
2018 – October	3 735	6 563	3 796	5 308	2 417	1 796	1 624	904	1 531
2018 – November	3 875	6 589	3 854	5 412	2 462	1 858	1 596	892	1 575
2018 – December	4 096	6 526	3 697	5 272	2 395	1 986	1 596	851	1 600
2019 – January	4 166	6 318	3 686	4 827	2 367	2 010	1 600	850	1 563
2019 – February	4 373	6 482	3 666	4 798	2 328	1 980	1 629	874	1 595
2019 – March	4 470	6 546	3 631	4 675	2 272	2 052	1 701	912	1 599
2019 – April	4 693	6 567	3 669	4 684	2 298	2 160	1 979	974	1 602
2019 – May	4 529	6 443	3 755	4 777	2 435	2 268	2 047	1 016	1 695
2019 – June	4 591	6 427	3 709	4 997	2 591	2 308	2 119	1 059	1 624
2019 – July	4 674	6 299	3 908	5 245	2 659	2 297	2 049	1 085	1 686
2019 – August	4 633	6 263	4 136	5 246	2 613	2 235	2 112	1 089	1 665
2019 – September	4 779	6 244	4 227	5 385	2 620	2 312	2 096	1 095	1 640
2019 – October	4 954	6 231	4 290	5 464	2 642	2 337	2 103	1 098	1 630

Notes:

### Bovine meat prices:

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

**United States of America:** Frozen beef - export unit value

**Brazil:** Frozen beef - export unit value

### Ovine meat prices:

**New Zealand:** Lamb 17.5kg cwt - export price

### Pig meat prices:

**United States of America:** Frozen pigmeat - export unit value

**Brazil:** Frozen pigmeat - export unit value

**Germany:** Monthly market price for pig carcass grade E

### Poultry meat prices:

**United States of America:** Broiler cuts - export unit value

**Brazil:** Export unit value for chicken (f.o.b.)

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	Bovine meat	Ovine meat	Pig meat	Poultry meat
<b>Annual (Jan/Dec)</b>	..... (2002-2004=100) .....				
2008	161	158	128	152	184
2009	141	135	151	131	162
2010	158	165	158	138	179
2011	183	191	232	153	206
2012	182	195	205	153	201
2013	184	197	178	157	206
2014	198	231	202	164	200
2015	168	213	157	126	168
2016	156	191	154	123	156
2017	170	204	194	135	169
2018	166	204	227	124	160
<b>Monthly</b>					
2018 – October	160	197	229	117	155
2018 – November	163	201	234	117	157
2018 – December	162	202	228	117	156
2019 – January	160	200	208	117	154
2019 – February	163	205	207	117	157
2019 – March	164	207	202	120	160
2019 – April	171	212	202	131	164
2019 – May	174	209	206	136	173
2019 – June	176	209	216	142	171
2019 – July	179	212	226	141	176
2019 – August	180	214	226	141	175
2019 – September	181	217	232	142	174
2019 – October	183	221	236	143	173

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) - 1 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 2002/2004.

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

## APPENDIX TABLE 29: FISH PRICE INDICES

Period	Total	White fish	Salmon	Shrimp	Pelagic excl. tuna	Tuna
<b>Annual (Jan/Dec)</b> ..... (2002-2004=100) .....						
2008	136	151	151	109	148	162
2009	126	132	159	98	140	147
2010	137	138	187	109	144	146
2011	154	151	195	124	173	175
2012	144	145	146	107	207	195
2013	148	134	157	126	215	190
2014	157	142	159	148	210	175
2015	141	142	131	121	253	149
2016	151	140	178	123	257	164
2017	158	152	183	126	234	183
2018	158	169	185	116	244	172
<b>Monthly</b>						
2017 - January	155	143	205	125	241	156
2017 - February	155	151	188	123	235	168
2017 - March	155	148	180	126	255	171
2017 - April	154	147	179	127	239	165
2017 - May	160	150	210	128	230	175
2017 - June	163	149	202	127	269	190
2017 - July	159	153	197	124	223	185
2017 - August	157	153	178	125	211	195
2017 - September	160	157	175	126	218	204
2017 - October	161	158	171	126	207	216
2017 - November	155	158	148	126	233	192
2017 - December	156	158	163	124	243	182
2018 - January	161	169	178	122	246	179
2018 - February	162	167	196	120	267	171
2018 - March	165	170	216	120	253	167
2018 - April	165	169	211	119	266	176
2018 - May	165	168	225	116	249	173
2018 - June	159	165	188	113	276	174
2018 - July	153	165	168	113	256	168
2018 - August	150	167	157	112	219	169
2018 - September	153	168	181	115	218	160
2018 - October	154	165	177	114	216	174
2018 - November	154	175	157	112	227	178
2018 - December	156	178	167	112	236	171
2019 - January	158	182	176	111	222	177
2019 - February	161	193	173	110	225	179
2019 - March	165	197	187	111	243	173
2019 - April	163	186	201	111	239	172
2019 - May	156	180	174	111	223	170
2019 - June	158	176	172	112	289	162
2019 - July	151	170	161	114	226	162
2019 - August	147	160	152	115	216	163
2019 - September	143	156	137	114	231	157

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

Note: The table presents a new version of the FAO Fish Price Index, with slight differences compared to the data included in previous issues. These changes were implemented in order to be more consistent with the methodology and timing requirements of the price indices reported in the Food Outlook.

## APPENDIX TABLE 30: SELECTED INTERNATIONAL COMMODITY PRICES

	Currency and unit	Effective date	Latest quotation	One month ago	One year ago	Average 2013-2017
Sugar (ISA daily price)	US cents per lb	31-10-19	12.59	12.75	12.50	15.40
Coffee (ICO daily price)	US cents per lb	31-10-19	101.56	99.56	111.21	128.59
Cocoa (ICCO daily price)	US cents per lb	31-10-19	108.98	108.55	96.81	121.55
Tea (FAO Tea Composite Price)	USD per kg	30-09-19	2.38	2.35	2.54	2.75
Cotton (COTLOOK A index)	US cents per lb	30-09-19	71.31	70.78	90.36	80.47
Jute "BTD" (Fob Bangladesh Port)	USD per tonne	31-10-19	760.00	740.00	840.00	723.92





