



# OECD-FAO Agricultural Outlook 2018-2027

## OILSEEDS AND OILSEED PRODUCTS



## Chapter 4. Oilseeds and oilseed products

*This chapter describes the market situation and highlights the latest set of quantitative medium-term projections for world and national oilseeds markets for the ten-year period 2018-27. Global oilseeds production is expected to expand at around 1.5% p.a., well below the growth rates of the last decade. Brazil and the United States will be the largest soybean producers, with similar volumes. Protein meal use will grow more slowly due to slower growth in livestock production and as the protein meal share in Chinese feed rations has reached a plateau. Demand for vegetable oil is expected to grow more slowly due to slower growth in per capita food use in developing countries and the projected stagnation in demand as feedstock for biodiesel. Vegetable oil exports will continue to be dominated by Indonesia and Malaysia, while soybean, other oilseeds and protein meal exports are dominated by the Americas. Prices are projected to increase slightly in nominal terms over the outlook period, with slight declines in real terms*

## Market situation

Global soybean production declined slightly in the 2017 marketing year (October 2017 to September 2018), as the harvest in South America (in the first months of 2018) fell short of the year before. Soybean production in the People's Republic of China (hereafter "China") and also in Canada increased considerably, due to the increased attractiveness of soybeans compared to other crops. India, by contrast, saw a decline in production. The aggregate world production of other oilseeds (rapeseed, sunflower seed and groundnuts) in 2017 remained almost unchanged.

The growing demand for protein meals, especially in China, has been the main driver behind the expansion of global oilseed production. However, growth in soybean imports by China has been only moderate in the marketing year 2017, in part due to the destocking of maize.

Vegetable oil production continued to increase in 2017 compared to 2016, although the growth was smaller than in previous years, due to a slow recovery in palm oil production after the 2015 *El Niño*. Increasing import demand around the world became evident and led to the refilling of stocks, including in importing countries. Per capita food use of vegetable oils also continued to grow both in developed and developing countries, though at a much faster rate for developing countries.

Overall the oilseeds and products markets were stable during the marketing years 2016 and 2017 with no major disruptions.

## Projection highlights

In nominal terms, all oilseeds and oilseed product prices are projected to increase slightly over the outlook period. Due to saturated per capita food demand, stagnation in the biodiesel sector and ongoing livestock intensification in many emerging economies, vegetable oil prices will decline at a faster rate than protein meal prices in real terms over the outlook period. Prices for soybeans and other oilseeds are also projected to decline in real terms. Nevertheless, volatility should be expected due to market uncertainties.

During the outlook period, global soybean production is expected to continue to expand, but at 1.5% p.a., which is well below the growth rate of 4.8% p.a. of the last decade. This slowdown is due mainly to a slower area expansion. Brazil and the United States are expected to compete throughout the projection period for the place as largest producer, with production reaching 129 Mt and 131 Mt respectively by 2027. Production of other oilseeds increases by 1.6% p.a. over the next decade, below the 3.1% p.a. growth rate of the previous one. Crushing of soybeans and other oilseeds into meal (cake) and oil continue to dominate usage and will increase faster than other uses, in particular direct food consumption of soybeans, groundnuts and sunflower seeds as well as direct feeding of soybeans. Overall, 90% of world soybean production and 86% of world production of other oilseeds are projected to be crushed in 2027.

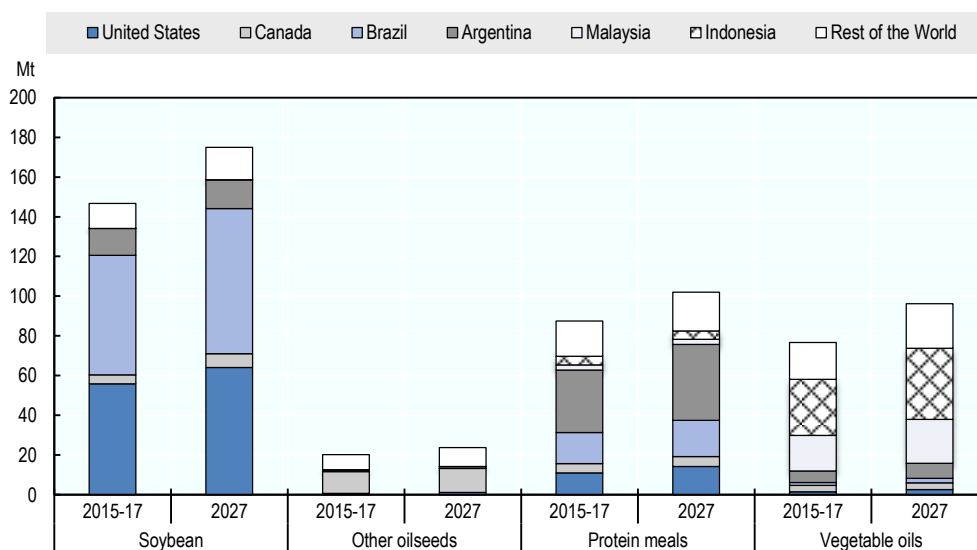
Vegetable oil includes oil obtained from the crushing of soybeans and other oilseeds (about 55% of world vegetable oil production), palm oil (35%), as well as palm kernel, coconut and cottonseed oils. Despite a slowdown in the expansion of the mature oil palm area, significant production growth is projected in Indonesia (1.8% p.a. vs. 6.9% p.a. in the previous decade) and Malaysia (1.4% p.a. vs. 1.3% p.a.). Growth in demand for vegetable oil is expected to be slower in the coming decade due to (i) reduced growth in per capita food use in developing countries (1.2% p.a. compared to 3.2% p.a. in the

