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FAOSTAT ANALYTICAL BRIEF 79

Agricultural production statistics 2000–2022

HIGHLIGHTS

- **Global production of primary crop commodities reached 9.6 billion tonnes in 2022, increasing by 56 percent since 2000 and just 0.7 percent since 2021.**
- **The global production of cereals decreased by 12 million tonnes, or 0.4 percent between 2021 and 2022, driven by a drop in maize production. Maize, wheat and rice accounted for 90 percent of total cereals production in 2022.**
- **World production of sugar crops increased by 52 million tonnes from 2021 to 2022. Sugar cane represents the main sugar crop, with 1.9 billion tonnes in 2022 compared with 260 million tonnes for sugar beet.**
- **Roots and tubers global production rose by 0.8 percent between 2021 and 2022, mostly due to an increase in cassava and potatoes production.**
- **In 2022, world fruit and vegetable production reached 2.1 billion tonnes – up 1 percent from 2021.**
- **The production of oil palm fruit, soya beans and rapeseed, the main oil crops, reached of 861 million tonnes in 2022.**
- **Chicken, pig and cattle, the main meats produced worldwide, reached a production volume of 316 million tonnes in 2022.**

FAOSTAT CROPS AND LIVESTOCK PRODUCTION

INTRODUCTION

The 2030 Agenda of the United Nations (UN) sets ambitious objectives for the world to preserve natural resources and achieve climate neutrality by 2050. Within this vision, the agricultural sector assumes a key role in meeting the Sustainable Development Goals (SDGs) to ensure access to nutritious and healthy food, create circular agricultural systems and reduce waste in the supply chain. Feeding the growing population without overexploiting resources is a concern that can be addressed through the adoption of long-term sustainable production techniques. The global sustainability challenge, in turn, impacts differently on each territory depending on its own specificities.

Therefore, significant efforts and investments are needed from all actors and institutions involved at the various stages to promote coordinated and effective actions. The Statistics Division (ESS) of the Food and Agriculture Organization of the United Nations (FAO) contributes key data that harmonize agricultural production data collected for 199 countries and territories. This analytical brief summarizes and highlights relevant patterns from 2000 up to 2022 featured by the latest data published on the FAOSTAT data platform.

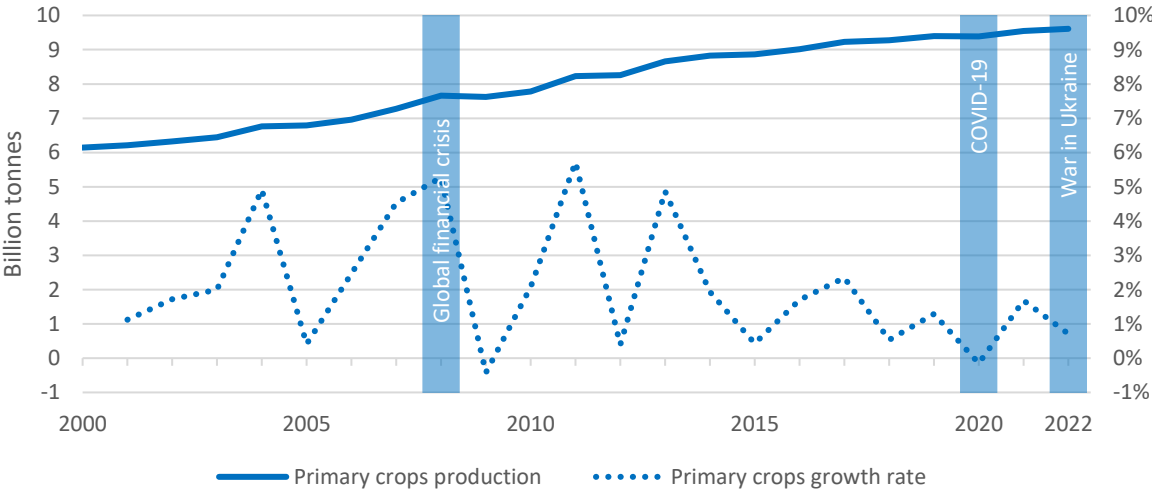


OVERVIEW OF THE GLOBAL AGRICULTURAL PRODUCTION OF CROPS

Over the past two decades, the global agricultural production volumes of primary crops showed a steady upward trend to meet the worldwide expanding demand (Figure 1): the recorded growth rate of 56 percent between 2000 and 2022 was facilitated by the enhancement in production technologies and the intensification of farming activities, particularly with increased use of irrigation, pesticides, fertilizers and high-yield crop varieties, and cropland expansion, while facing the adverse effects of climate change.

Since 2000, the annual change rate of crop production went through several ups and downs, with peaks of 4–6 percent. It was negative only in 2009 (−0.4 percent), after the 2008 financial crisis, and in 2020 (−0.1 percent), during the COVID-19 pandemic. The 2009 downturn was followed in 2011 with the highest growth rate of the period (+5.7 percent). Depending on the year, the commodity groups driving each upturn varied, from cereals to oil crops. After 2013, the magnitude of the growth rates progressively declined and varied between −0.1 percent in 2020 and 2.3 percent in 2017. The causes of the 2020 downturn appear to be a slump in sugar beet and sugarcane production due to a combination of adverse weather conditions, political regulations, and the spread of the yellow beet virus, rather than the global economic trends of the pandemic. In 2022, the growth of crop production was +0.7 percent, resulting from a generalized slack likely due to the market effects after the start of the war in Ukraine, and high inflation.

Figure 1: World agricultural crop production volumes and growth



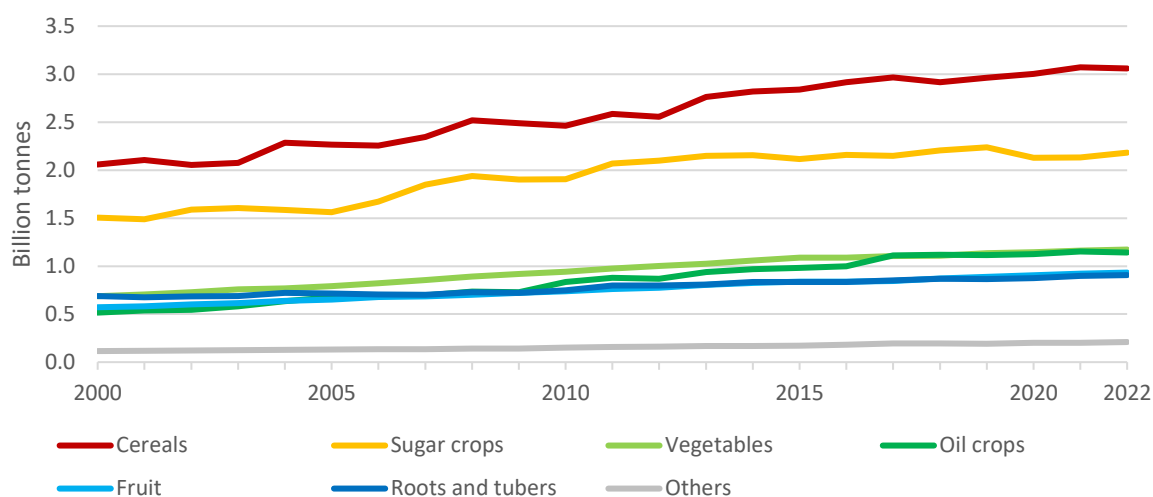
Source: FAO. 2023. Production: Crops and livestock products. In: *FAOSTAT*. Rome. [Cited December 2023]. <https://www.fao.org/faostat/en/#data/QCL>