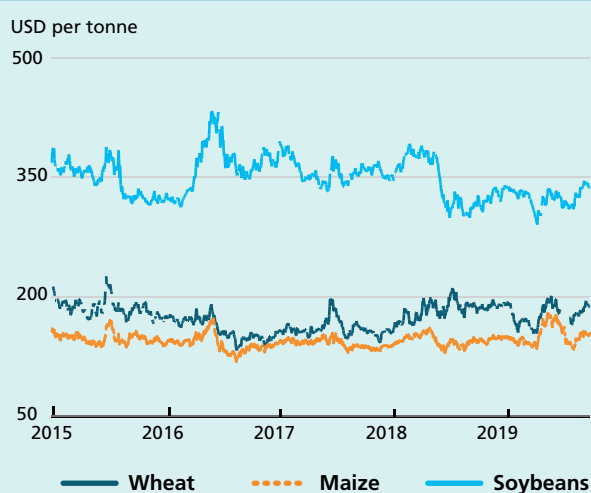
# MARKET INDICATORS

# Futures markets

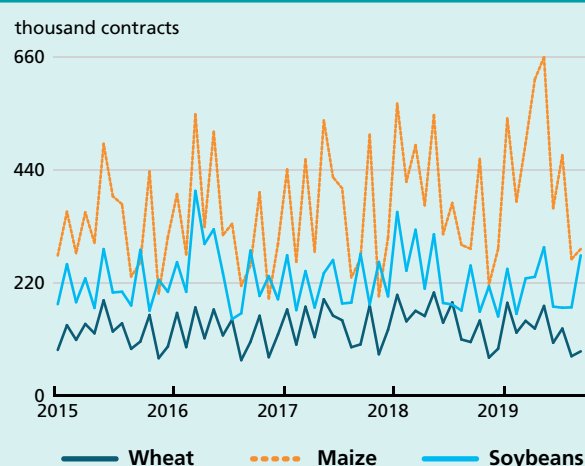
Futures prices for wheat, maize and soybeans exhibited sizable, mostly synchronous price swings during the past five months, as unstable US weather patterns and trade uncertainties dominated market sentiment. Maize experienced the greatest price variation, rising by USD 25 per tonne from an 11-month low to a 5-year high in mid-June, as record rainfall and widespread flooding caused significant planting delays across the US growing region. Soybean prices, which had touched an 11-year low in May in response to massive hog culling throughout Southeast Asia and China's retaliatory tariffs on the US oilseed, rose to a 1-year high. Wheat prices also rose in concert with those

of maize and soybeans, but to a lesser extent. Values fell for all three commodities when the US weather normalized and the United States Department of Agriculture (USDA) projected crop production, especially for maize, at levels considerably above trade expectations. Following the price slump in September, soybean values bounced after reports of sizable increases in Chinese purchases in October and the US administration announcement that a trade resolution was within reach. At the same time, wheat prices advanced as an aberrant snowstorm swept across the US northern plains, while maize recovered after hitting a typical seasonal low in September. Elsewhere, USDA offered guidance that global

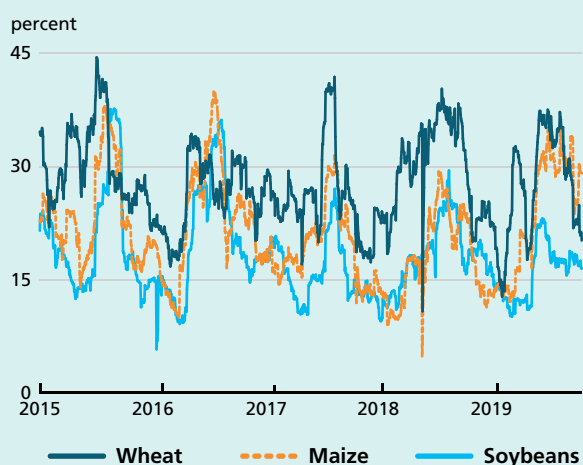
### CME futures prices



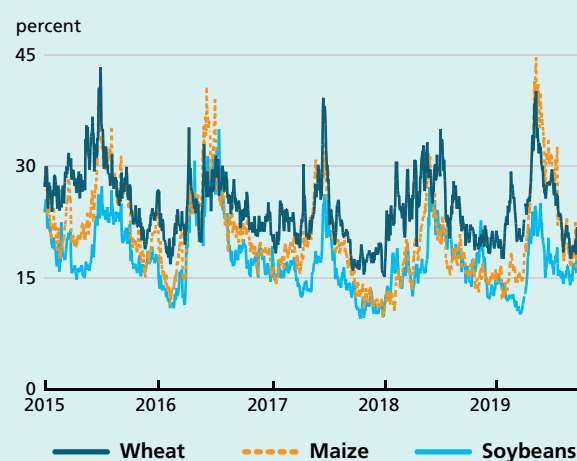
### CME futures volumes



### Historical volatility (30 days)



### Implied volatility



supplies were adequate, citing fractional changes to various regions. The effects of developments in exogenous markets, such as energy prices and foreign exchange movements, appeared muted. Excluding a brief price spike, West Texas Intermediate crude oil traded in a narrow USD 50–60/barrel range during the last five months and the US dollar remained steady, but firm. In common with last year's price action, weather and trade issues superseded other factors.

## FORWARD CURVES

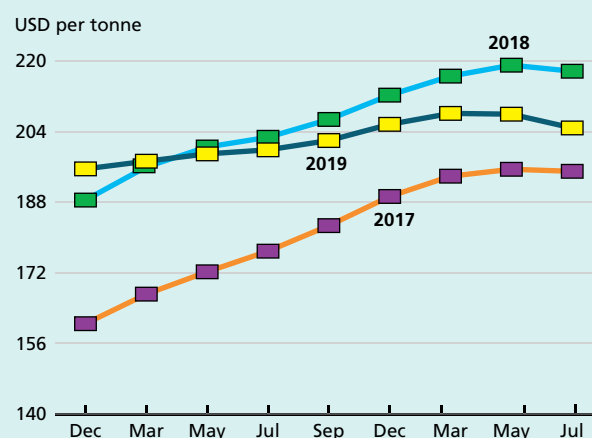
Forward curves for wheat, maize and soybeans exhibited dramatic moves as buyers amassed both old and new crop contracts for maize and soybeans during the rain-drenched spring planting period. The y/y curve (calculating the difference between December 2019 and December 2020 contracts) for maize attained a substantial inverse (downward sloping) of USD 18 in June at the height of the price rise, falling USD 31 by month end and reconfiguring into a steep contango (upward sloping) of USD 13, before rebounding somewhat. The y/y soybean spread (November 2019 – November 2020) saw similar tightening and subsequent relaxation from USD 5 contango to USD 23 contango, but by a much lesser degree than the y/y maize spread. It too rebounded on increased demand prospects and a sharp downward revision by USDA of 2020 ending soybean stocks. Conversely, wheat curves experienced tightening of front spreads as cash wheat prices were quoted at substantial premiums over nearby futures prices. Notably, the July 2019/September 2019 spread inverted by USD 5 during July expiration, as commercial end-users of wheat (flour millers) maintained long futures hedges into expiration in order to force futures and cash convergence. This cash wheat shortage has caused the December 2019/December 2020 wheat spread to trade at a narrow upward slope of USD 10, compared with USD 24 and USD 29 during the two previous years.

