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Agricultural production statistics 2010–2023

HIGHLIGHTS

- The global production of primary crops reached 9.9 billion tonnes in 2023, increasing by 3 percent since 2022 and 28 percent since 2010.
- World cereal production increased by 61 million tonnes, or 2 percent, between 2022 and 2023, driven by an increase in maize output.
- World production of sugar crops increased by 122 million tonnes between 2022 and 2023. Sugar cane was by far the main sugar crop, with more than 2 billion tonnes in 2023 compared to 281 million tonnes for sugar beet.
- The global production of roots and tubers increased by 2 percent between 2022 and 2023, mainly due to the moderate growth in cassava and potato production.
- In 2023, world fruit and vegetable production reached 2.1 billion tonnes, up 1 percent from 2022.
- The global production of oil palm fruit, soya beans and rapeseed, the main oil crops, reached 872 million tonnes in 2023.
- The volume of chicken, pig and cattle, the main meats produced worldwide, reached 321 million tonnes in 2023.
- India and the United States of America were the top producers of raw cattle milk in 2023, accounting for 127 and 103 million tonnes, respectively.
- In 2023, world egg production reached 97 million tonnes.

FAOSTAT CROPS AND LIVESTOCK PRODUCTION

INTRODUCTION

Agriculture plays a key role in achieving the Sustainable Development Goals (SDGs). It facilitates access to nutritious and healthy food, while supporting the development of sustainable production systems. The sustainability of agrifood systems poses challenges that affect each territory differently. Understanding these challenges is critical for targeting the appropriate drivers of agricultural development and promoting effective policies without overexploiting resources.

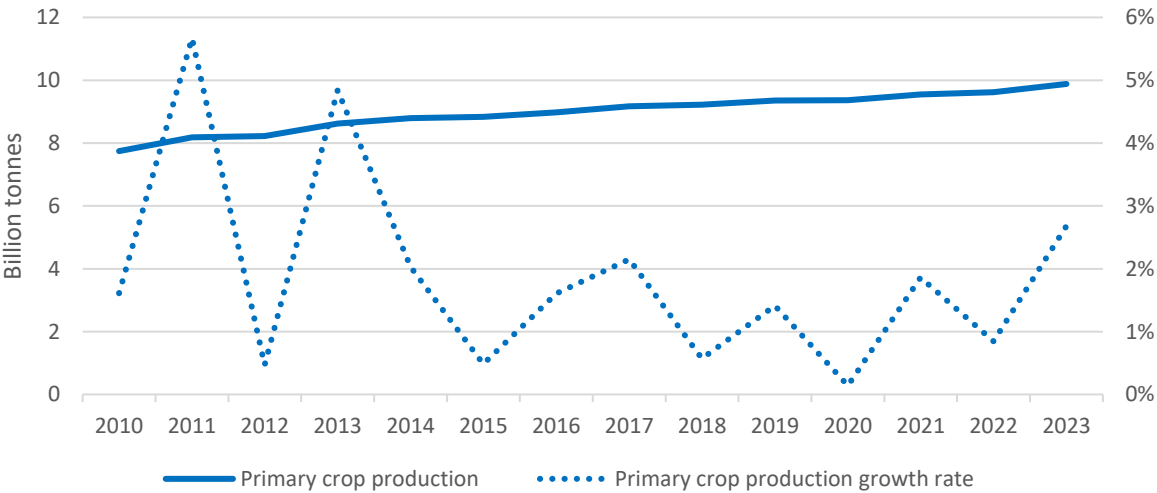
National institutions, stakeholders and international organizations are called upon investing in the information processes to gather up-to-date knowledge on the condition of the agricultural production systems. The Statistics Division (ESS) of the Food and Agriculture Organization of the United Nations (FAO) promotes the collection and dissemination of harmonized agricultural production data from 199 countries and territories. This analytical brief summarizes and highlights relevant patterns from 2010 up to 2023, as observed in the latest data published on the FAOSTAT data platform.

OVERVIEW OF THE GLOBAL AGRICULTURAL PRODUCTION OF PRIMARY CROPS ITEMS

Over the last decade, the global production volumes of primary crops showed a steady upward trend (Figure 1), with an increase of more than 2 billion tonnes between 2010 and 2023. This was facilitated by the enhancement of production technologies and the intensification of cultivation activities; particularly the increased use of irrigation, pesticides, fertilizers and high-yielding varieties, as well as the expansion of cultivated areas.

Since 2010, the growth rate of crop production went through several ups and downs, with peaks of about 5–6 percent. The smallest expansion was recorded in 2020 (0.1 percent), during the COVID-19 pandemic. The year 2011 closed with the highest growth rate of the period (5.7 percent), in line with the recovery from the 2008 financial crisis. Cereals and sugar crops were the commodity groups at the forefront of changes in global production. The 2020 downturn was primarily due to adverse weather, political regulations, and the yellow beet virus affecting sugar cane and sugar beet production, rather than the global economic slowdown caused by the pandemic. In 2022, output growth barely reached 1 percent, which is likely due to the market effects of the war in Ukraine and high inflation. Since 2015, growth gradually shrunk compared to the surges observed in 2011 and 2013, ranging from 0.1 percent to 2.7 percent, with the highest peak occurring in 2023. This recent increase was driven by the expansion of sugar cane production in Brazil and India, due to favourable weather conditions and the ethanol market expansion, respectively.

Figure 1: World primary crop production volumes and growth rate



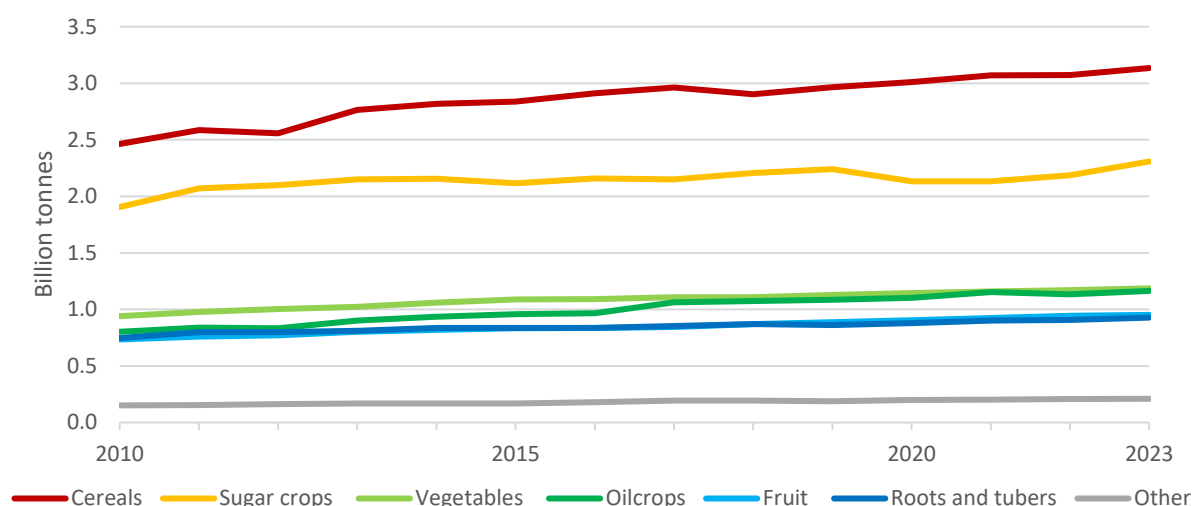
Source: FAO. 2024. FAOSTAT: Production: Crops and livestock products. [Accessed December 2024]. <https://www.fao.org/faostat/en/#data/QCL>. Licence: CC-BY-4.0.