PRIMARY CROPS

The global agricultural production of primary crops grew by 56 percent between 2000 and 2022, as mentioned above, reaching 9.6 billion tonnes in 2022 (Figure 1). The crops were used as food, feed or components to be transformed into other products ranging from biofuels to cosmetics. In the long term, the composition of the primary crop groups reflects how the different commodities obtained larger or smaller shares of land, which can be related to productivity boosts, changes in national regulations, extraordinary events or climate change.

Cereals are the leading group of crops produced worldwide, with 3.1 billion tonnes produced in 2022 (Figure 2) followed, by sugar crops (2.2 billion tonnes), vegetables (1.2 billion tonnes), oil crops (1.1 billion tonnes), fruit (0.9 billion tonnes) and roots and tubers (0.9 billion tonnes). Since 2000, the share of cereals, sugar crops and roots and tubers decreased in favour of fruit, vegetables and oil crops. In particular, the production of oilseed crops recorded the largest growth over the period, with an increase of 121 percent between 2000 and 2022, while roots and tubers had the smallest increase (31 percent).

Figure 2: Global production of primary crops by commodity group

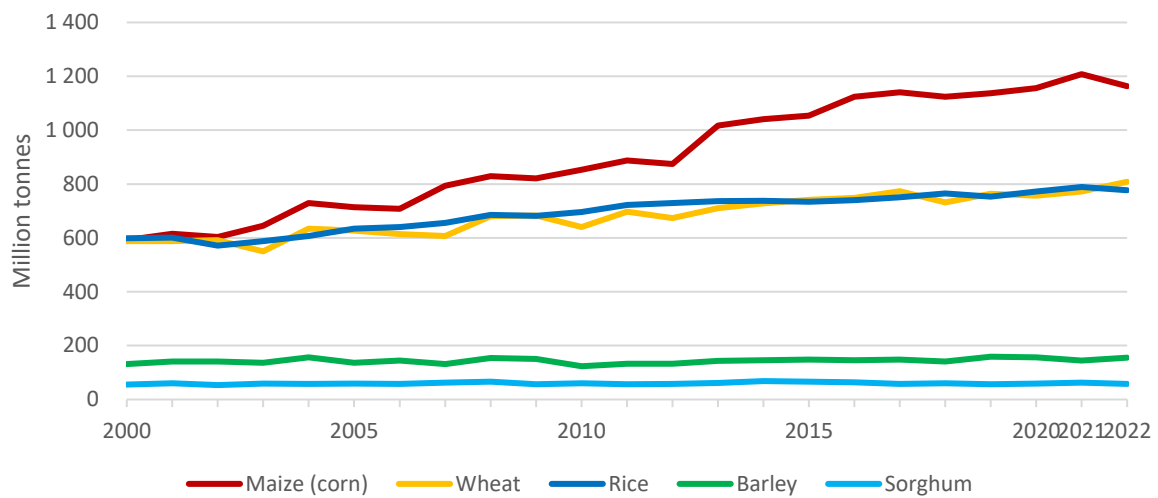


Source: FAO. 2023. Production: Crops and livestock products. In: *FAOSTAT*. Rome. [Cited December 2023]. <https://www.fao.org/faostat/en/#data/QCL>

CEREALS

Maize, wheat, rice, barley, and sorghum were the five most produced cereal species in 2022 (Figure 3). Maize had the highest production (almost 1.2 billion tonnes) and the fastest growth since 2000 (+97 percent) compared to the other top cereals, as it is widely used in sectors other than food, ranging from biofuels to animal feed. However, maize production decreased by 4 percent from 2021 to 2022 (44 million tonnes) due to a drop in production in several European countries due to widespread drought. The most significant decline in maize production occurred in Ukraine, where weather conditions combined with the war led to a sharp drop of 37 percent. Wheat and rice recorded similar production levels in 2022 and growth rates since 2000: 808 million tonnes +38 percent for wheat, compared to 776 million tonnes and +30 percent for rice. Barley and sorghum production volumes were fairly stable throughout the period, reaching 155 and 58 million tonnes in 2022, respectively.

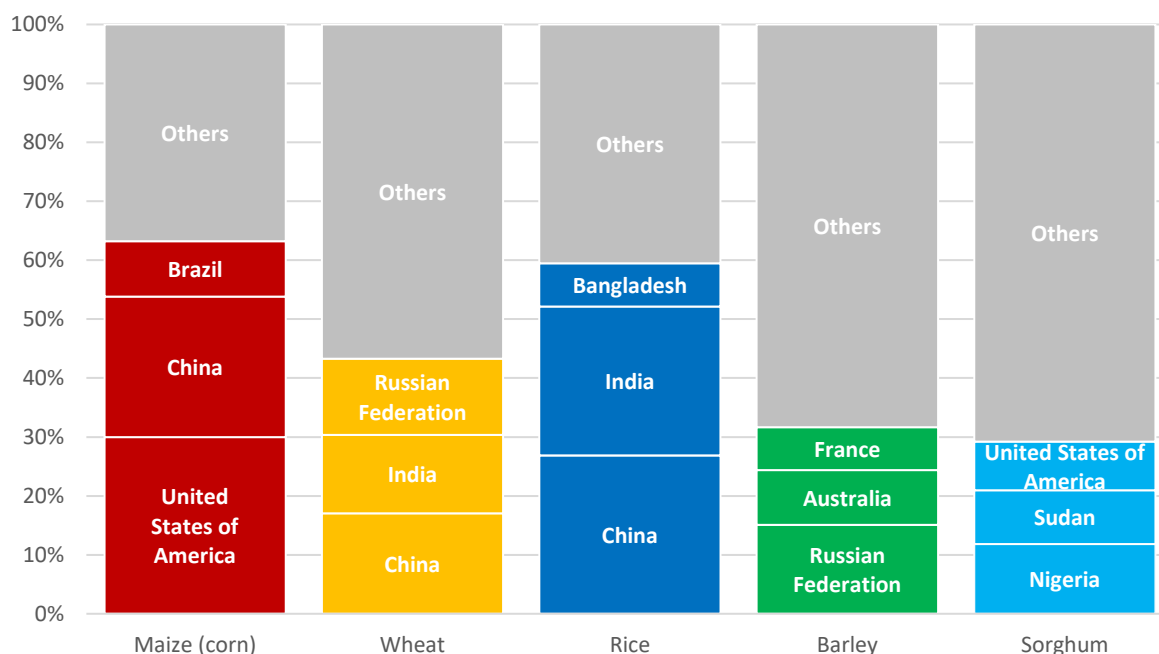
Figure 3: World production of top cereals