## VOLUMES

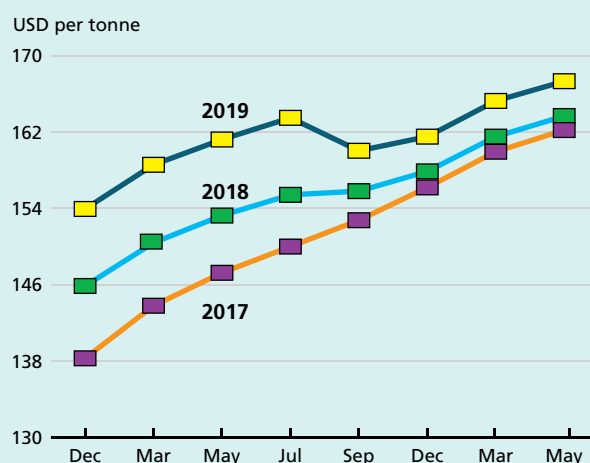
Trade volumes slowed for wheat and soybeans y/y, but set new monthly records for maize during the height of planting uncertainties in May and June. Volumes for all three commodities followed seasonal trends, declining from July onwards, with only maize posting higher levels compared with the same period in 2018. All three commodities recorded declines in open interest y/y. Commercial participants (reported by the Commodity Futures Trading Commission (CFTC) as number of traders) in soybeans declined among the three commodities y/y, underscoring the relative complexity of hedging price risks amid ongoing trade

### Forward curves snapshots as of Oct 2017, 2018 and 2019

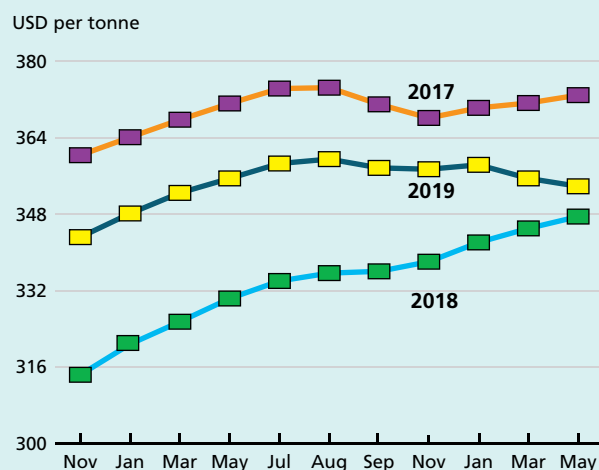
#### Wheat



#### Maize



#### Soybeans



disputes. Options open interest, which grew steadily over several years as options transactions increasingly transitioned from open outcry to screen-based trading, raised open interest totals by 28, 30 and 22 percent for wheat, maize and soybeans respectively, similar to last year.

## VOLATILITY

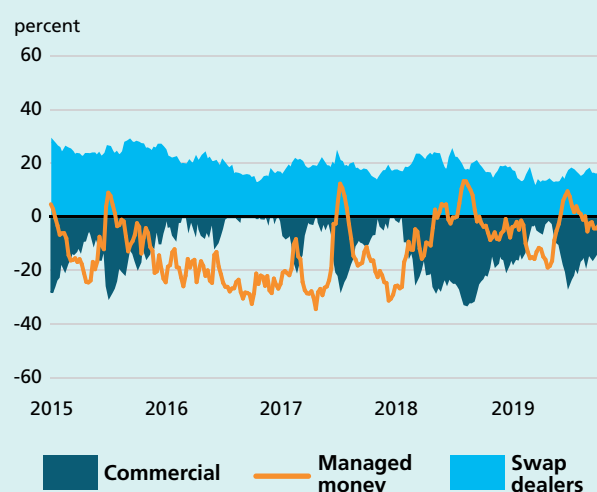
Volatility levels for wheat, maize and soybeans rose to their highest level during June since the beginning of the calendar year, as torrential rains threatened to slow or halt planting progress in spring-planted crops across the US growing region. Weather appeared to eclipse any reports of progress or setbacks in the US-China trade dispute, which has lingered since April 2018 when China first halted US soybean purchases in response to US tariffs on Chinese imports. Historical volatility (based on 30 days) for maize reached multi-year highs, ranging between the levels of 13 and 32 since the start of the year. For wheat, normally the most volatile of the three commodities, historical volatility ranged between 15 and 36, remaining close to seasonal averages, while for soybeans, it stayed in a subdued range between 11 and 22 (all based on monthly averages). Implied volatility (calculated by the level of option premiums on underlying futures contracts) reached a multi-year high level for maize of 37 for June, while for wheat and soybeans it mostly tracked seasonal patterns, ranging between 14 and 30 and between 12 and 22, respectively (monthly averages). The closely watched commodity volatility index, the OVX, which measures crude oil price volatility, remained in a narrow range mostly between 30 and 40, compared with the upper 20s a year ago.