previous decade) as consumption levels are approaching saturation levels, and (ii) the projected stagnation in demand for vegetable oils that are used to produce biodiesel.

Protein meal production and consumption is dominated by soybean meal. Compared to the past decade, consumption growth of protein meal (1.6% p.a. vs. 4.2% p.a.) will be limited by slower growth in global livestock production and by the fact that the protein meal share in Chinese feed rations has reached a plateau. Chinese consumption of protein meal is projected to grow by 1.7% p.a. compared to 7.2% p.a. in the previous decade, a rate which still exceeds the growth rate of animal production.

Vegetable oil has one of the highest trade shares (41%) of production of all agricultural commodities. This share is expected to remain stable throughout the outlook period, with global vegetable oil exports reaching 96 Mt by 2027. Vegetable oil exports will continue to be dominated by Indonesia and Malaysia (Figure 4.1), which are strongly export-orientated: nearly 70% of Indonesian and more than 80% of Malaysian vegetable oil production is exported. In both countries the share of exports is expected to slightly decline as more vegetable oil will be used as feedstock for biofuels and vegetable oil consumption for food use will gain importance. Indonesian exports will grow at 1.6% p.a. compared to 5.8% p.a. in the last decade.

**Figure 4.1. Exports of oilseeds and oilseed products by region**



Source: OECD/FAO (2018), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database), <http://dx.doi.org/10.1787/agr-outl-data-en>.

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Soybean, other oilseeds and protein meal exports are dominated by the Americas. Growth in world trade of soybeans is expected to slow considerably in the next decade, a development directly linked to the projected slower growth in soybean crushing in China. In parallel, Brazil will overtake North America as the world's largest exporter of soybean by 2027, its share in the global soybean exports rises to 41.8%, with that of Canada and the United States combined declines to 40.6% by 2027.

Productivity improvements will be necessary to sustain production growth. The scope for increasing soybean and palm oil production will depend on replanting activities and the

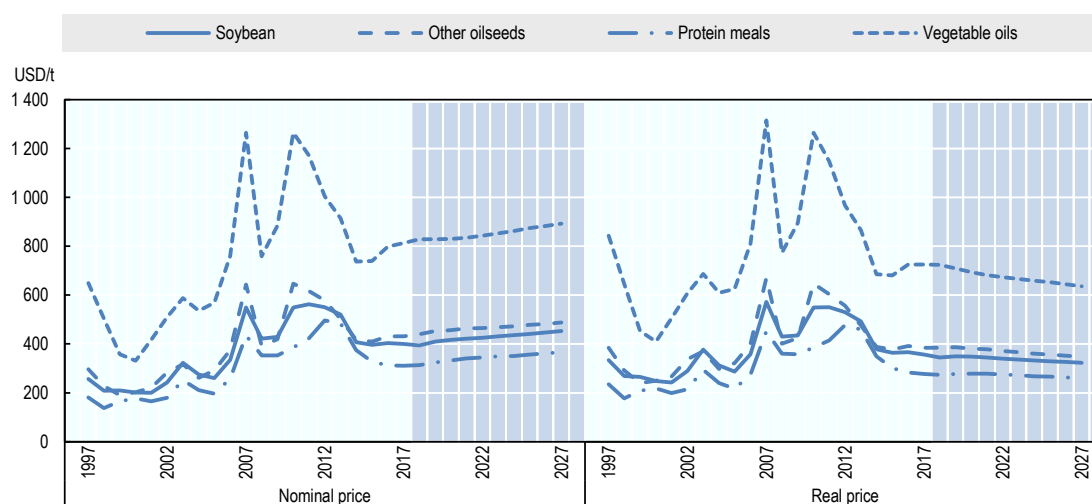
availability of additional land. Palm plantation replanting has been sluggish given low profitability of the sector, especially in Malaysia given rising labour costs. The implications of replanting delays will be seen over the projection period in terms of muted growth in vegetable oil output. Area expansion could be constrained by new legislation seeking to protect the environment. A new certification schemes for sustainable palm oil proposed by importing countries could override current certifications from major exporters. Biofuel policies in the United States, the European Union and Indonesia are also major sources of uncertainty because they account for a considerable share of the vegetable oil demand in these countries. In addition, the issues and uncertainties common to most commodities (e.g. the macroeconomic environment, crude oil prices, and weather conditions) have considerable influence on the oilseed complex.