Source: FAO. 2023. Production: Crops and livestock products. In: *FAOSTAT*. Rome. [Cited December 2023]. <https://www.fao.org/faostat/en/#data/QCL>

In 2022, the Americas were the top producing region for maize, with the United States of America and Brazil accounting together for 39 percent of the world production (Figure 4). China was the second largest producer, with a share of 24 percent. Asia accounted for a large share of the global wheat production with China (17 percent) and India (13 percent) ranking as the top two producers, while the Russian Federation was the third largest wheat producer in 2022, also with 13 percent of the global production. Asia was the leader in rice production, with the top three producers of the region: China (27 percent of the global total), India (25 percent) and Bangladesh (7 percent). The Russian Federation was the leader in barley production in 2022, accounting for 15 percent of the total world production, followed by Australia (9 percent) and France (7 percent). In 2022, Africa produced more than half the global total for sorghum, with Nigeria and Sudan together accounting for 21 percent of world volumes followed by the United States of America (8 percent of global production).

Figure 4: Top largest cereal producers in 2022



Source: FAO. 2023. Production: Crops and livestock products. In: *FAOSTAT*. Rome. [Cited December 2023]. <https://www.fao.org/faostat/en/#data/QCL>

MILLETS

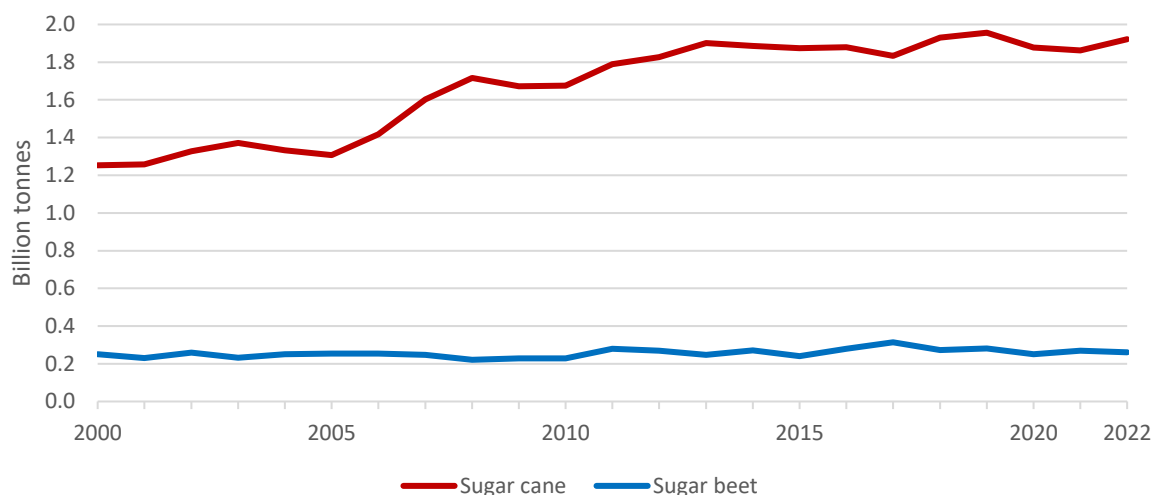
The United Nations General Assembly declared 2023 the International Year of Millets (IYM 2023). FAO was the lead agency for celebrating the Year in collaboration with other stakeholders. Millets are staple food for millions of people in sub-Saharan Africa and Asia. Emphasis is placed on millets for their importance and promising role in sustainable agrifood systems, calling for scaled-up efforts to promote their cultivation.

SUGAR CROPS

The cultivation of sugar crops is influenced by several factors, including climate instability, price volatility as well as medical health recommendations (such as the World Health Organization guidelines) that incentivize the reduction of sugar consumption.

Sugar cane is the main sugar crop, with worldwide volumes exceeding 1.5 billion tonnes since 2007 and rising to more than 1.9 billion tonnes in 2022 (Figure 5). Sugar beet volumes stagnated at much lower levels, totalling about 260 million tonnes in 2022. Sugar crops other than cane and beet played a minor role, with less than 1 million tonnes produced in 2022.

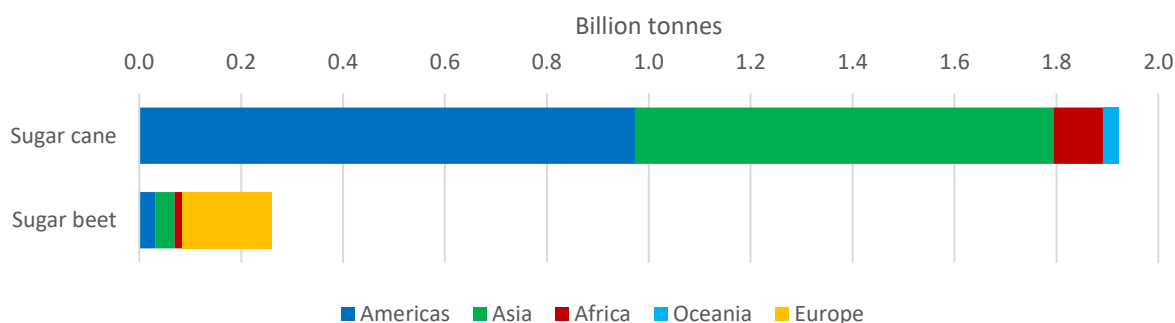
Figure 5: Global sugar crop production by product



Source: FAO. 2023. Production: Crops and livestock products. In: *FAOSTAT*. Rome. [Cited December 2023]. <https://www.fao.org/faostat/en/#data/QCL>

The Americas stood out as the leading region for sugar cane production in 2022 (973 million tonnes), followed by Asia with 821 million tonnes. Europe was the main producer of sugar beet with 176 million tonnes (Figure 6).