## INVESTMENT FLOWS

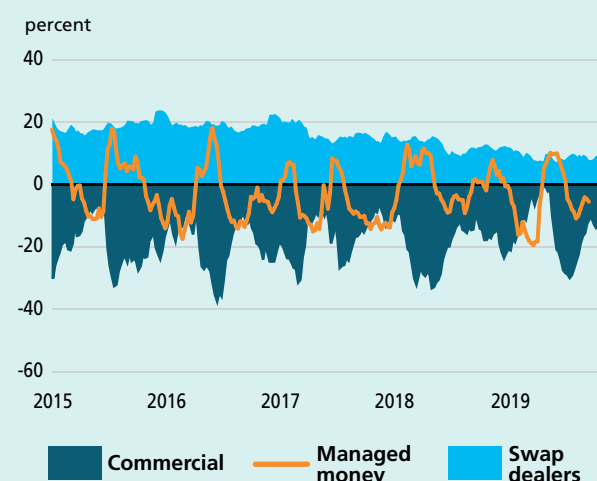
Managed money accumulated large net short positions for wheat, maize and soybeans prior to the start of spring planting, which triggered a wave of short covering as prices soared in May and into the first half of June. Commercials, which held close to even positions at the start of planting, sold heavily into the rally, particularly for maize, net selling over 448 000 thousand contracts, the equivalent of 57 million tonnes in six weeks. Managed money's ill-timed positioning yielded negative rates of return through August, although a September turnaround lifted year-to-date returns to a barely positive 0.15 percent, according to the Barclay agricultural hedge fund tracker. Swaps dealers, which offer securitized products tracking weighted price indices of select commodities, noticeably retreated from the market y/y according to the CFTC. Open long and short positions

CME net-length as % of open interests  
(Jan 2015 – Oct 2019)

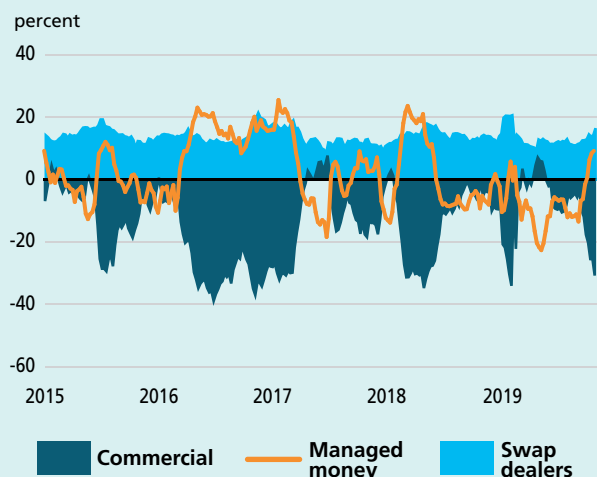
### Wheat



### Maize



### Soybeans



for wheat, maize and soybeans, as detailed in the CFTC's Commitment of Traders Report, declined between 25 and 30 percent compared with last year, probably signifying client withdrawal of funds under management owing to lacklustre or negative price performance. The Deutsche Bank Agricultural Index Fund, which tracks ten agricultural

futures markets including wheat, maize and soybeans, sunk to a new low of USD 14.92 during September, before rebounding somewhat in October, marking eight consecutive years of declining agricultural prices.

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# Ocean freight rates

International Grains Council (IGC)

[www.igc.int](http://www.igc.int)

## OCEAN FREIGHT MARKET (MAY 2019 – OCTOBER 2019)

The dry bulk freight market posted steep gains over the past six months, mainly linked to a strong showing during the summer months. Despite background worries about ongoing trade disputes, vessel earnings climbed to multi-year highs recently on strong spot demand, with the Baltic Dry Index (BDI) – a benchmark for costs across dry bulk segments – approaching a nine-year peak in early-September. Despite a subsequent retreat amid mounting worries about a slowing global economy, the Index more than doubled since late-April and is up by 15% y/y.

Freight costs in the grains and oilseeds market segment also firmed markedly, although gains were smaller compared to the broader market. While the IGC Grains and Oilseeds Freight Index (GOFI), which provides a measure of nominal voyage rates on main routes, strengthened by 11%, overall increases were capped by declines in bunker prices. However, the fuel market witnessed two-sided swings, with prices spiking following mid-September attacks on oil facilities in Saudi Arabia.

The market for the largest **Capesize** vessels, typically engaged in the transportation of heavy raw materials, posted the sharpest gains over the period, with the corresponding Baltic sub-Index increasing nearly five-fold. Values staged a speedy recovery from early-April lows, rising to a nine-year peak in early-September on resurgent iron ore dispatches from Brazil following disruption due to a mining dam collapse. This was coupled with fresh

### Summary of dry bulk freight markets

	24 Oct 2019	Changes	
		6 months	y/y
		%	
<b>Baltic Dry Index (BDI)*</b>	<b>1 785</b>	<b>+110</b>	<b>+15</b>
<i>Sub-indices:</i>			
Capesize	<b>2 926</b>	<b>+352</b>	<b>+23</b>
Panamax	<b>1 748</b>	<b>+49</b>	<b>+5</b>
Supramax	<b>1 200</b>	<b>+55</b>	<b>+5</b>
<i>Baltic Handysize Index (BHSI)**</i>	<b>637</b>	<b>+63</b>	<b>-6</b>
<b>Index Grains and Oilseeds Freight Index (GOFI)***</b>	<b>130</b>	<b>+11</b>	<b>-11</b>

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

### BDI and IGC GOFI (24 October 2018 – 24 October 2019)

Rebased, 24 Oct 2018 = 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

### Baltic Capesize Index (24 October 2018 – 24 October 2019)

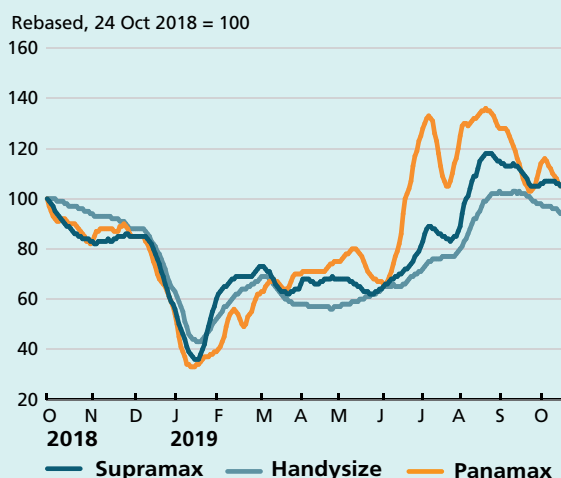
Rebased, 24 Oct 2018 = 100



Source: Baltic Exchange

business out of the Black Sea region and Canada, while robust ore and coal flows from Australia added to upside. Reflecting generally strong demand, China's total imports of coal, iron ore and soyabeans hit a quarterly record in July-September. However, a weakening trend in freight rates prevailed in recent weeks as the market focused on slowing

### Grains and oilseeds carrying sectors: Panamax and Supramax sub-Indices and Handysize Index 24 October 2018 – 24 October 2019



Source: Baltic Exchange

global economic growth, with such international bodies as the WTO and the OECD downgrading outlooks for world trade and GDP. Nevertheless, ongoing scrubber-fitting activity ahead of the introduction of IMO 2020 regulations has been a notable supportive factor lately.