## Prices

Nominal prices of oilseeds and oilseed products are expected to recover over the medium term due to rising demand for vegetable oil and protein meal, although they are not expected to attain previous highs. Vegetable oil consumption is driven mainly by food demand in developing countries as a consequence of population and income growth. Additionally, the assumed low crude oil prices and the limited additional policy support imply a very small growth in vegetable oil uptake for biodiesel production. The demand for protein meals is driven mainly by growth in non-ruminant livestock and milk production, and the incorporation rate of protein in feed rations in emerging markets.

In real terms, a slight decline in oilseeds and oilseed products prices is expected over the projection period (Figure 4.2), but volatility should be expected due to market uncertainties.

**Figure 4.2. Evolution of world oilseed prices**



*Note:* Soybeans, US, c.i.f. Rotterdam; Other oilseeds, Rapeseed, Europe, c.i.f. Hamburg; Protein meal, production weighted average price for soybean meal, sunflower meal and rapeseed meal, European port; Vegetable oil, production weighted average price for palm oil, soybean oil, sunflower oil and rapeseed oil, European port. Real prices are nominal world prices deflated by the US GDP deflator (2010=1).

*Source:* OECD/FAO (2018), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database), <http://dx.doi.org/10.1787/agr-outl-data-en>.

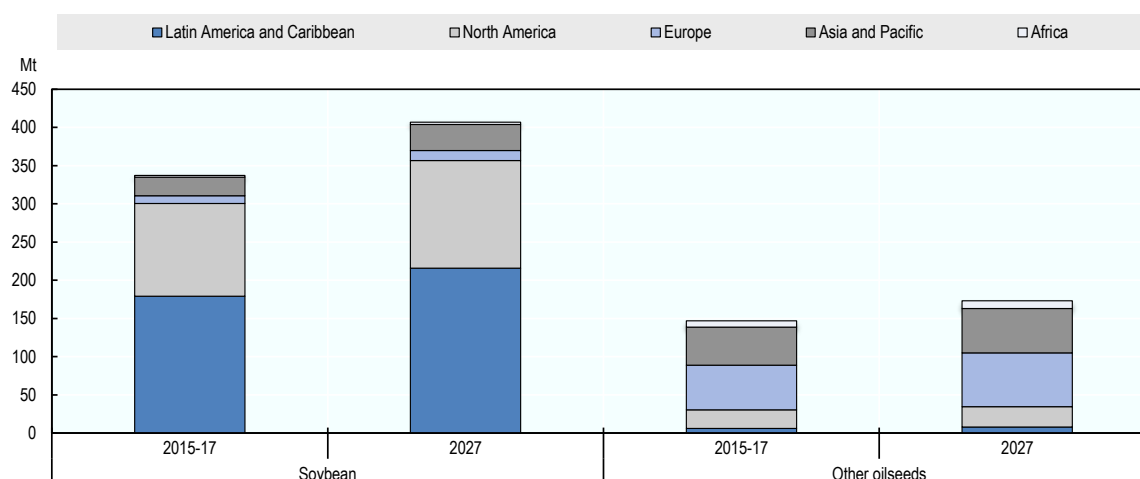
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## Oilseed production

The production of soybeans is expected to grow by 1.5% p.a., compared to 4.8% p.a. during the last decade. The production of other oilseeds (rapeseed, sunflower seed and groundnuts) will grow marginally faster than the production of soybeans, at 1.6% p.a. compared to 3.1% p.a. over the past ten years. Growth in other oilseeds is dominated by yield increases, which will account for about 60% of production growth, compared to 55% of overall production growth coming from yield in the case of soybeans.