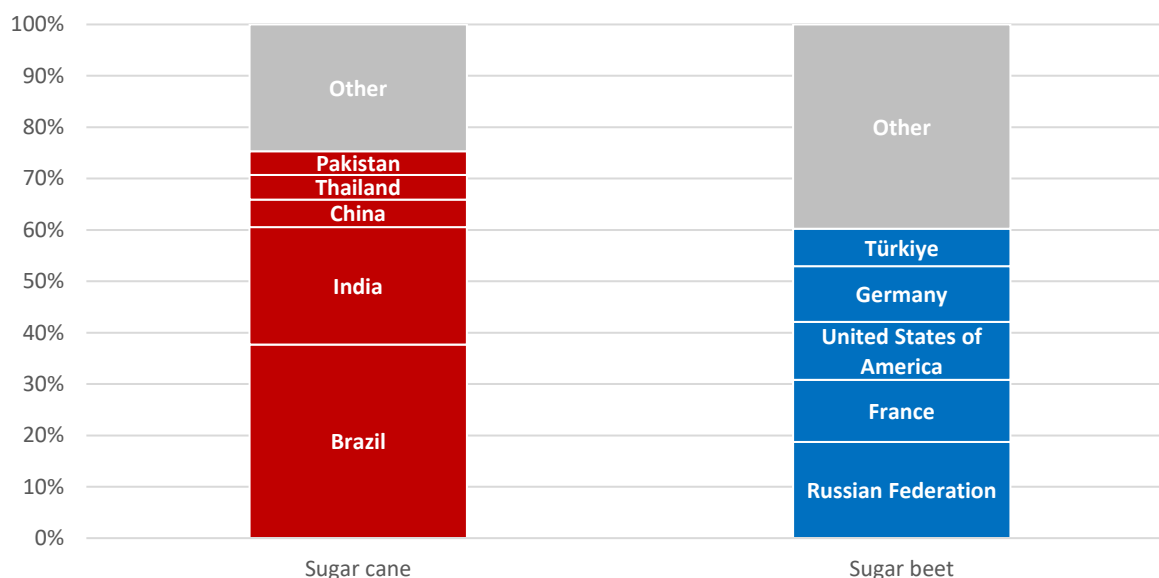
Figure 6: Regional production of sugar crops in 2022



Source: FAO. 2023. Production: Crops and livestock products. In: *FAOSTAT*. Rome. [Cited December 2023]. <https://www.fao.org/faostat/en/#data/QCL>

Brazil was the largest producer of sugar cane in 2022, accounting for 38 percent of the global production, followed by India (23 percent), China, Pakistan and Thailand (5 percent each) (Figure 7). Sugar beet production was more evenly distributed over the world, with the Russian Federation representing 19 percent of global production, and France, the United States of America, Germany and Türkiye producing each between 7 and 12 percent of the total sugar beet output.

Figure 7: Top largest sugar crops producers in 2022

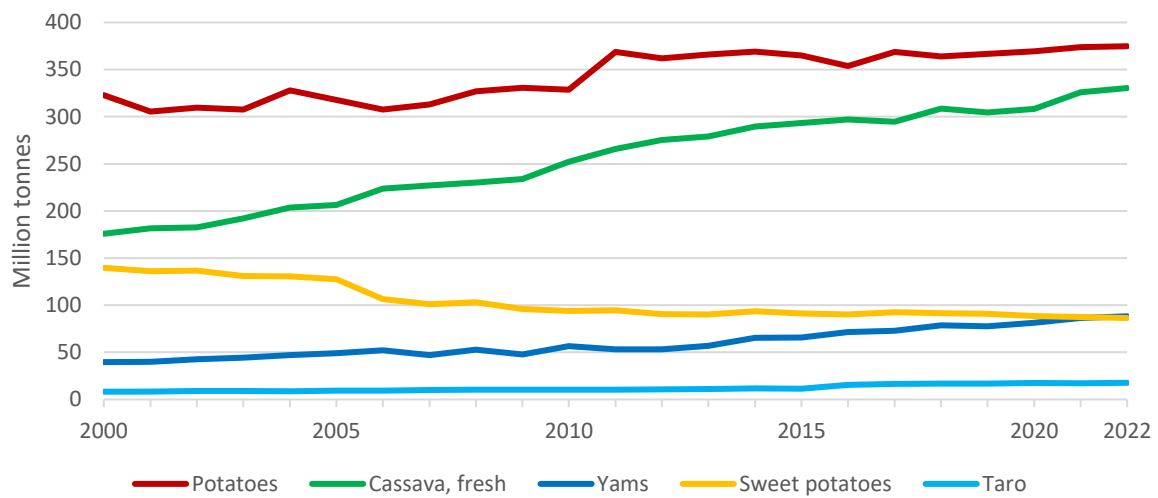


Source: FAO. 2023. Production: Crops and livestock products. In: *FAOSTAT*. Rome. [Cited December 2023]. <https://www.fao.org/faostat/en/#data/QCL>

ROOTS AND TUBERS

Potatoes, cassava, yams, sweet potatoes and taro are the major roots and tubers produced globally (Figure 8). Potatoes were the most produced commodity in the group, with 375 million tonnes in 2022, (up 16 percent compared with 2000), followed by cassava with 330 million tonnes (up 88 percent compared with 2000). The production of each of the remaining roots and tubers was below 100 million tonnes in 2022, with divergent trends. The production of sweet potatoes declined by 38 percent between 2000 and 2022, while yams and taro volumes grew by 123 percent and 114 percent, respectively. Roots and tubers were mainly produced in Africa and Asia, with 368 and 360 million tonnes in 2022, thus together accounting for 80 percent of global production.