PRIMARY CROPS

Global agricultural production of primary crops grew by 28 percent between 2010 and 2023, reaching 9.9 billion tonnes in 2023 (Figure 1). Crops were mostly used as food, feed or processed into a range of products, from biofuels to cosmetics. Figure 2 shows the production of each commodity group from 2010 to 2023, reflecting gains or losses in global production shares over time. Several events contributed to these outcomes, from changes in cultivated area to innovations affecting productivity, to policy shifts or exceptional events, climate-related variability and changes.

Cereals are the leading group of primary crops produced worldwide, with 3.1 billion tonnes produced in 2023 (Figure 2) followed by sugar crops (2.3 billion tonnes), vegetables (1.2 billion tonnes), oil crops (1.2 billion tonnes), fruit (1 billion tonnes) and roots and tubers (0.9 billion tonnes). Since 2010, the share of sugar crops and roots and tubers decreased in favour of fruit and oil crops. In particular, the production of oil crops recorded the largest growth rate over the period, with an increase of 45 percent between 2010 and 2023, while sugar crops had the smallest increase (21 percent).

Figure 2: Global production of primary crops by commodity group



Source: FAO. 2024. FAOSTAT: Production: Crops and livestock products. [Accessed December 2024]. <https://www.fao.org/faostat/en/#data/QCL>. Licence: CC-BY-4.0.

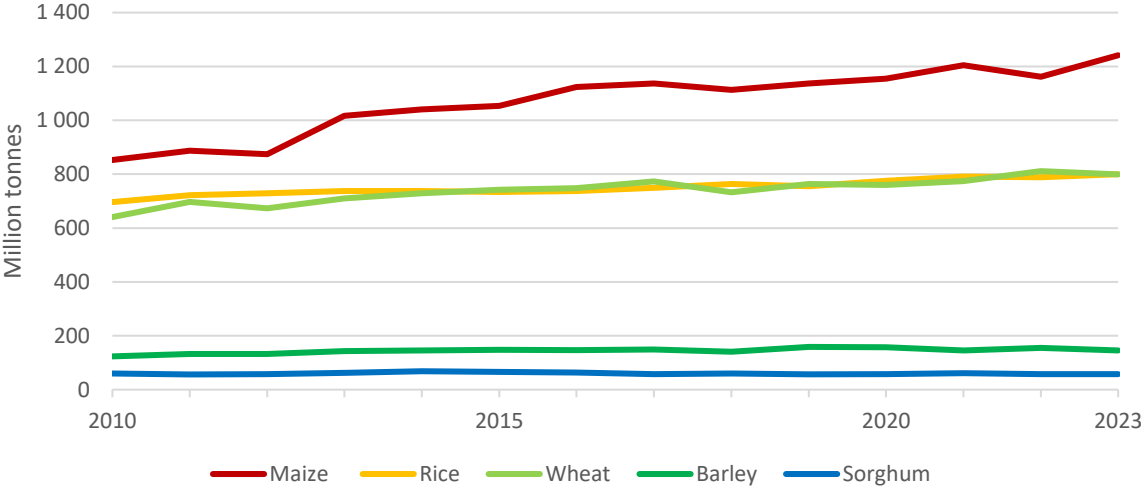
CEREALS

Maize, rice, wheat, barley and sorghum were the five most produced cereals in 2023 (Figure 3). Maize recorded the highest production (1.2 billion tonnes) and the fastest growth since 2010 (46 percent) compared to the other top cereals, as it is widely used in sectors other than food, like biofuels or animal feed. In 2023, maize production recovered from the decline observed in 2022, which was associated with widespread droughts in Europe, and surpassed the 2021 level. Rice and wheat showed similar production levels in 2023 but different growth rates since 2010: 800 million tonnes and 15 percent for rice, compared to 799 million tonnes and 25 percent for wheat. Barley and sorghum production volumes were fairly stable throughout the period, reaching 146 and 57 million tonnes in 2023, respectively.

In 2023, the Americas were the top producing region for maize, with the United States of America and Brazil accounting together for 42 percent of the world production (Figure 4). China was the second largest producer, with a share of 23 percent. Asia was the leader in rice production, with the top three

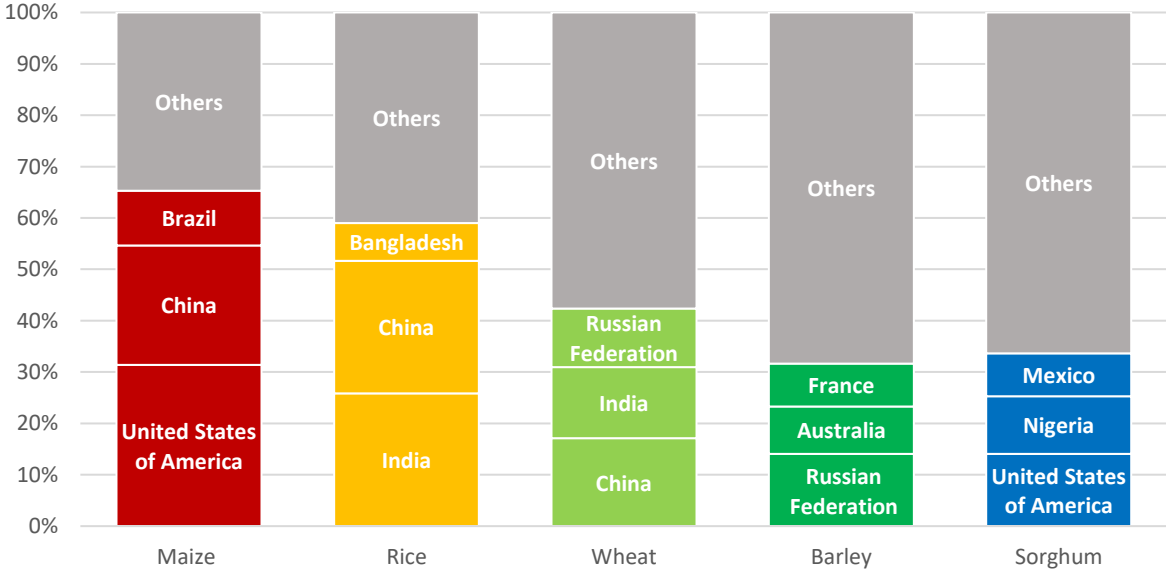
producers in the region: China and India (both accounting for 26 percent of the total), followed by Bangladesh (7 percent). Asia also accounted for a large share of the global wheat production with China (17 percent) and India (14 percent) ranking as the top two producers, while the Russian Federation was the third largest wheat producer in 2023, with 11 percent of the global production. The Russian Federation led barley production, accounting for 14 percent of the total world production, followed by Australia (9 percent) and France (8 percent). In 2023, the United States of America, Nigeria and Mexico produced less than the half of the global output of sorghum with 14, 11 and 8 percent, respectively.