The **Panamax** segment also witnessed two-sided trends. After a period of somewhat hesitant trade, average rates surged in July, driven by firm demand for soyabeans and maize shipments out of South America. Gains were led by transatlantic routes, where daily earnings rose to around USD 29,000 – the highest since October 2010. Against this backdrop, a nominal voyage rate from Brazil to China touched USD 51/t in late July, the highest in at least four years, while the spread between transatlantic and transpacific timecharter levels also reached a multi-year peak. Although markets in Argentina and Brazil remained active in the period since, the Baltic sub-Index partly reversed gains thereafter, in part linked to losses in the Capesize sector, but remains up by about one-half compared to late-April. Some recent support was afforded by news of fresh fixings from the Pacific Northwest and, more recently, the US Gulf, as China secured a number of soyabean cargoes ahead of a new round of trade talks.

Values for smaller **Supramax** and **Handysize** carriers in part tracked movements for Panamax bulkers, as an initial downturn was followed by sustained advances through early September. Supramax gains were mainly attributed to strong demand in the Pacific, with fresh business in the Indian Ocean, limited vessel availability in the Mediterranean and strength in the northern Atlantic adding to upside at times. Handysize gains over the period were partly tied to steady increases at the US Gulf, where inland logistical difficulties were coupled with exporters' interest to load smaller

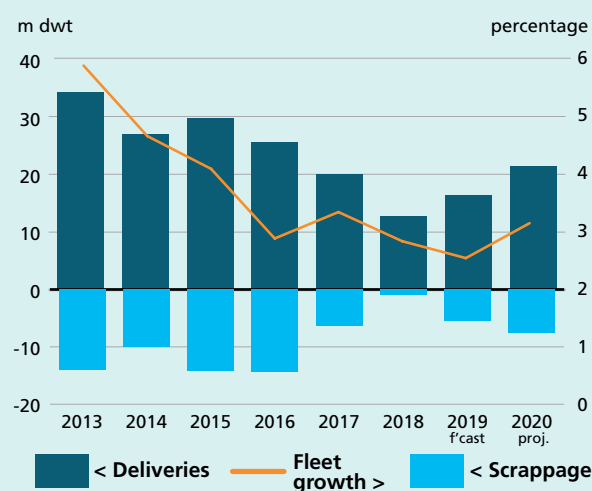
cargoes in effort to secure fresh business. Firmer demand for Handysize grains/oilseeds shipments was also noted in Argentina, where participants reportedly experienced difficulties completing Panamax cargoes owing to low water levels on the Parana River and dwindling supplies at Atlantic ports.

### Supply side developments

With Panamax vessels likely accounting for the bulk of newbuilding deliveries, the global fleet of grains and oilseeds carriers (including vessels below 10,000 dwt) is expected to expand by 2.5% in 2019, a modest drop in growth from the prior 12 months. Likewise, mostly because of a large order-book for Panamax bulkers, the rate of increase in 2020 is forecast at around 3%, as larger deliveries are expected to be only partly countered by increased vessel scrapping. This forecast compares to projected annual rise in seaborne trade in coal and grains/oilseeds of about 2%, which points to a potential for continued overcapacity in the near-term.

It should be pointed out that projections for global trade and demand for carriers have a significant downside risk, not least because of persistent economic headwinds and global trade tensions, while projections for vessel supply are complicated by uncertainties about the upcoming implementation of IMO 2020 requirements.

### Dry bulk freight markets (up to 90,000 dwt): Deliveries vs. scrappage



Source: Thomson Reuters Research & Forecasts and IGC estimates



# FAO price indices<sup>1</sup>

## FAO Global Food Consumption Price Index

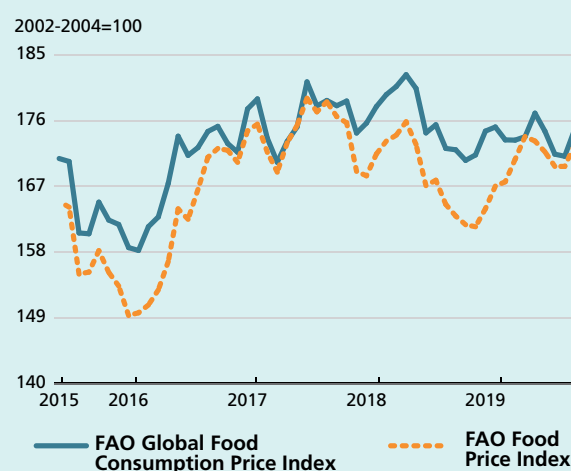
The FAO Global Food Consumption Price Index (GFCPI) tracks changes in the cost of a global food basket. It uses calorie weights of major food items, derived from the FAO food balance sheets (<http://www.fao.org/faostat/en/#data/FBS>) for the base period of 2002–2004. Calorie weights for wheat, rice, coarse grains, sugar, oilseed/crops, vegetable oils, beef, pig meat, ovine meat, poultry, milk, and butter are multiplied by their respective commodity price indexes and summed up. These commodities cover 80 percent of global daily average calorie consumption. The index is dominated by crop products, which comprise an 83 percent share of the calories covered. The corresponding price indexes for world trade are found in Appendix Tables 21–28.

The GFCPI reached its all-time peak in February 2011 at a level of 265 (basis 2002–2004=100). By 2015, it had fallen by 40 percent and since then fluctuated between 160 and 180, a range that is about one-third lower than its historical peak, suggesting a considerable relief for consumers in terms of calorie costs in recent years. In October 2019 the index averaged 175 points, just 3 points above its value a year earlier. Over the last twelve months, the index has fluctuated within the range of 171–177 points, as lower prices for wheat and butter have been offset by increasing prices for other commodities. Meat prices (particularly pig meat) which increased the most over the last year have not markedly affected the index given their low weight in the calorie basket. The GFCPI peaked in June 2019 before falling to more subdued levels.

### A calorie vs protein basis

As a measure of the changing costs of the calorie basket of primary food commodities, the current GFCPI is an indicator of the purchasing power for calories and therefore also a rough gauge for changes in the access to food, of calorie deficits and of undernourishment. When based on protein weights, the index captures the aggregate purchasing power for different sources of protein. For animal protein sources, these are meats, milk products and fish, and for crops, cereals are the dominant source of proteins.