Figure 8: World production of top roots and tubers

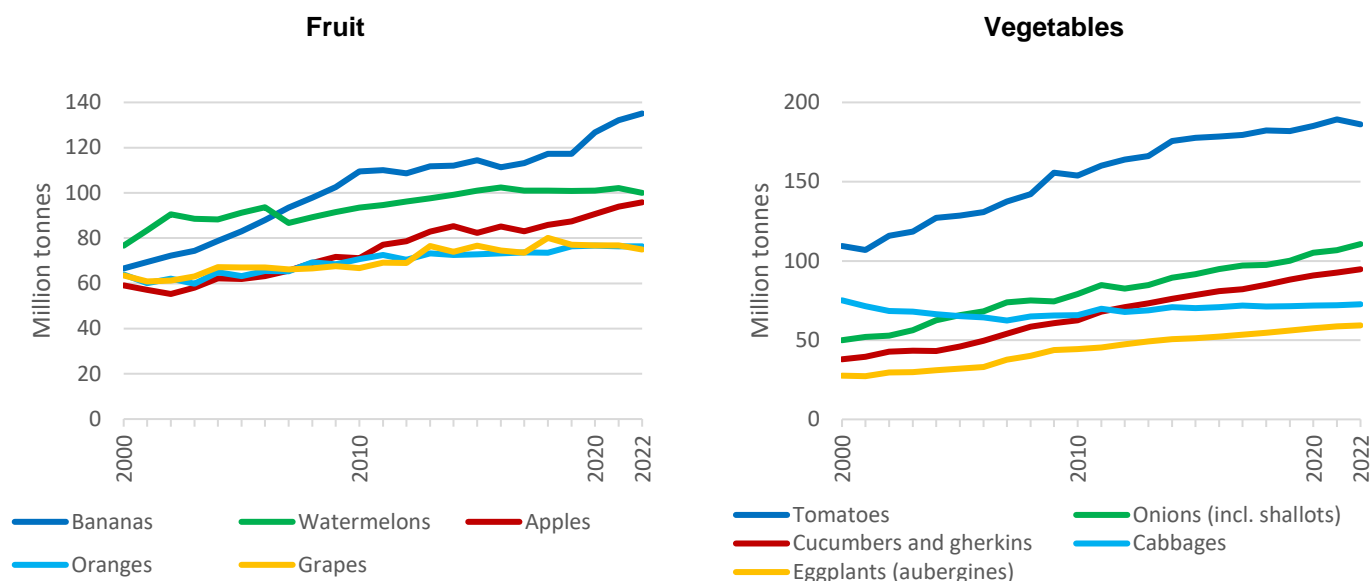


Source: FAO. 2023. Production: Crops and livestock products. In: *FAOSTAT*. Rome. [Cited December 2023]. <https://www.fao.org/faostat/en/#data/QCL>

FRUIT AND VEGETABLES

World fruit production recorded a growth of 63 percent from 2000 to 2022 with a total production volume in 2022 of 933 million tonnes. Bananas were the most produced fruit, with 135 million tonnes in 2022, followed by watermelons (100 million tonnes), apples (96 million tonnes), oranges (76 million tonnes) and grapes (75 million tonnes). Bananas and apples demonstrated a steady upward trend in the global agricultural production, while watermelons, oranges and grapes, after growing until the mid-late 2010s, stabilized in recent years. The global production of vegetables went up by 71 percent since 2000, reaching 1.17 billion tonnes in 2022. Tomatoes ranked as the most produced vegetable with 186 million tonnes in 2022, followed by onions (111 million tonnes, including shallots), cucumbers (95 million tonnes, including gherkins), cabbages (73 million tonnes) and eggplants (59 million tonnes). The production of the top five vegetables cultivated worldwide almost doubled from 2000 to 2022, except for cabbages, whose volumes remained stable.

Figure 9: World production of top fruit and vegetables



Source: FAO. 2023. Production: Crops and livestock products. In: *FAOSTAT*. Rome. [Cited December 2023]. <https://www.fao.org/faostat/en/#data/QCL>

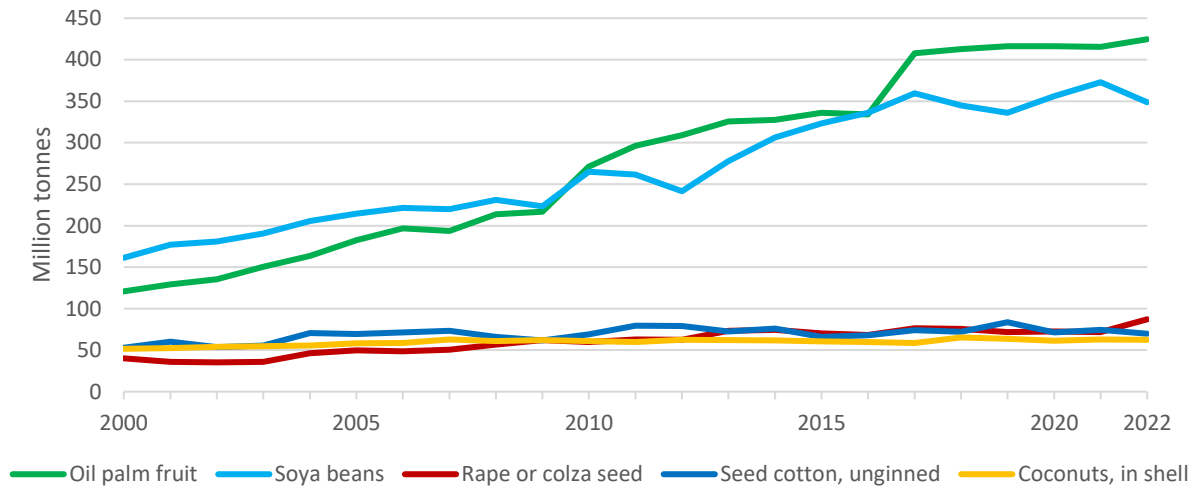
OIL CROPS

Oil palm fruit, soya beans, rape (or colza) seed, seed cotton (unginned) and coconut (in shell) were the main oil crops produced in the world in 2022 (Figure 10). Oil palm fruit and soya beans were by far the most important commodities in terms of production volumes, with 425 million tonnes and 349 million tonnes, respectively. These two crops showed an extremely robust growth since 2000: +251 percent for oil palm fruit and +116 percent for soya beans. In contrast, rapeseed, seed cotton (unginned) and coconuts (in shell) showed similar production levels over the past decades, reporting to a total of 87, 70 and 62 million tonnes in 2022, respectively, with rapeseed expanding the most from 2000.

Asia accounted for nearly all the global oil palm fruit production with Indonesia, Malaysia and Thailand together producing 87 percent of the total in 2022 (Figure 11). The Americas produced most of the soya beans, with Brazil, the United States of America and Argentina representing over 80 percent of the total. China and India are the leading producers of seed cotton (unginned); together with the United States of America, they produced 60 percent of the world total in 2022. Canada, China and India are the main producers of rapeseed. Coconuts are prevalently produced in Asia, with Indonesia, the Philippines and India as the top producers.