Brazil and the United States are expected to have similar levels of soybean production throughout the next decade, with production in both cases reaching around 130 Mt in 2027. Their respective annual growth rates are 1.2% p.a. in the United States and 1.3% p.a. in Brazil. Overall, the production of soybeans will continue to grow strongly in Latin America, with Argentina and Paraguay producing 66 Mt and 12 Mt by 2027 (Figure 4.3). In China soybean production is expected to resume growth after decreases over the past decade due partly to reduced policy support for the cultivation of cereals. Soybean production is also expected to grow in the Russian Federation, Ukraine, and several countries in Sub Saharan Africa.

**Figure 4.3. Oilseed production by region**



Source: OECD/FAO (2018), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database), <http://dx.doi.org/10.1787/agr-outl-data-en>.

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China (which produces mainly rapeseed and groundnuts) and the European Union (a major producer of rapeseed and sunflower seed) are the most important producers of other oilseeds, with projected output of 32 Mt and 30 Mt in 2027. However, limited growth in output is expected for both regions, with China expected to have a small production expansion at 1.0% p.a., and production in the European Union increasing by only 0.3% p.a. Canada, another major producer of rapeseed, is projected to increase its production by 0.7% p.a. By contrast, faster growth in other oilseed production is projected for Ukraine, the Russian Federation and India. Ukraine and the Russian Federation, world leaders of sunflower seed production, are expected to continue expanding their production of other oilseeds faster than the world average at 4.3% and 2.2% p.a., respectively. India will also expand its oilseeds output at 2.6% p.a. through

further yield improvements as well as a continued expansion of soybean area and a recovery in the area planted to other oilseed. This expansion should allow it to meet growing domestic consumption needs for vegetable oil.

Soybean stocks are expected to remain largely unchanged which implies that the world stock-to-use ratio would decline from 11.6% in 2015-17 to around 10.6% in 2027. Given the global trend to gradually concentrate oilseed production in a few major producing countries, the declining stock-to-use ratio could result in increased price volatility.

### **Oilseed crush and production of vegetable oils and protein meal**

Globally, the crushing of soybeans and other oilseeds into meal (cake) and oil dominates total usage. The demand for crush will increase faster than other uses, notably direct food consumption of soybeans, groundnuts and sunflower seeds as well as direct feeding of soybeans. Overall, 90% of world soybean production and 86% of world production of other oilseeds will be crushed in 2027. The crush location depends on many factors, including transport costs, trade policies, acceptance of genetically modified crops, processing costs (e.g. labour and energy), and infrastructure (e.g. ports and roads).

Based on the projected small growth rate in global soybean production, the annual average growth in world soybean crush is expected to be 1.5%, compared to 5.0% in the previous decade. In absolute terms, this translates into an expansion of 70 Mt over the outlook period, well below the 109 Mt expansion of the previous decade. Chinese soybean crush is expected to increase by 26 Mt, accounting for about 37% of the world's additional soybean crush, the bulk of which will utilise imported soybeans. Crush of other oilseeds is expected to grow at a slower rate than the last decade, expanding by 1.6% p.a., equivalent to an increase of 24 Mt by 2027, relative to 2015-17, mainly fuelled by additional crush in Ukraine (+6.9 Mt), China (+6.8 Mt) and India (+3.3 Mt).

With a large increase in imports and oilseed production, China will continue to increase its oilseed crush. Its share of in the total global oilseed crush will reach 28.8% by 2027 (Figure 4.4). The share of the United States is expected to decline only slightly to 12.6% by 2027. Argentina and Brazil maintain their respective shares of world oilseed crush at 10.8% and 9.8% of global crush in 2027. The European Union is expected to account for a declining share of world crush as demand for protein meal and vegetable oil is growing slower than in the rest of the world. Crush in other developing countries, partly based on imported oilseeds, increases faster in the coming decade than in the major countries shown.