Figure 3: World production of top cereals



Source: FAO. 2024. FAOSTAT: Production: Crops and livestock products. [Accessed December 2024]. <https://www.fao.org/faostat/en/#data/QCL>. Licence: CC-BY-4.0.

Figure 4: Top largest cereal producers in 2023



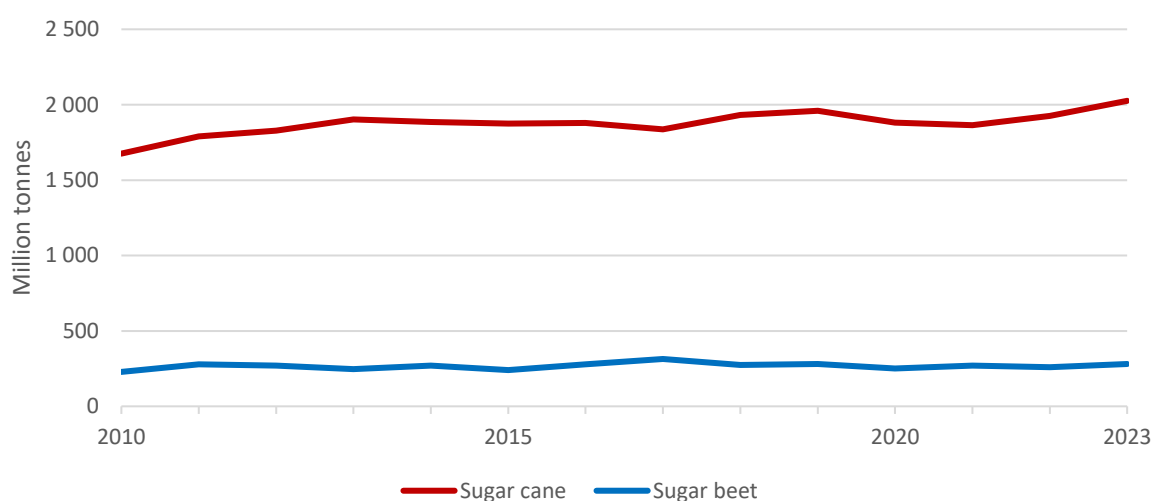
Source: FAO. 2024. FAOSTAT: Production: Crops and livestock products. [Accessed December 2024]. <https://www.fao.org/faostat/en/#data/QCL>. Licence: CC-BY-4.0.

SUGAR CROPS

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

Sugar cane was the main sugar crop, with global volumes exceeding 1.6 billion tonnes since 2010 and rising to more than 2 billion tonnes in 2023 for the first time (Figure 5). Sugar beet volumes stagnated at much lower levels, totalling about 280 million tonnes in 2023. Sugar crops other than cane and beet played a minor role, with less than 1 million tonnes produced in 2023.

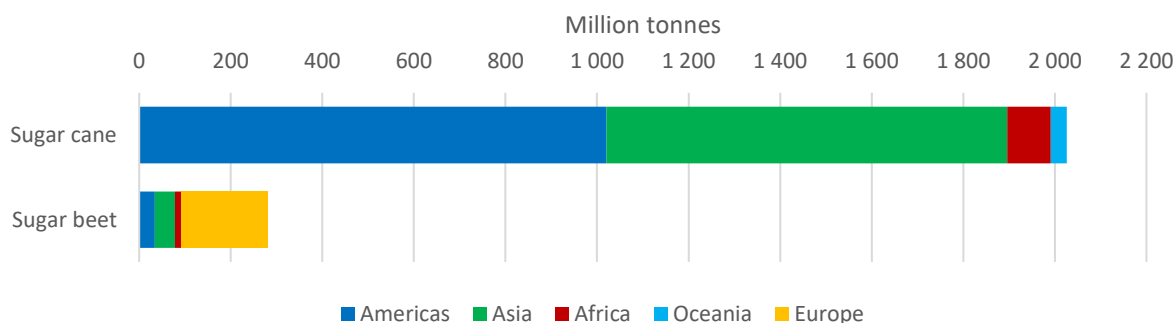
Figure 5: Global sugar crop production by product



Source: FAO. 2024. FAOSTAT: Production: Crops and livestock products. [Accessed December 2024]. <https://www.fao.org/faostat/en/#data/QCL>. Licence: CC-BY-4.0.

The Americas stood out as the leading region for sugar cane production in 2023 (1.02 billion tonnes), followed by Asia with 876 million tonnes. Europe was the main producer of sugar beet with 188 million tonnes (Figure 6).

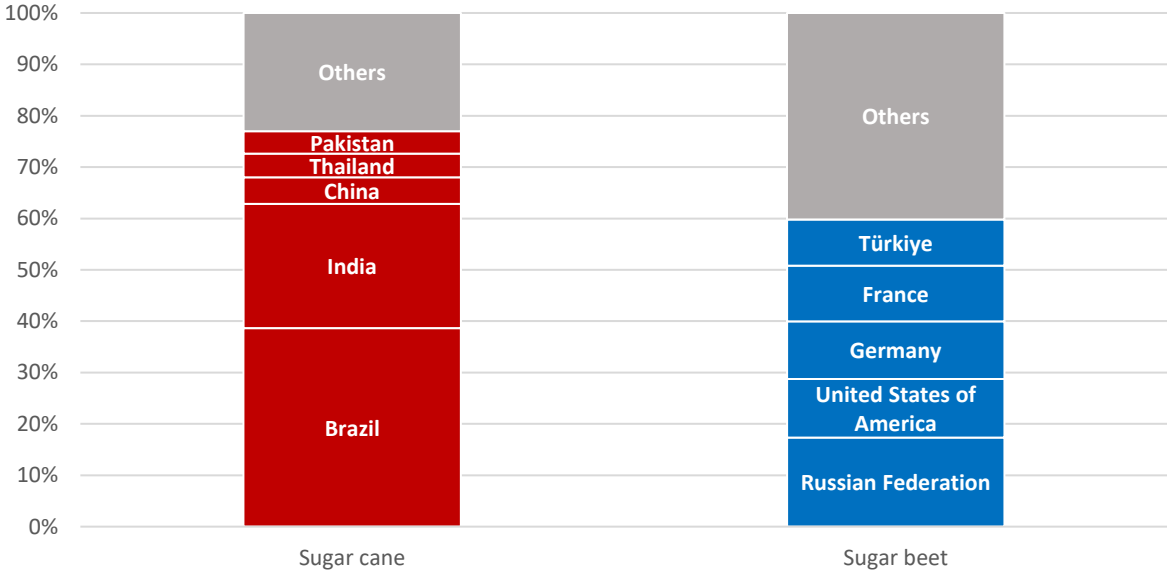
Figure 6: Main sugar crops production by product and region in 2023



Source: FAO. 2024. FAOSTAT: Production: Crops and livestock products. [Accessed December 2024]. <https://www.fao.org/faostat/en/#data/QCL>. Licence: CC-BY-4.0.

Brazil was the largest producer of sugar cane in 2023, accounting for 39 percent of the global production, followed by India (24 percent), China, Pakistan and Thailand (about 5 percent each) (Figure 7). Sugar beet production was more evenly distributed among the largest producers, with the Russian Federation representing 17 percent of global production, and France, the United States of America, Germany and Türkiye producing each between 9 and 11 percent of the total sugar beet output.