**Figure 1. The FAO Global Food Consumption and Food Price Indices (Jun 2015 – Oct 2019)**



Two alternative formulations of the GFCPI have been constructed, one on a calorie, the other on a protein basis. The exact weights of calorie and protein shares are summarized in Table 1 and the corresponding price indices in Tables 21–29. While these weights can differ markedly across commodities, the dominant role of cereals as a source of both calories and protein kept two indexes evolving in tandem (figure 2). This was particularly the case in 2018 and 2019 where the two series practically overlapped.

Some differences in the two indexes remain both with regard to their levels and their variability. In general, the calorie-based index displays a higher monthly variation and more pronounced overall swings. In terms of levels, the protein-based measure consistently remained below the calories-based index. Only in 2019, the protein-based index exceeded the calorie-based measure for the first time in many years. Fish has been included as a weight in both indexes, given its importance as a protein source for human diets. At about 25 kg per capita, current global fish consumption is higher than that of individual meats, excluding poultry meat. However, given its low calorie content, it assumes a low share in the calorie-based index and its inclusion therefore translates into only a small difference (0.3 points) compared with the existing

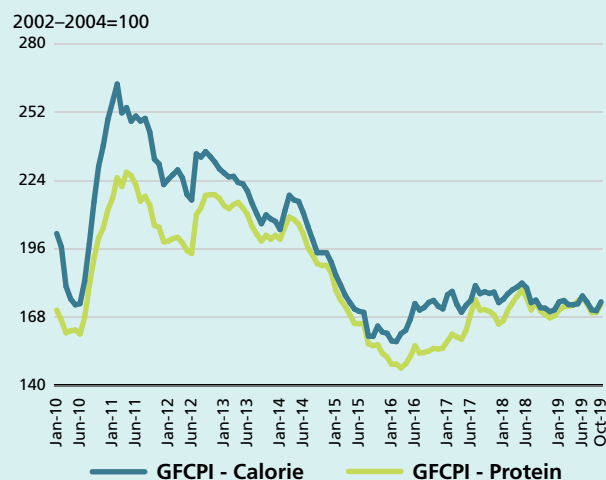
<sup>1</sup> All changes referred to in this section, in absolute or percentage terms, are calculated based on unrounded figures.

**Table 1: Shares of global average calorie and protein consumption by commodity**

	Calorie share %	Protein share w%
Wheat	24.5	28.3
Rice	24.1	17.2
Coarse grains	9.8	9.3
Sugar	10.6	0
Oilseeds	2.3	3.6
Vegetable oils	11.4	0
Bovine meat	1.8	6.1
Ovine meat	0.1	1.1
Pigmeat	5.0	7.1
Poultry	2.1	7.0
Milk excluding butter	5.6	12.7
Butter	1.2	0
Fish	1.3	7.2
Total	100	100

Note: Shares computed from FAO Food Balance data for 2002-04, and normalized to sum to 100

calorie-weighted GFCPI. By contrast, the high share of fish in total protein consumption (7.2 percent, Table 1) makes it an important element in the protein-weighted GFCPI.

**Figure 2. FAO Global Food Consumption Price Index – calorie vs protein-based**

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## October registered the first monthly increase in the value of the FAO Food Price Index since May 2019<sup>3</sup>

The **FAO Food Price Index**<sup>2</sup> (FFPI) averaged 172.7 points in October 2019, up by 4.2 percent (3 points) from September and 6.0 percent higher than in the corresponding period last year. The increase in October marked the first significant month-on-month rise in the value of the Index since May 2019, as surges in the prices of sugar, cereals and, to a lesser extent, meat and vegetable oils, more than offset a small decline in the value of the dairy sub-index.

The **FAO Cereal Price Index** averaged 164.0 points in October, up by 4.2 percent (nearly 7 points) from September but still 1.0 percent below its October 2018 level. International wheat prices moved up sharply in October largely on robust trade activities and lower crop prospects in Argentina and Australia. Among major coarse

grains, maize export prices also surged in October from very low levels in September, reflecting not only reduced crops in the United States and worries over planting conditions in Argentina, but also a pick-up in export sales. By contrast, FAO's rice price index subsided in October, driven by declines in fragrant rice quotations prompted by low demand and prospects of an abundant basmati harvest.

The **FAO Vegetable Oil Price Index** averaged 136.4 points in October, up 0.5 percent (or 0.7 points) from the previous month and marking the highest level since September 2018. The small month-on-month increase mainly reflects higher palm oil price quotations, which more than offset lower values for sunflower and rapeseed oils. International palm oil prices rose for the third consecutive month, fuelled by firm global import demand and expectations of an output slowdown in leading producing countries, as well as news of higher biodiesel mandates in Indonesia next year. By contrast, sunflower oil price

<sup>2</sup> The FAO Food Price Index and its sub-indices are updated on a monthly basis and are available on <http://www.fao.org/worldfoodsituation>

<sup>3</sup> The FAO Global Food Consumption Price Index is published twice a year in *Food Outlook*.