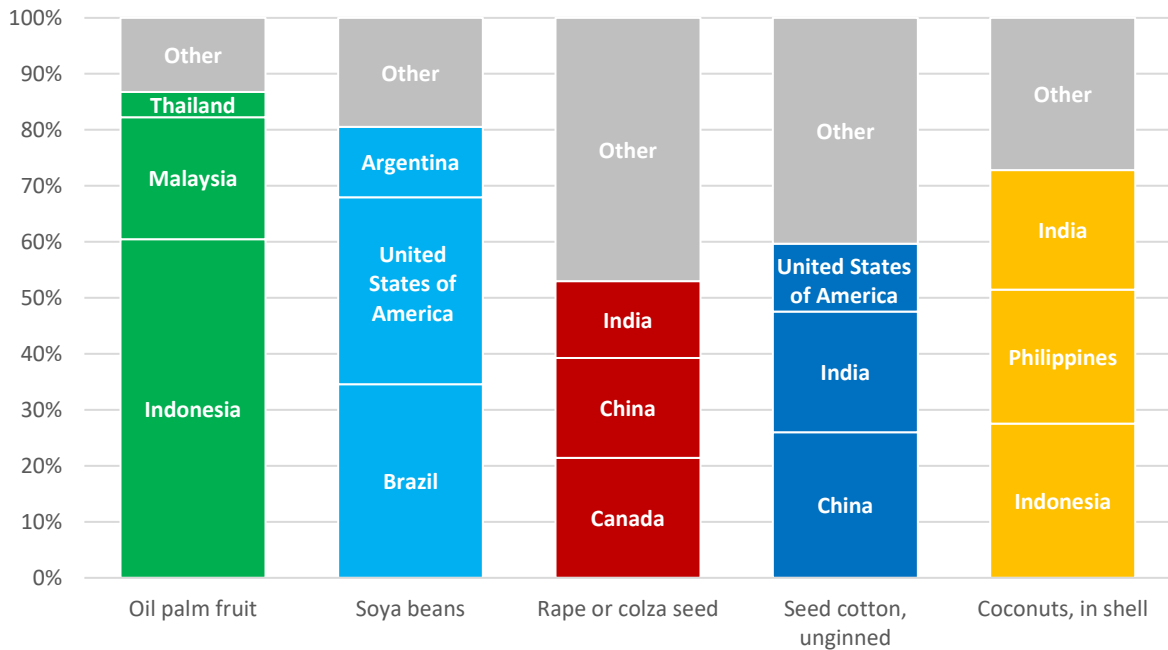
In recent years, Malaysia has presented a decline in the production of oil palm fruit (which is also reflected in the production of palm oil), which is mainly related to labour shortages caused by the COVID-19 pandemic, as well as severe storms and flooding in 2020, the volatility of currency exchange rates that led to an increase in production costs, and the geopolitical instability in the region. However, palm oil production started to recover in 2022 from the drop in 2021, which could indicate a return to the previous high levels in oil palm fruit production.

Figure 10: World production of top oil crops



Source: FAO. 2023. Production: Crops and livestock products. In: *FAOSTAT*. Rome. [Cited December 2023]. <https://www.fao.org/faostat/en/#data/QCL>

Figure 11: Top largest oil crops producers in 2022



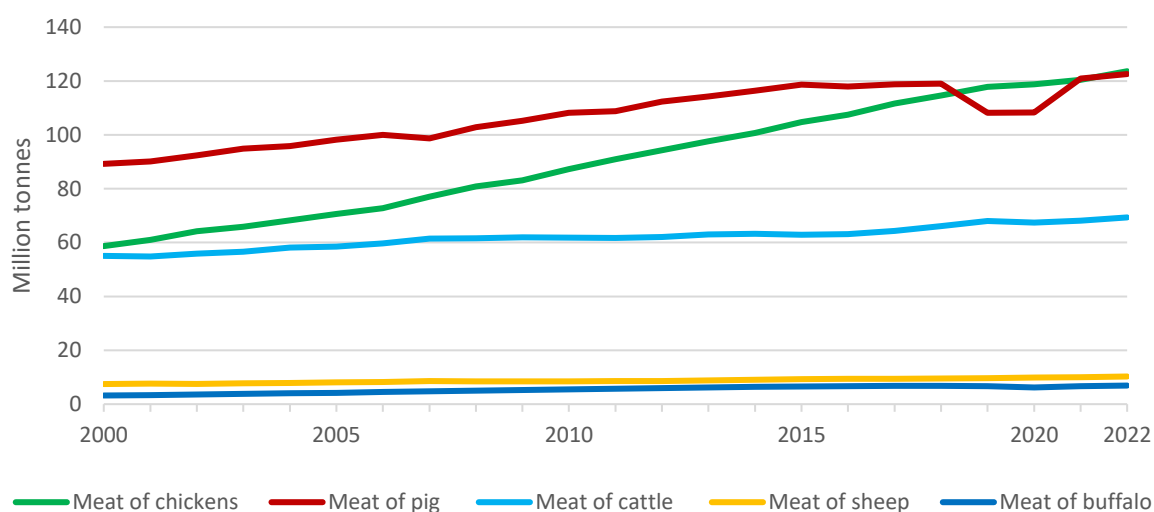
Source: FAO. 2023. Production: Crops and livestock products. In: *FAOSTAT*. Rome. [Cited December 2023]. <https://www.fao.org/faostat/en/#data/QCL>

PRIMARY LIVESTOCK

MEAT

Chicken, pig, cattle, sheep and buffalo were the most produced meats between 2000 and 2022 (Figure 12), accounting for 92 percent (333 million tonnes) of the total meat production in 2022. The production of chicken meat grew at the strongest pace (+111 percent), thus overtaking the volume of pig meat produced in 2019, as the African swine fever affected Asian countries. After declining in 2019 and 2020, pig meat production recovered in 2021 with 121 million tonnes and confirmed its recovery in 2022, even exceeding the historical production levels with 123 million tonnes. Production of cattle, sheep and buffalo meat showed regular and steady growth, reaching 69, 10 and 7 million tonnes in 2022, respectively. At the regional level, Asia is the main producer of meat (43 percent of the global total), followed by the Americas (31 percent), Europe (18 percent), Africa (6 percent) and Oceania (2 percent).

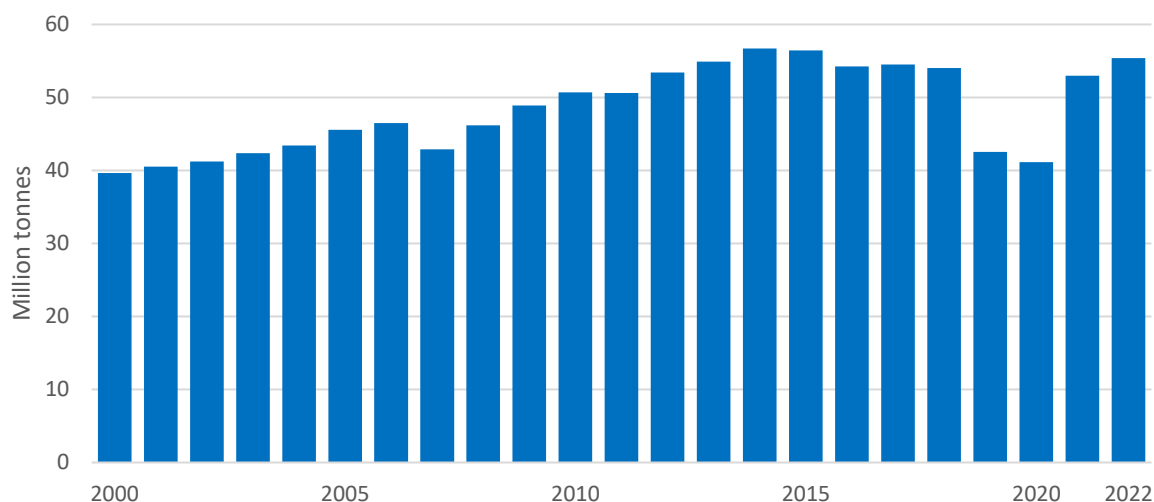
Figure 12: World production of top meat commodities



Source: FAO. 2023. Production: Crops and livestock products. In: *FAOSTAT*. Rome. [Cited December 2023]. <https://www.fao.org/faostat/en/#data/QCL>

China is the global leader in pig meat production, accounting on average for 45 percent of the global production between 2000 and 2022. In 2019, the African swine fever epidemic wiped out 28 percent of the local pig population compared to the previous year, and domestic pig meat production dropped by 11 million tonnes (Figure 13), which also affected local prices. The decline in Chinese pig meat production continued in 2020, severely affecting global output due to the magnitude of the role played by the country. In the biennium 2021–2022, China’s pig meat production fully recovered, showing good prospects for stabilizing domestic supply and prices.