Figure 7: Top largest sugar crops producers in 2023



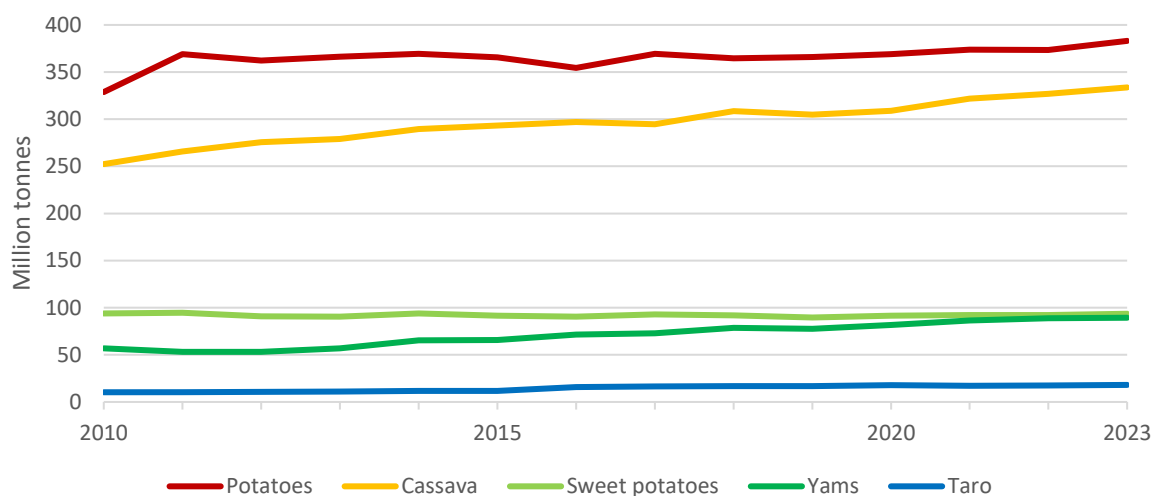
Source: FAO. 2024. FAOSTAT: Production: Crops and livestock products. [Accessed December 2024]. <https://www.fao.org/faostat/en/#data/QCL>. Licence: CC-BY-4.0.

ROOTS AND TUBERS

Potatoes, cassava, sweet potatoes, yams and taro are the major roots and tubers produced globally (Figure 8). Potatoes were the most produced commodity in the group, with 383 million tonnes in 2023, (up 17 percent compared to 2010), followed by cassava with 334 million tonnes (up 32 percent compared with 2010). The production of each of the remaining roots and tubers was below 100 million tonnes in 2023, with divergent trends since 2010. The production of sweet potatoes recorded a slight decline, while yam and taro volumes grew by 57 percent and 76 percent, respectively. Roots and tubers were mainly produced in Africa and Asia, with 379 and 364 million tonnes in 2023, respectively, thus together accounting for 80 percent of global production.



Figure 8: World production of top roots and tubers

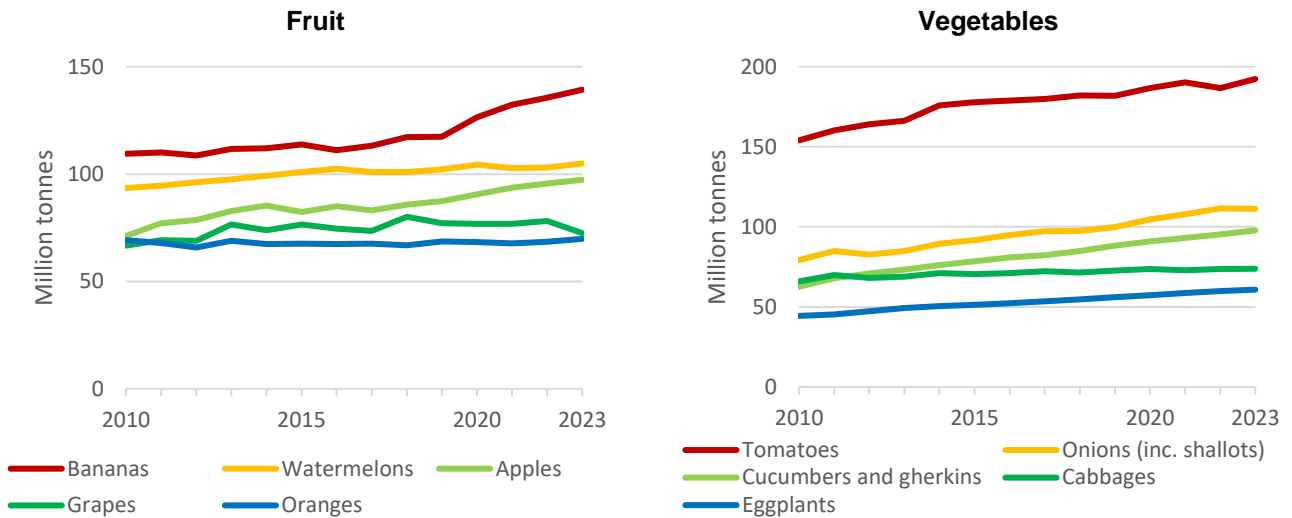


Source: FAO. 2024. FAOSTAT: Production: Crops and livestock products. [Accessed December 2024]. <https://www.fao.org/faostat/en/#data/QCL>. Licence: CC-BY-4.0.

FRUIT AND VEGETABLES

World fruit production recorded a growth of 30 percent from 2010 to 2023 with a total production volume in 2023 of 952 million tonnes. Bananas were the most produced fruit, with 139 million tonnes in 2023, followed by watermelons (105 million tonnes), apples (97 million tonnes), grapes (72 million tonnes) and oranges (70 million tonnes). The global production of bananas and apples showed the fastest growth (27 percent and 37 percent over the period, respectively), while watermelons and grapes grew at a much slower pace (9–12 percent) and oranges remained stable (1 percent). The global production of vegetables went up by 26 percent since 2010, reaching 1.2 billion tonnes in 2023. Tomatoes ranked as the most produced vegetable with 192 million tonnes in 2023, followed by onions (111 million tonnes, including shallots), cucumbers (98 million tonnes, including gherkins), cabbages (74 million tonnes) and eggplants (61 million tonnes). The production of onions, cucumbers and eggplants showed a strong increase (40–56 percent) between 2010 and 2023; the production of tomatoes grew by 25 percent, in line with the vegetables total, while cabbages went up by 12 percent.