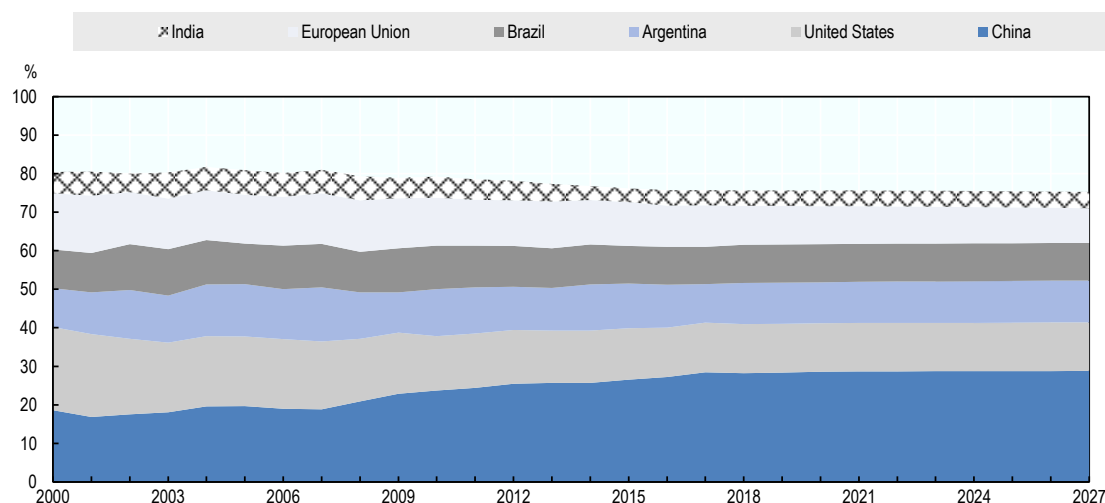
Global vegetable oil production depends on both the crush of oilseeds and on the production of perennial tropical oil plants, especially oil palm. Global palm oil output has outpaced the production of other vegetable oils in the past decade; however the position of palm oil weakens slightly over the projection period. Production of palm oil is concentrated in Indonesia and Malaysia, which together account for more than a third of world vegetable oil production.

Palm oil production in Indonesia is expected to grow by 1.8% p.a. over the projection period compared with 6.9% p.a. in the previous decade. Increasingly stringent environmental policies from the major importers of palm oil and the mainstreaming of global sustainable agricultural norms, brought on by the 2030 Agenda for Sustainable Development, are expected to slow the expansion of the oil palm area in Malaysia and Indonesia. In parallel, delayed replanting of plantations due to labour shortages in Malaysia is expected to constrain production over the outlook period, so growth in



production will be sourced from productivity improvements. Palm oil production in other countries is expanding more rapidly from a low base, mainly for domestic and regional markets. This includes Thailand producing 2.9 Mt by 2027, Columbia 2.0 Mt and Nigeria 1.2 Mt. At a global level, palm oil supplies will expand at the annual rate of 1.8%.

**Figure 4.4. Share in global oilseed crush for leading regions**



Source: OECD/FAO (2018), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database), <http://dx.doi.org/10.1787/agr-outl-data-en>.

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In addition to palm oil and oil extracted from the crush of oilseeds analysed previously, palm kernel, coconut and cottonseed oil complete the vegetable oil aggregate. Palm kernel oil is produced alongside palm oil and follows the trend of the latter. Coconut oil is mainly produced in the Philippines, Indonesia and Oceanic islands. For Indonesia, output will grow at 2.2% p.a. while for the Philippines and Oceanic Islands, output will expand by 1.8% and 1.7% p.a., respectively over the outlook period. Cottonseed oil is a by-product of cotton, with global production concentrated largely in India, the United States, Pakistan and China. Output is set to expand for India and Pakistan, at 2.4% and 1.4% p.a. respectively over the outlook period. Modest growth in production is projected for the United States at 0.8% p.a. and for China at 0.6% p.a. Overall, vegetable oil production is expected to increase globally by 1.7% p.a.

Global protein meal output is projected to expand by 1.6% p.a., reaching 400 Mt by 2027. World production of protein meals is dominated by soybean meal which accounts for more than two-thirds of world protein meal production. Production is concentrated in a small group of countries. The projections indicate that Argentina, Brazil, China, the European Union, India, and the United States will account for 75% of global production by 2027. In China, meal production is projected to rise by 23.8 Mt over the outlook period, mostly based on imported soybeans from Brazil and the United States.

### Vegetable oil consumption

Rising per capita income is expected to lead to a 1.0% p.a. increase in per capita vegetable oil consumed as food in developing economies, which is considerably less than