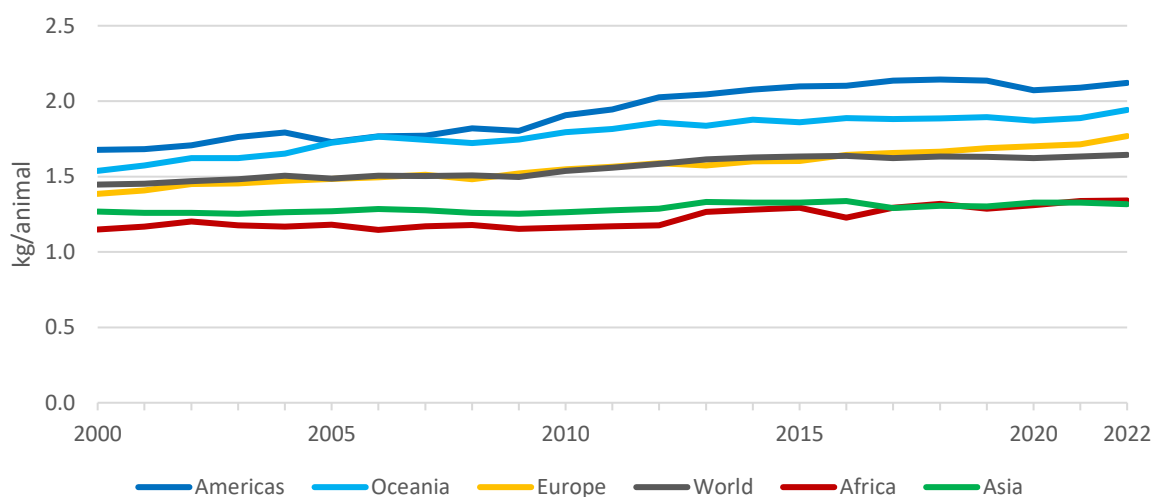
Figure 13: China pig meat production



Source: FAO. 2023. Production: Crops and livestock products. In: *FAOSTAT*. Rome. [Cited December 2023]. <https://www.fao.org/faostat/en/#data/QCL>

The world average chicken carcass weight rose by 14 percent between 2000 and 2022 to 1.6 kg/animal (Figure 14). In the Americas, Oceania and Europe the meat yields went up 26–28 percent, ranging from 1.8 to 2.1 kg/animal in 2022; this is much higher than the 4 and 17 percent growth observed in Asia and Africa, where the yields in 2022 were just above 1.3 kg/animal. These trends highlight the persistent intensification of farming practices, bringing concerns over the sustainability of animal breeding and meat quality.

Figure 14: Chicken meat carcass weight by region

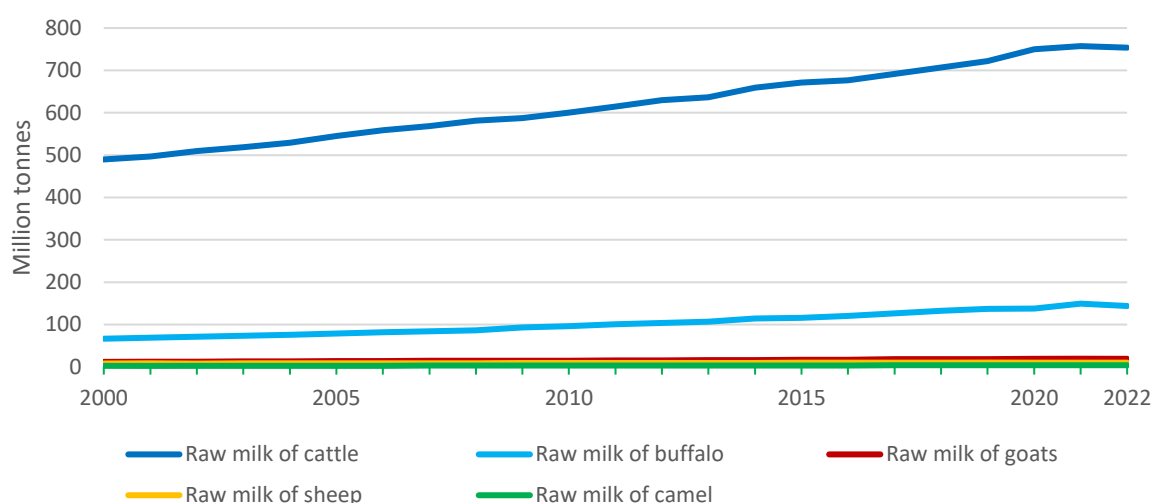


Source: FAO. 2023. Production: Crops and livestock products. In: *FAOSTAT*. Rome. [Cited December 2023]. <https://www.fao.org/faostat/en/#data/QCL>

MILK

Raw milk of cattle accounted for the largest, although declining, share of total milk production between 2000 and 2022: 85 percent (or 490 million tonnes) in 2000 compared to 81 percent (or an estimated 753 million tonnes) in 2022. The share of raw buffalo milk instead increased from 12 percent in 2000 to 15 percent in 2022, leading to a stable share of the raw bovine milk over total milk production (96 percent). The raw milk from other livestock is deemed to be maintaining its level, below 35 million tonnes (Figure 15).