Figure 9: World production of top fruit and vegetables

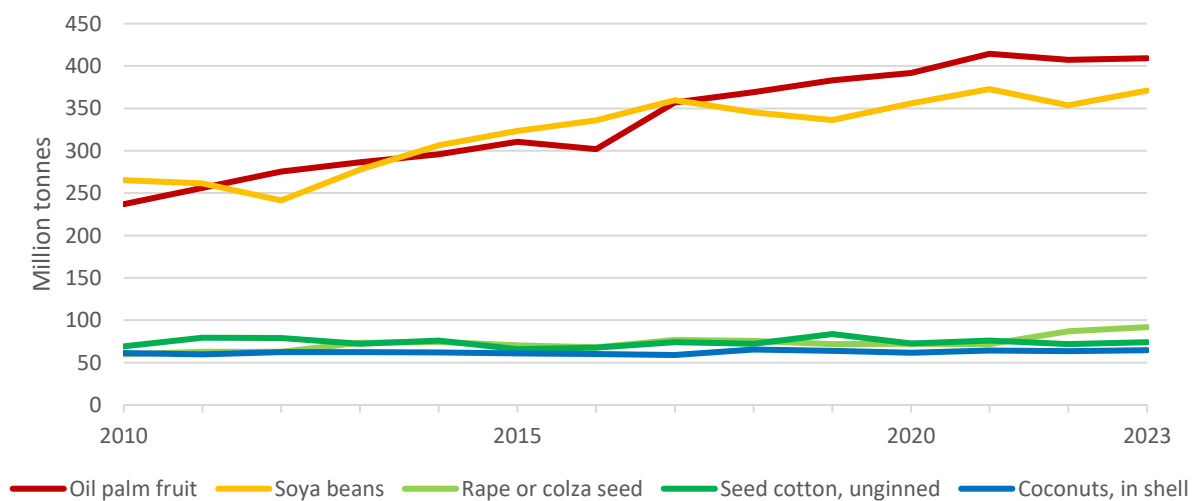


Source: FAO. 2024. FAOSTAT: Production: Crops and livestock products. [Accessed December 2024]. <https://www.fao.org/faostat/en/#data/QCL>. Licence: CC-BY-4.0.

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 2023 (Figure 10). Oil palm fruit and soya beans were by far the most important commodities in terms of production volumes, with 409 million tonnes and 371 million tonnes, respectively. These two crops showed an extremely robust growth since 2010: 73 percent for oil palm fruit and 40 percent for soya beans. Rapeseed production followed at much lower levels, reaching 92 million tonnes in 2023 and exhibiting a remarkable growth rate of 53 percent since 2010. Seed cotton (unginned) and coconuts (in shell) showed similar and stable production levels over the past decade, with a total of 74 and 65 million tonnes in 2023, respectively (growing by 6–7 percent).

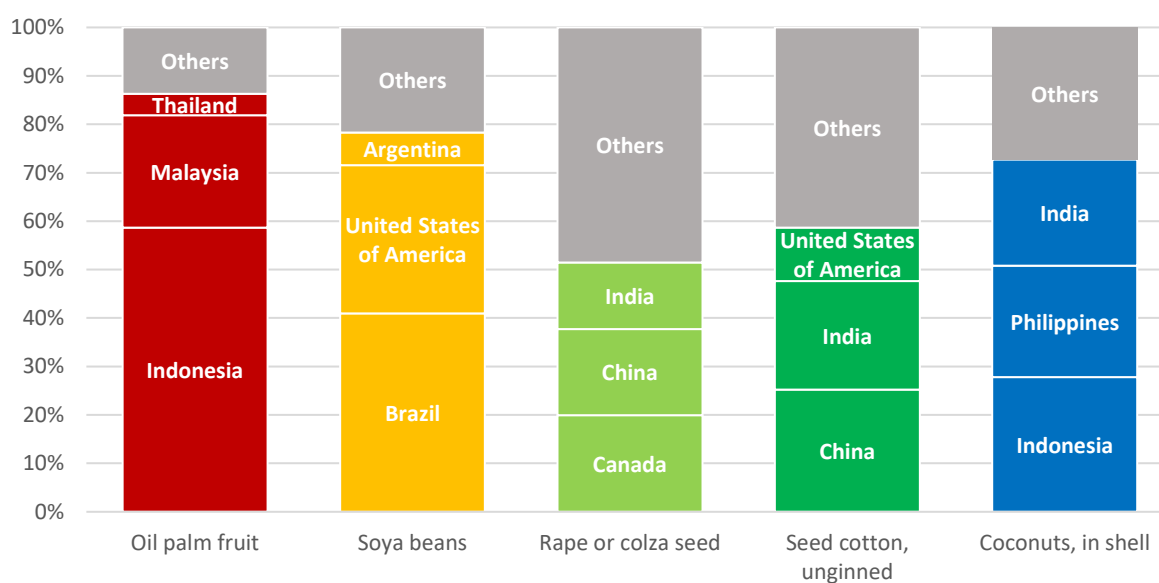
Figure 10: World production of top oil crops



Source: FAO. 2024. FAOSTAT: Production: Crops and livestock products. [Accessed December 2024]. <https://www.fao.org/faostat/en/#data/QCL>. Licence: CC-BY-4.0.

Asia accounted for nearly all the global production of oil palm fruit with Indonesia, Malaysia and Thailand together producing 86 percent of the total in 2023 (Figure 11). The Americas produced most of the soya beans, with Brazil, the United States of America and Argentina representing 78 percent of the total. Canada, China and India were the main producers of rapeseed. Furthermore, China and India were the leading producers of seed cotton (unginned); together with the United States of America, they produced almost 60 percent of the world total in 2023. Coconuts were mostly produced in Asia, with Indonesia, the Philippines and India as the top producers and accounting for nearly three-quarters of the global production.

Figure 11: Top largest oil crops producers in 2023



Source: FAO. 2024. FAOSTAT: Production: Crops and livestock products. [Accessed December 2024]. <https://www.fao.org/faostat/en/#data/QCL>. Licence: CC-BY-4.0.

OVERVIEW OF THE GLOBAL AGRICULTURAL PRODUCTION OF PRIMARY LIVESTOCK ITEMS

Over the past decade, the global agricultural production of the main livestock products increased by 26 percent for meat, 34 percent for milk and 40 percent for eggs; The global volumes are dominated by meat of chicken, cattle milk and hen eggs, respectively. This growth is linked to an increase in production yields: the world average chicken carcass weight rose by 8 percent between 2010 and 2023 to 1.7 kg/animal, the productivity of raw milk of cattle by 16 percent to 2 681 kg/animal and the yield of hen eggs by 9 percent to 10.8 kg/laying hens (Table 1). These trends highlight the intensification of farming practices, raising concerns about the sustainability of breeding practices and the quality of outputs.

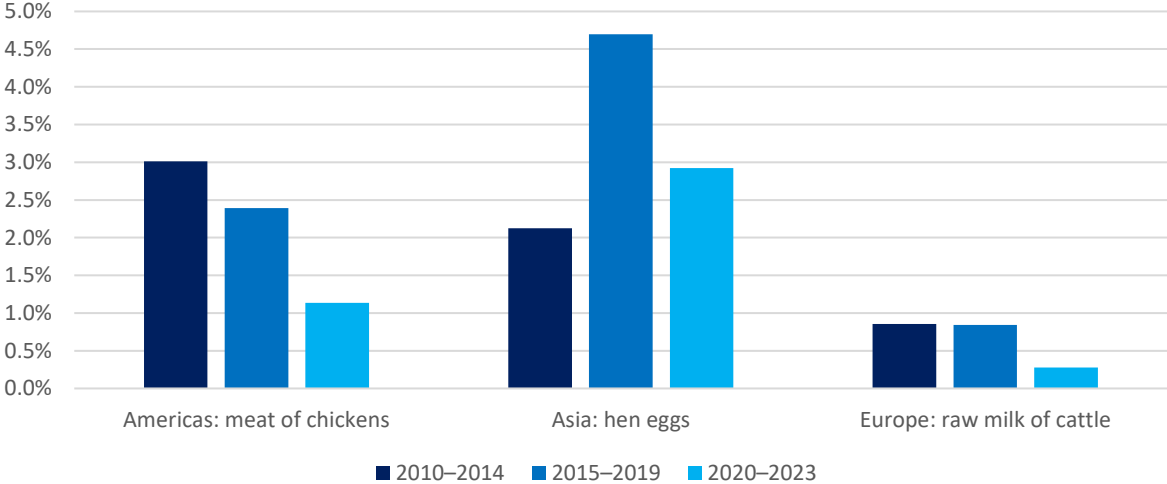
Table 1: World average yields of the main livestock products (kg/animal)

	2010	2015	2023	Growth (2010–2023)
Meat of chickens	1.5	1.6	1.7	8%
Raw milk of cattle	2 267	2 458	2 681	16%
Hen eggs in shell, fresh	9.9	10.2	10.8	9%

Source: FAO. 2024. FAOSTAT: Production: Crops and livestock products. [Accessed December 2024]. <https://www.fao.org/faostat/en/#data/QCL>. Licence: CC-BY-4.0.