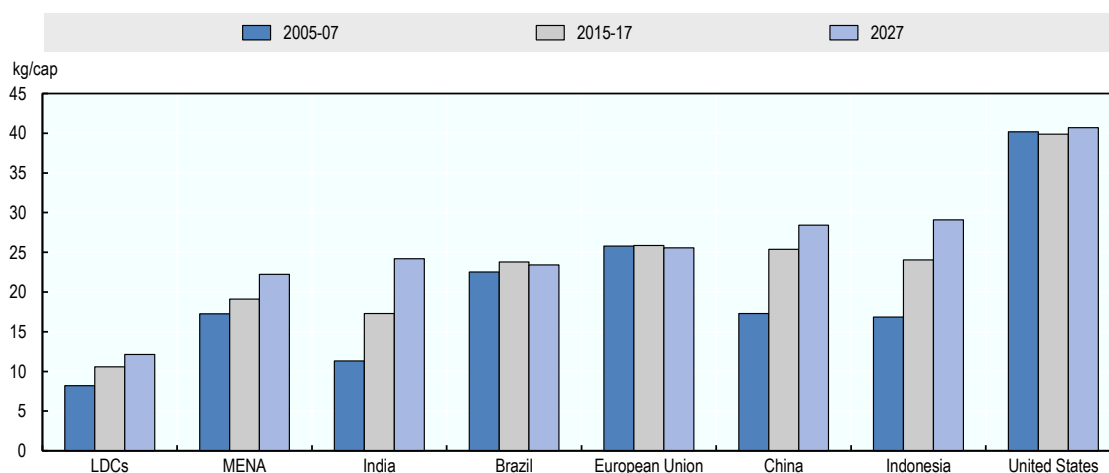


the 2.7% p.a. increase observed during 2008-17. This slowdown reflects the saturation in per capita uptake in many emerging economies. For example, in China it will reach 28 kg per capita in 2027 with a 0.8% growth p.a.; for Brazil, the figure remains unchanged at 23 kg; and in South Africa, consumption will reach 25 kg, growing at 0.6% p.a.

In most emerging markets, the per capita level of vegetable oil food availability is set to reach levels comparable to those of developed countries, for which growth in vegetable oil food consumption will level off at 27.7 kg per capita, growing at 0.4% p.a.

India, the second largest consumer country in the world, closely behind China, and the world's top importer of vegetable oil, is expected to maintain a high per capita consumption growth of 3.1% p.a. and reach 24 kg per capita in 2027. India's vegetable oil consumption will reach 37 Mt by 2027, up from 24 Mt in 2015-17. This substantial growth will be filled by both an expansion of domestic production, sourced in the intensification of oilseed cultivation, and a further increase in imports of mainly palm oil from Indonesia and Malaysia. For MENA countries and LDCs, the per capita availability of vegetable oil will increase considerably, respectively reaching 22 kg and 12 kg per capita in 2027.

**Figure 4.5. Per capita food availability of vegetable oil in selected countries**



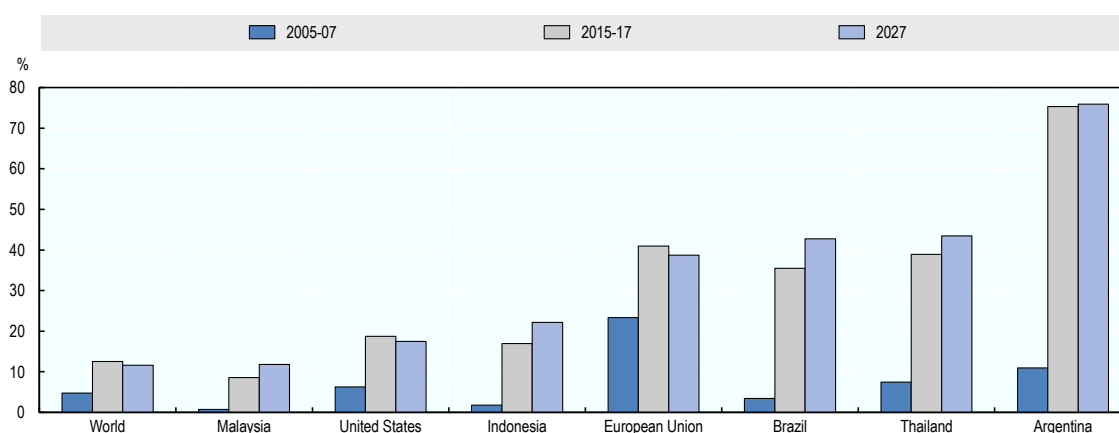
Source: OECD/FAO (2018), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database), <http://dx.doi.org/10.1787/agr-outl-data-en>.