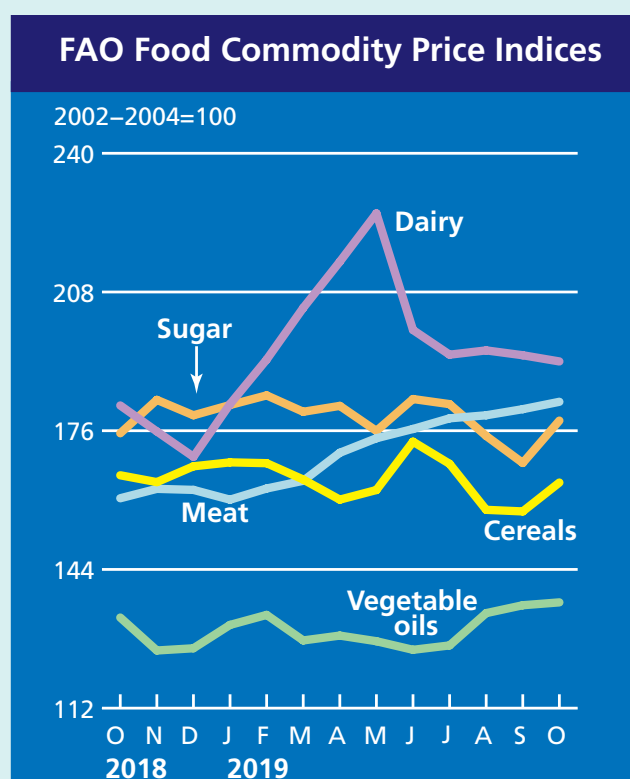
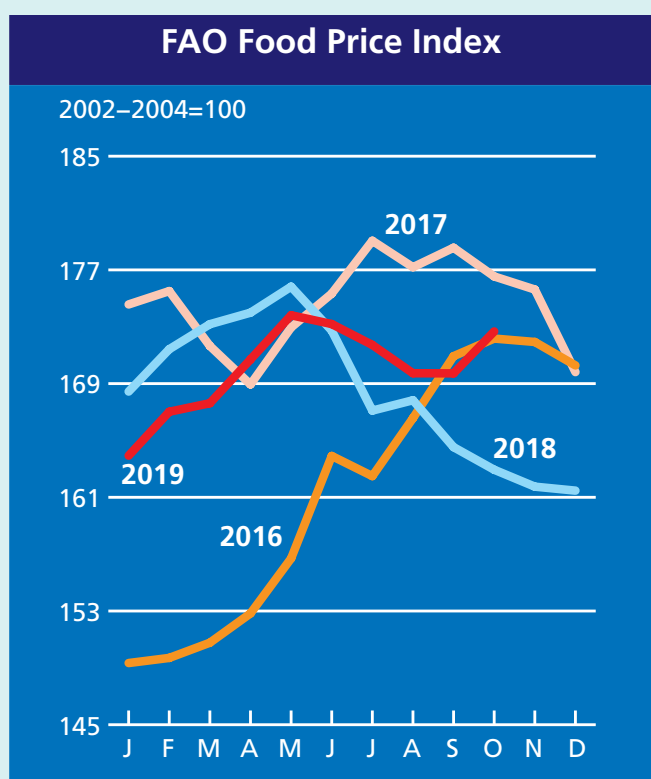
quotations fell on active farmer selling in the wake of bumper sunflower seed harvests in the Black Sea region, while higher than expected rapeseed crushing in the EU weighed on rapeseed oil prices.

The **FAO Dairy Price Index** averaged almost 192 points in October, down 0.7 percent (1.4 points) from the previous month, representing the second consecutive month of decline but still 5.6 percent above its level in the corresponding month last year. The October decline was the result of notably lower quotations for cheese, more than offsetting increases in those for Skim Milk Powder (SMP) and Whole Milk Powder (WMP). Increased export availabilities in New Zealand were the principal factor behind the latest decline in cheese price quotations. By contrast, strong import demand, especially from Asia for short-term deliveries, underpinned the price increases of SMP and WMP. After four months of continuous decline, butter prices began to stabilize, reflecting renewed import interests.

The **FAO Meat Price Index**<sup>4</sup> averaged 182.7 points in October, up 0.9 percent (1.7 points) from September, representing the ninth consecutive monthly increase. International price quotations for bovine and ovine meats

continued to rise, with buoyant import demand, especially from China, providing support. Quotations for pig meat also increased, albeit moderately, reflecting continued import demand in Asia despite seasonally increasing supplies from Europe and higher export availabilities in Brazil. Prices of poultry meat fell under downward pressure due to increased export availabilities in main producing regions.

The **FAO Sugar Price Index** averaged 178.3 points in October, up 5.8 percent (9.8 points) from its reduced September average. The sharp rebound in international sugar prices in October was mainly underpinned by expectation of much tighter supply prospects in 2019/20. Latest indications point to a significant contraction in sugar output in India, the world's largest sugar producer, mainly because of a 10 percent reduction in sugarcane planted area compared to the previous season. Likewise, sugar output in Thailand, the world's second largest sugar exporter, is seen lower by 7 percent from last year as a result of protracted dry conditions. Still, sugar prices remained volatile, influenced by swings in crude oil prices, changing weather conditions in India, and movements in the Brazilian Real against the United States Dollar.



<sup>4</sup> 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.

## FAO Food Price Indices

		Food Price Index <sup>1</sup>	Meat <sup>2</sup>	Dairy <sup>3</sup>	Cereals <sup>4</sup>	Vegetable Oils <sup>5</sup>	Sugar <sup>6</sup>
2001		94.6	100.1	105.5	86.8	67.2	122.6
2002		89.6	89.9	80.9	93.7	87.4	97.8
2003		97.7	95.9	95.6	99.2	100.6	100.6
2004		112.7	114.2	123.5	107.1	111.9	101.7
2005		118.0	123.7	135.2	101.3	102.7	140.3
2006		127.2	120.9	129.7	118.9	112.7	209.6
2007		161.4	130.8	219.1	163.4	172.0	143.0
2008		201.4	160.7	223.1	232.1	227.1	181.6
2009		160.3	141.3	148.6	170.2	152.8	257.3
2010		188.0	158.3	206.6	179.2	197.4	302.0
2011		229.9	183.3	229.5	240.9	254.5	368.9
2012		213.3	182.0	193.6	236.1	223.9	305.7
2013		209.8	184.1	242.7	219.3	193.0	251.0
2014		201.8	198.3	224.1	191.9	181.1	241.2
2015		164.0	168.1	160.3	162.4	147.0	190.7
2016		161.5	156.2	153.8	146.9	163.8	256.0
2017		174.6	170.1	202.2	151.6	168.8	227.3
2018		168.4	166.3	192.9	165.3	144.0	177.5
2018	October	162.9	160.4	181.8	165.7	132.9	175.4
	November	161.8	162.6	175.8	164.1	125.3	183.1
	December	161.5	162.4	170.0	167.8	125.8	179.6
2019	January	163.9	160.1	182.1	168.7	131.2	181.9
	February	167.0	162.7	192.4	168.5	133.5	184.1
	March	167.6	164.5	204.3	164.7	127.6	180.4
	April	170.7	170.9	215.0	160.1	128.7	181.7
	May	173.8	174.3	226.1	162.3	127.4	176.0
	June	173.2	176.4	199.2	173.5	125.5	183.3
	July	171.7	178.9	193.5	168.4	126.5	182.1
	August	169.7	179.6	194.5	157.8	133.9	174.8
	September	169.7	181.0	193.4	157.4	135.7	168.6
	October	172.7	182.7	192.0	164.0	136.4	178.3

**1 Food Price Index:** Consists of the average of five commodity group price indices mentioned above, weighted with the average export share of each of the groups for 2002–2004. In total 73 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 prices of the commodities included in the group, with the base period price consisting of the averages for the years 2002–2004.

**2 Meat Price Index:** Computed from average prices of four types of meat, weighted by world average export trade shares for 2002–2004. Commodities include two poultry products, three bovine meat products, three pig meat products, and one ovine meat product. There are 27 price quotations in total used in the calculation of the index. Where more than one quotation exists for a given meat type, a simple average is used. Prices for the two most recent months may be estimates and subject to revision.