On average, the Americas, Asia and Europe were the leading producers of the main livestock products. The Americas led in chicken meat production, averaging 45 million tonnes over the past decade, Asia in fresh hen eggs with 46 million tonnes and Europe in raw cattle milk with 218 million tonnes. Each region showed a significant increase in volumes over time, but with different growth rates. In particular, chicken meat production in the Americas grew at an increasingly slower pace between 2010 and 2023. The very low increase after 2020 for chicken meat production in the Americas and hen eggs production in Asia can be linked to outbursts of highly pathogenic avian influenza (Figure 12).

Figure 12: Average growth rates of production in the top regions, for the main livestock products



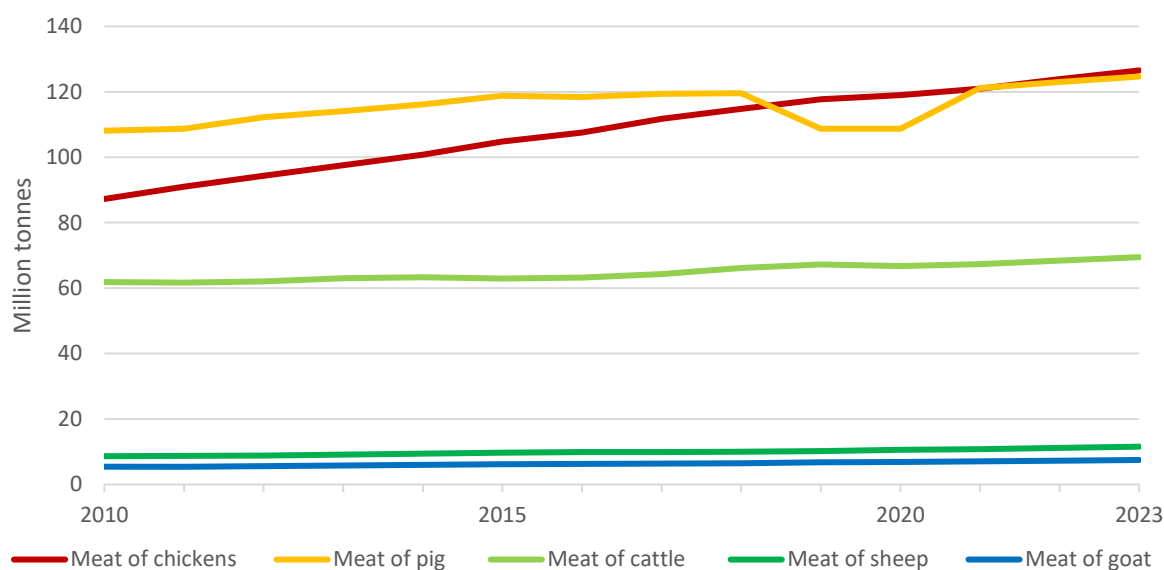
Source: FAO. 2024. FAOSTAT: Production: Crops and livestock products. [Accessed December 2024]. <https://www.fao.org/faostat/en/#data/QCL>. Licence: CC-BY-4.0.

While the chicken meat growth rate in the Americas slowed, the chicken carcass weight, in absolute terms, increased by 200 grams over the same period. This clear divergence indicates an intensification of farming practices: data from the United States of America and Brazil, the leading producers, revealed consistent animal off-take rates alongside increased meat production.

MEAT

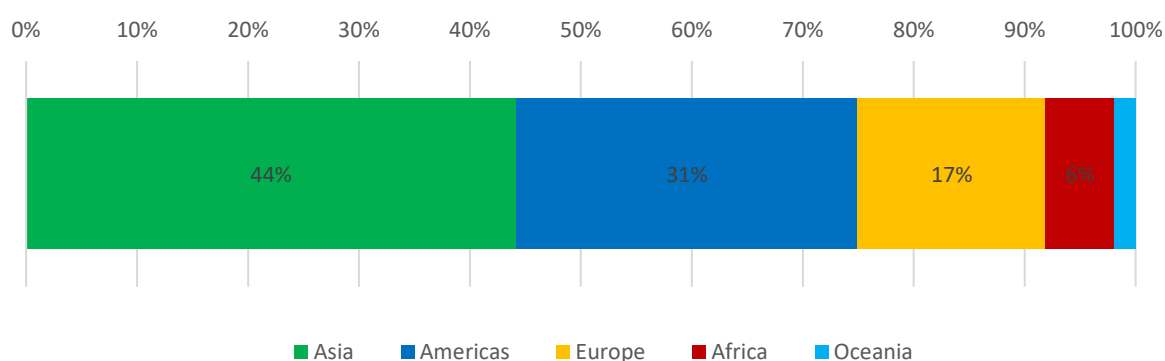
Chicken, pig, cattle, sheep and goat were the most produced meats between 2010 and 2023 (Figure 14), accounting for 92 percent (340 million tonnes) of the total meat production in 2023. The production of chicken meat grew at the fastest pace (45 percent) and overtook pig meat production in 2019, as African swine fever affected Asian countries and China in particular. After declining in 2019 and 2020, pig meat production rebounded in 2021 with 121 million tonnes and confirmed the recovery afterwards, reaching a record-high level of 125 million tonnes in 2023. Production of cattle, sheep and buffalo meat showed a steadier growth, reaching 69, 12 and 7 million tonnes in 2023, respectively. At the regional level (Figure 15), Asia is the main producer of meat (44 percent of the global total), followed by the Americas (31 percent), Europe (17 percent), Africa (6 percent) and Oceania (2 percent).

Figure 13: World production of top meat commodities



Source: FAO. 2024. FAOSTAT: Production: Crops and livestock products. [Accessed December 2024]. <https://www.fao.org/faostat/en/#data/QCL>. Licence: CC-BY-4.0.