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The uptake of vegetable oil as feedstock for biodiesel will remain virtually unchanged over the next ten years (0.3% p.a. growth), as compared to the 8.5% p.a. increase recorded over the previous decade when biofuel support policies were taking effect. In general, national targets for mandatory biodiesel consumption are expected to increase less than in previous years, while low crude oil prices are likely to limit non-mandatory biodiesel production. In addition, used oils, tallow and other feedstocks are increasing their share in the production of biodiesel to a large extent due to specific policies. Given the diversification of feedstock in the European Union into waste and tallow oil, the use of vegetable oil for biodiesel production is expected to account for 39% of domestic vegetable oil consumption by 2027, declining from a current share of about 41%. The lower shares expected in the European Union and the United States will be offset by

greater uptake among emerging market economies. Argentina is expected to maintain an export-oriented biodiesel industry (over 40% of produced biodiesel is exported). Vegetable oil uptake by Argentina's biodiesel industry is projected at 2.9 Mt by 2027, equivalent to 75% of domestic vegetable oil consumption (Figure 4.6). Indonesia, Brazil and Thailand recorded strong growth in biodiesel production over the last decade, but it is expected to taper off in the coming decade. However, in the case of Indonesia and Brazil, growth in biodiesel production over the coming decade is anticipated to exceed overall food demand growth for vegetable oil.

**Figure 4.6. Share of vegetable oil used for biodiesel production**



Source: OECD/FAO (2018), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database), <http://dx.doi.org/10.1787/agr-outl-data-en>.

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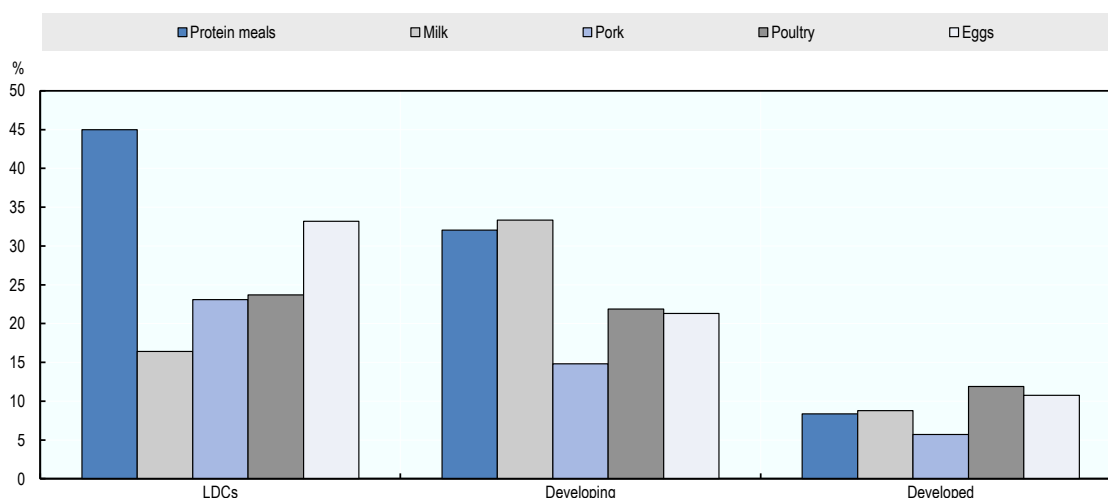
## Protein meal consumption

Protein meal consumption is expected to continue to grow at 1.6% p.a., considerably below last decade's growth rate of 4.2% p.a. The growth in protein meal consumption is closely linked to the development of feed demand, as protein meal is exclusively used as feed. The link between animal production and protein meal consumption is associated with a country's degree of economic development (Figure 4.7). Because of a shift to more feed-intensive production systems in developing countries, growth in protein meal consumption tends to exceed growth in animal production. In LDCs, where the use of protein meals is still very low, it is expected that the intensification in the livestock production with more widespread use of commercial feed will continue. The use of protein meal per unit of livestock production should increase considerably leading to a fast growth in total demand in these countries. In developed countries, where most of the animal production is compound feed-based, protein meal consumption grows at similar rates as animal production.

Among emerging economies, Viet Nam, Indonesia and India are expected to expand their consumption of protein meal over the projection period, with growth rates of 3.8% p.a. for Viet Nam, 2.8% for Indonesia and 2.6% p.a. for India. Only for Viet Nam will this consumption growth be linked to a comparable expansion of protein meal imports.

Protein meal consumption growth in China is projected to decline from 7.2% p.a. in the last decade to 1.7% p.a., adding about 2.2 Mt annually. Growth in China's compound feed demand is expected to shrink due to declining growth rates for animal production and the existing large share of compound feed-based production. Furthermore, the share of protein meal in China's overall feed use surged in the last decade and now considerably exceeds the shares in the United States and European Union.

**Figure 4.7. Growth in protein meal consumption and animal production**



Source: OECD/FAO (2018), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database), <http://dx.doi.org/10.1787/agr-outl-data-en>.