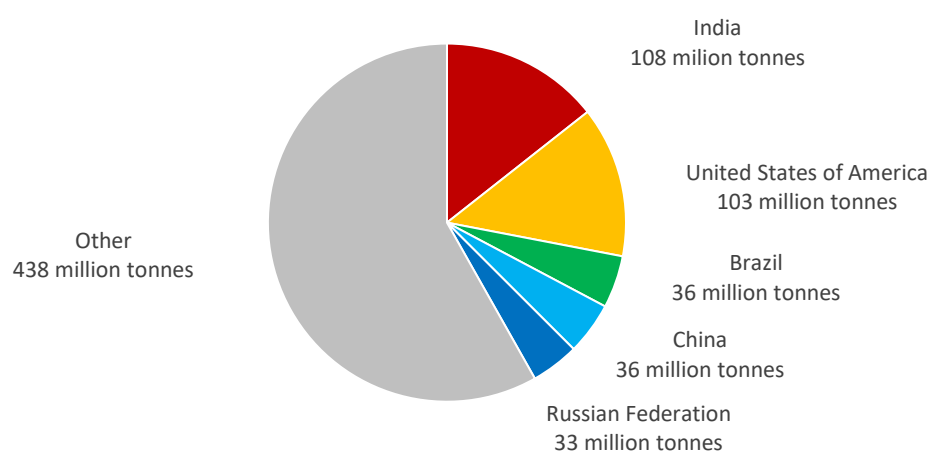
Figure 15: Global production of raw milk by product



Source: FAO. 2023. Production: Crops and livestock products. In: *FAOSTAT*. Rome. [Cited December 2023]. <https://www.fao.org/faostat/en/#data/QCL>

India and the United States of America were the top two producers of raw cattle milk in 2022 (Figure 16), accounting for 108 and 103 million tonnes, respectively. Brazil, China and the Russian Federation followed with similar production levels of 33–36 million tonnes.

Figure 16: World production of milk of cattle in 2022, top producers

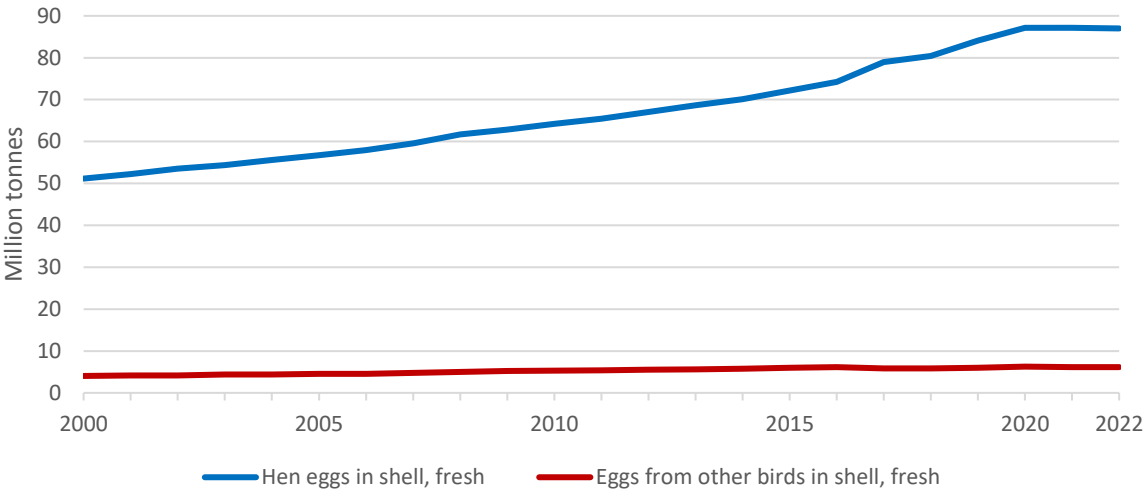


Source: FAO. 2023. Production: Crops and livestock products. In: *FAOSTAT*. Rome. [Cited December 2023]. <https://www.fao.org/faostat/en/#data/QCL>

EGGS

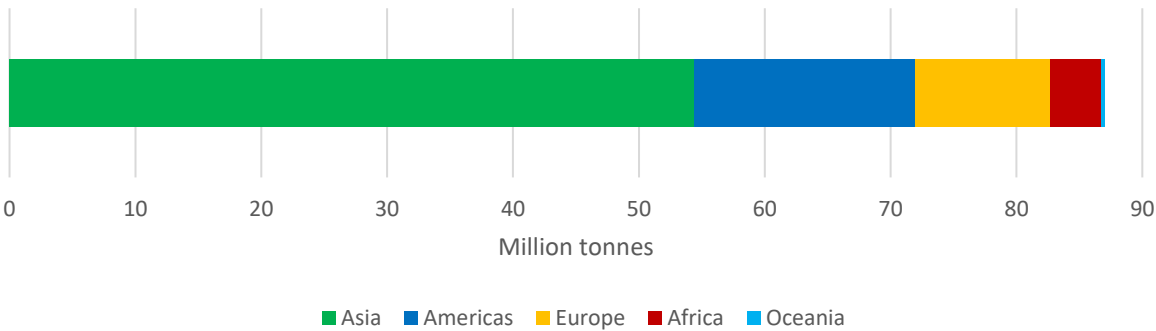
In 2022, world egg production reached 93 million tonnes, with a 69 percent increase compared to 2000. Hen eggs accounted for 93 percent of the global egg production in 2022 with 87 million tonnes; their production increased by 70 percent from 2000 (Figure 17). Asia was the main producer of hen eggs in 2022 (Figure 18), accounting for 63 percent of the global production, followed by the Americas (20 percent), Europe (12 percent), Africa (5 percent) and Oceania (0.4 percent).

Figure 17: Global production of eggs



Source: FAO. 2023. Production: Crops and livestock products. In: *FAOSTAT*. Rome. [Cited December 2023]. <https://www.fao.org/faostat/en/#data/QCL>

Figure 18: World production of hen eggs by region in 2022



Source: FAO. 2023. Production: Crops and livestock products. In: *FAOSTAT*. Rome. [Cited December 2023]. <https://www.fao.org/faostat/en/#data/QCL>

EXPLANATORY NOTES

The agricultural production domain covers data on crop and livestock commodities from production volumes to harvested areas and animal slaughtering rates. In addition, data for selected processed crop and livestock products, synchronized and derived from the Food Balance Sheets domain, are also available up to the year 2021. Crop and livestock statistics are recorded for 278 products, covering the following categories: 1) crops primary, 2) crops processed, 3) live animals, 4) livestock primary and 5) livestock processed.

The main data source is official statistics from FAO member countries, collected either through annual production questionnaires distributed to countries, from national publications or from official country websites. The source data can originate from surveys, administrative data and estimates based on expert observations. The type of source used by countries can significantly affect the reliability and comparability of data. In instances where no official data is available, data from unofficial sources (as specialized international commodity institutes such as Oil World or the US Department of Agriculture) may be used. If no data from either official or unofficial sources are available, data are imputed. Data on the primary commodities for members of the European Union are obtained from Eurostat (with some minor exceptions) starting from the year 2018.

This analytical brief was prepared by Livia Lombardi with inputs from Piero Conforti, Cristina Valdivia, Irina Kovrova and Olivier Lavagne d'Ortigie.

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