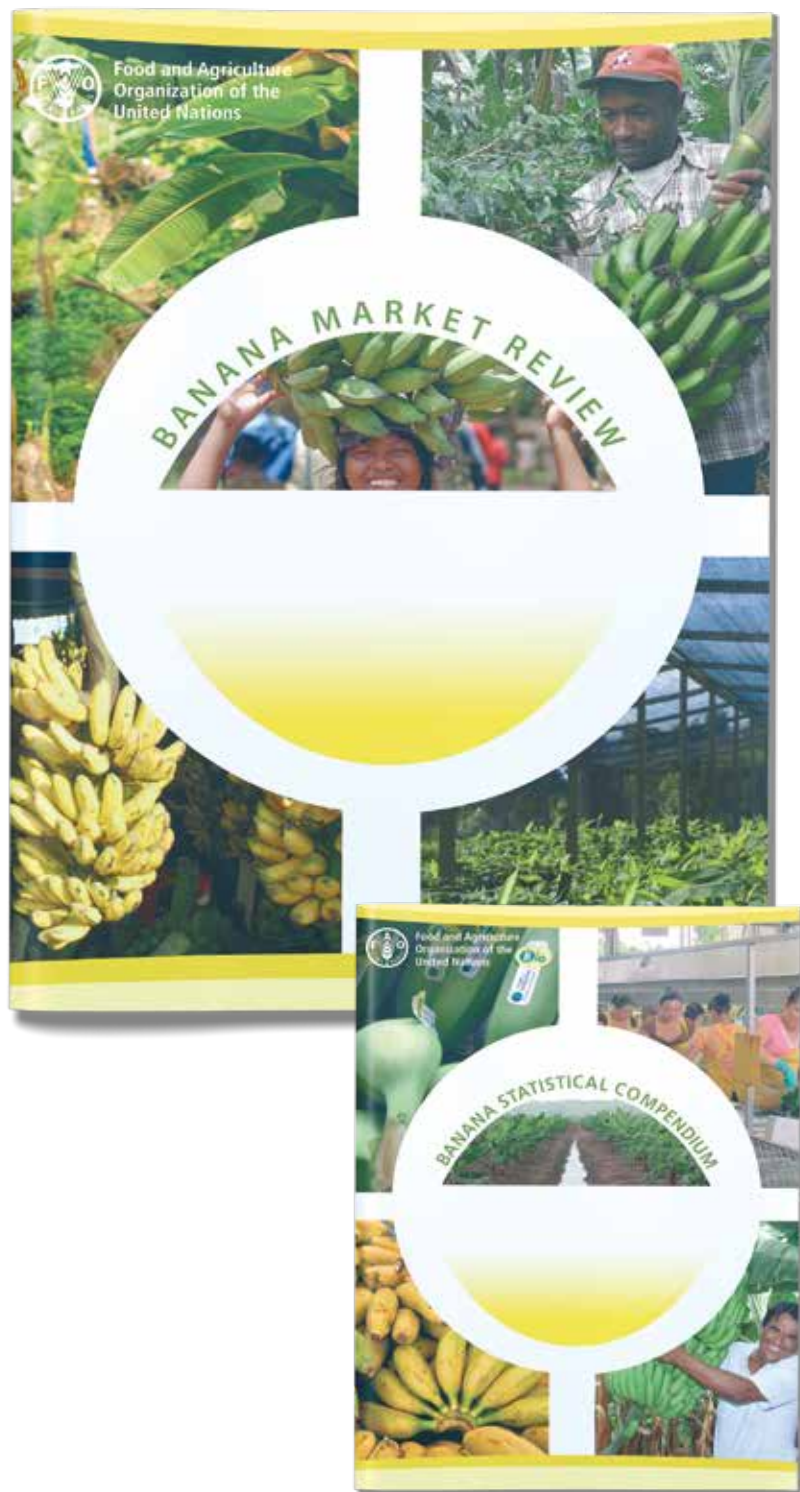
**3 Dairy Price Index:** Consists of butter, SMP, WMP, and cheese price quotations; the average is weighted by world average export trade shares for 2002–2004.

**4 Cereals Price Index:** This index is compiled using the International Grains Council (IGC) wheat price index, itself an average of ten different wheat price quotations, 1 maize export quotation and 16 rice quotations. The rice quotations are combined into three groups consisting of Indica, Japonica and Aromatic rice varieties. Within each variety, a simple average of the relative prices of appropriate quotations is calculated; then the average relative prices of each of the three varieties are combined by weighting them with their assumed (fixed) trade shares. Subsequently, the IGC wheat price index, after converting it to base 2002–2004, the relative prices of maize and the average relative prices calculated for the rice group as a whole are combined by weighting each commodity with its average export trade share for 2002–2004.

**5 Vegetable Oils Price Index:** Consists of an average of ten different oils weighted with average export trade shares of each oil product for 2002–2004.

**6 Sugar Price Index:** Index form of the International Sugar Agreement prices with 2002–2004 as base.

# BANANA MARKET REVIEW



**G**lobal exports of bananas, excluding plantain, reached a record high of 19.2 million tonnes in 2018, on the back of ample growth in supplies. Reported figures for the full year indicate an increase in global shipments of 5.7 percent compared to 2017. Strong supply growth in the two leading exporters, Ecuador and the Philippines, was mainly accountable for this rise. Meanwhile, adverse weather conditions continued to affect shipments from several other key suppliers, most notably Costa Rica and the Dominican Republic.

**Available at:**

<http://www.fao.org/economic/est/est-commodities/bananas/en/>

**F**ood Outlook is published by the Trade and Markets Division of FAO under the Global Information and Early Warning System (GIEWS). It is a biannual publication focusing on developments affecting global food and feed markets. Each report provides market assessments and short term forecasts on a commodity by commodity basis and includes feature articles on topical issues. Food Outlook maintains a close synergy with another major GIEWS publication, Crop Prospects and Food Situation, especially with regard to the coverage of cereals. Food Outlook is available in English. The summary section is also available in Arabic, Chinese, French, Russian and Spanish.

Food Outlook and other GIEWS reports are available on the internet as part of the FAO world wide web (<http://www.fao.org/>) at the following URL address: <http://www.fao.org/giews/>. Other relevant studies on markets and the global food situation can be found at <http://www.fao.org/worldfoodsituation>.

This report is based on information available up to late October 2019.

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