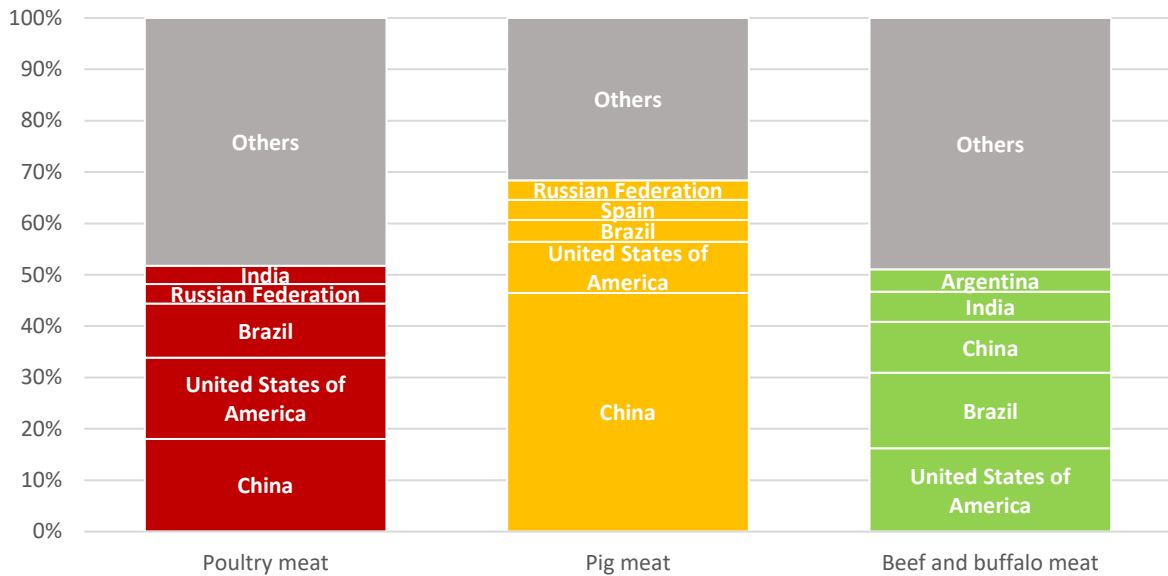
Figure 14: World production of meat by region in 2023



Source: FAO. 2024. FAOSTAT: Production: Crops and livestock products. [Accessed December 2024]. <https://www.fao.org/faostat/en/#data/QCL>. Licence: CC-BY-4.0.

China accounted for almost half of the global production of pig meat in 2023 (46 percent), followed by the Americas with the United States of America and Brazil accounting together for 14 percent (Figure 15). Poultry and beef (including buffalo) were more evenly distributed among the top producers, with China, the United States of America and Brazil sharing between 10 and 18 percent of total production for the two types of meat.

Figure 15: Top meat producers in 2023

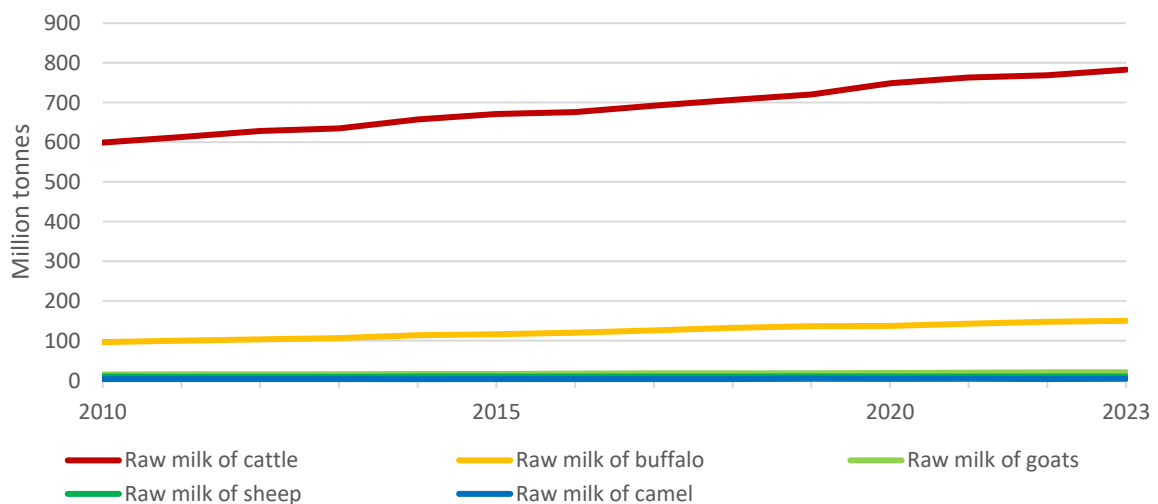


Source: FAO. 2024. FAOSTAT: Production: Crops and livestock products. [Accessed December 2024]. <https://www.fao.org/faostat/en/#data/QCL>. Licence: CC-BY-4.0.

MILK

Raw milk of cattle accounted for the largest global volumes over the period, going from nearly 600 million tonnes in 2010 to 783 million tonnes in 2023. However, its share in total milk production slightly declined, from 83 percent in 2010 to 81 percent in 2023, mostly in favour of raw buffalo milk (which increased its share from 13 to 16 percent in 2023). Raw milk from non-bovine livestock (i.e. goat, sheep and camel) increased from 29 million tonnes in 2010 to 35 million tonnes in 2023 (Figure 16).

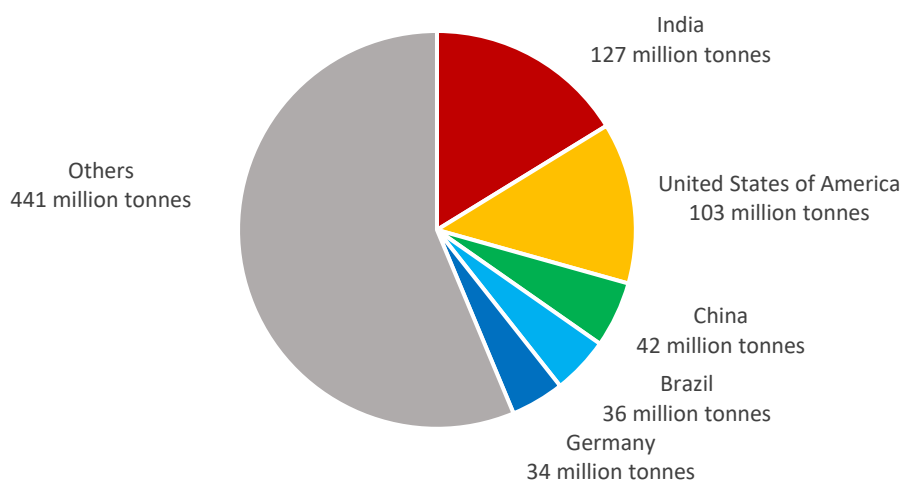
Figure 16: World production of raw milk by product



Source: FAO. 2024. FAOSTAT: Production: Crops and livestock products. [Accessed December 2024]. <https://www.fao.org/faostat/en/#data/QCL>. Licence: CC-BY-4.0.

India and the United States of America were the top producers of raw cattle milk in 2023 (Figure 17), accounting for 127 and 103 million tonnes, respectively. Brazil, China and Germany followed with production levels ranging from 34 to 42 million tonnes.

Figure 17: World production of milk of cattle in 2023, top producers

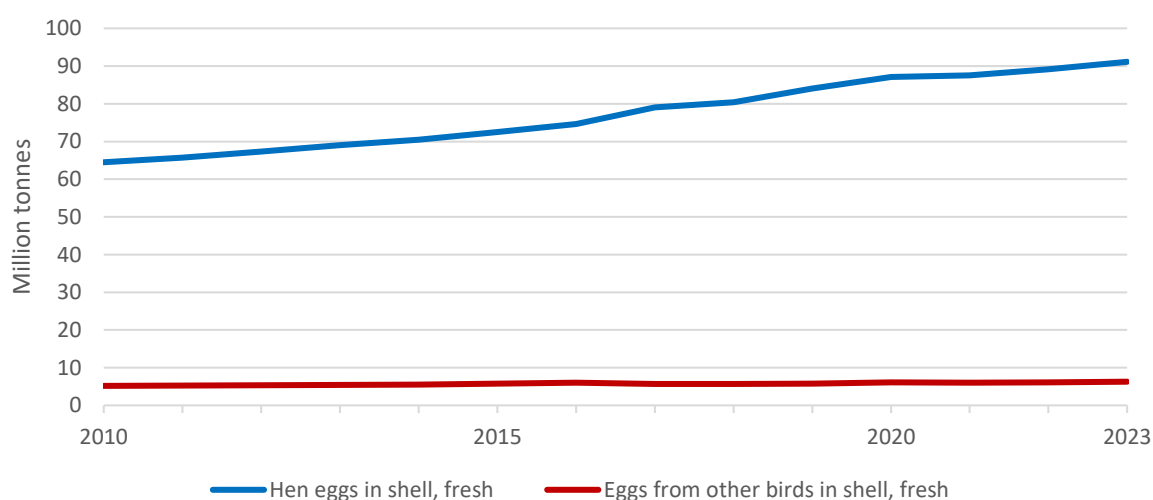


Source: FAO. 2024. FAOSTAT: Production: Crops and livestock products. [Accessed December 2024]. <https://www.fao.org/faostat/en/#data/QCL>. Licence: CC-BY-4.0.

EGGS

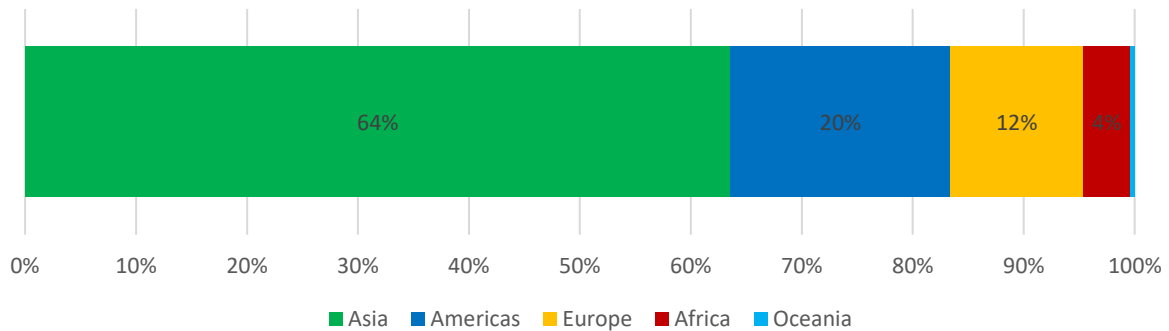
In 2023, world egg production reached 97 million tonnes, a 40 percent increase compared to 2010. Hen eggs accounted for 94 percent of the global egg production in 2023 with 91 million tonnes, which represents an increase by 41 percent from 2010 (Figure 18). Asia was the main producer of hen eggs in 2023 (Figure 19), accounting for 64 percent of the global production, followed by the Americas (20 percent), Europe (12 percent), Africa (4 percent) and Oceania (0.4 percent).

Figure 18: Global production of eggs



Source: FAO. 2024. FAOSTAT: Production: Crops and livestock products. [Accessed December 2024]. <https://www.fao.org/faostat/en/#data/QCL>. Licence: CC-BY-4.0.

Figure 19: World production of hen eggs by region in 2023

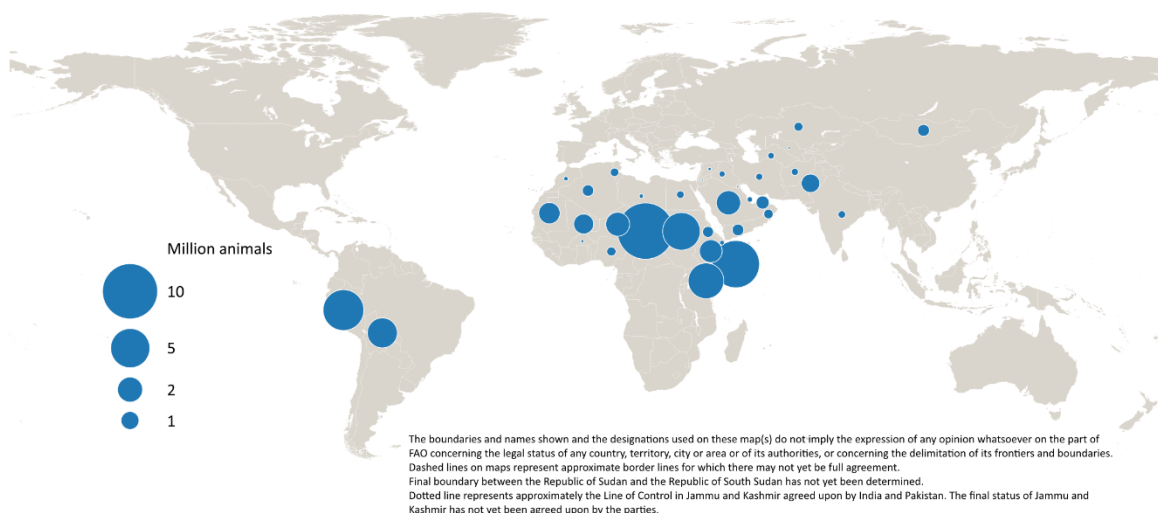


Source: FAO. 2024. FAOSTAT: Production: Crops and livestock products. [Accessed December 2024]. <https://www.fao.org/faostat/en/#data/QCL>. Licence: CC-BY-4.0.

CAMELS AND OTHER CAMELIDS

The United Nations General Assembly declared 2024 the International Year of Camelids (IYC 2024), with FAO the lead agency for the celebrations. Camelids have a high production potential and are even more valuable in extreme weather conditions or landlocked countries. Thanks to their high adaptability and resilience to inhospitable climates, camelids are a vital resource in several areas of Asia, Africa and the Americas, providing both milk and meat products that are characterized by significant nutritive benefits. The global population of camelids reached nearly 51 million in 2023; the largest stocks are found in Chad (10.7 million animals), Somalia (7.5 million) and Peru (5.6 million) (Figure 20). The availability of official production data on camelids is poor. However, the available numbers show increasing trends in meat and dairy outputs, suggesting a growing interest in these species and their potential.

Figure 20: Stock of camelids in 2023



Source: FAO. 2024. FAOSTAT: Production: Crops and livestock products. [Accessed December 2024]. <https://www.fao.org/faostat/en/#data/QCL>. Licence: CC-BY-4.0.

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 2022. 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 is 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, Irina Kovrova and Olivier Lavagne d'Ortigue.

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CONTACTS

Statistics – Economic and Social Development

FAO-Statistics@fao.org

<https://www.fao.org/about/who-we-are/departments/statistics-division>

Food and Agriculture Organization of the United Nations

Rome, Italy