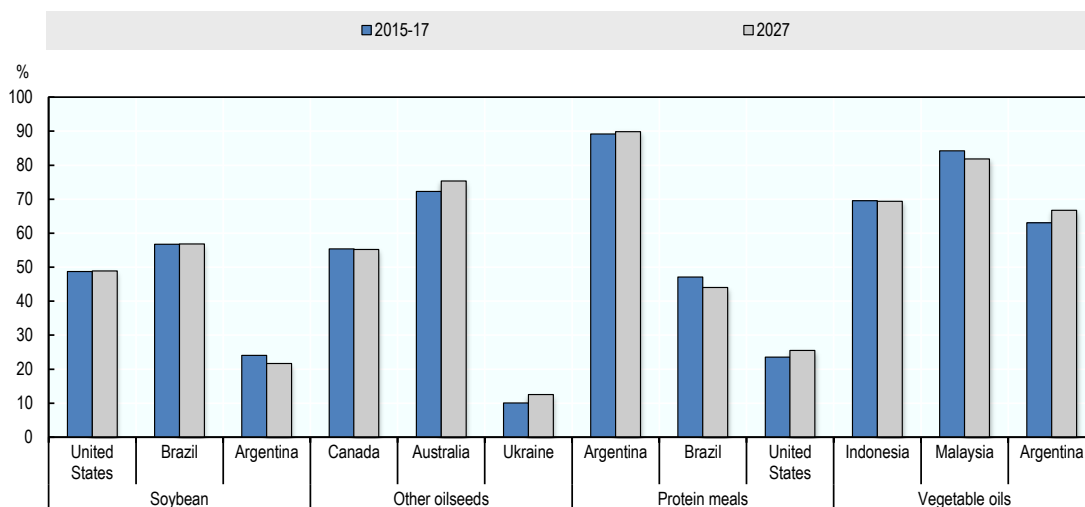
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## Trade

Over 40% of world soybean production is traded internationally. Compared to the previous decade, the expansion in world soybean trade is expected to decelerate considerably during the outlook period. This development is directly linked to projected slower growth of the soybean crush in China. Chinese soybean imports are expected to grow by only 1.5% p.a. to about 113 Mt in 2027, accounting for about two-thirds of world soybean imports. Exports of soybeans originate predominately from the Americas; together, the United States, Brazil and Argentina will account for 87% of world soybean exports in 2027. Whereas the United States was historically the largest global exporter of soybeans, Brazil has taken that role with steady growth in its export capacity; by 2027, Brazil will account for 42% of total global exports of soybean.

For other oilseeds, the share of production entering trade is much lower than that for soybeans, at about 14% of world production. Important exporters are Canada, Australia and Ukraine, which account for more than 75% of world exports by 2027. In Canada and Australia, more than half of the other oilseeds (rapeseed) production is exported (Figure 4.8).

**Figure 4.8. Share of exports in total production of oilseeds and oilseed products for the top three exporting countries**



*Note:* The main three exporting countries are United States, Brazil and Argentina (Soybeans), Canada, Australia and Ukraine (Other oilseeds), Argentina, Brazil and the United States (Protein meal) and Indonesia, Malaysia and Argentina (Vegetable oil); The figure only shows the direct share of exports and does not include the export of further processed products, which would lead to higher export shares.

*Source:* OECD/FAO (2018), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database), <http://dx.doi.org/10.1787/agr-outl-data-en>.

StatLink  <http://dx.doi.org/10.1787/888933743138>

Vegetable oil exports, which amount to 41% of global vegetable oil production, continue to be dominated by a few players. Indonesia and Malaysia will continue to account for almost two-thirds of total vegetable oil exports during the coming decade. Argentina is the third largest exporter reaching about 7.9% of the world vegetable oil exports in 2027. In all three countries, exports account for more than two-thirds of the domestic production of vegetable oil. However, this share is projected to contract slightly in Indonesia and Malaysia as domestic food consumption plus biofuel and oleochemical consumption is expected to grow more than exports. India is expected to continue its strong growth in imports at 4.7% p.a., reaching 26 Mt in 2027, or about 27% of world vegetable oil imports.

As the global expansion of meat production is projected to be concentrated in the main oilseed processing countries, domestic use of protein meal will increase and trade will only expand slightly in the coming decade, resulting in a declining share of trade in world production. The expected growth in world trade is around 1.5% p.a. over the projection period, down from 3.6% p.a. during last decade. Argentina will remain by far the largest meal exporter because it is the only country among the large protein meal producers with a clear export orientation. However, export growth for Argentina is expected at 1.9% p.a. during the projection period, down from 4.3% p.a. In Brazil and the United States, export growth is also expected to slow down markedly. The largest importer is the European Union, with imports remaining almost unchanged at 25.9 Mt in 2027. Half of the 17 Mt global import growth in protein meal will occur in Asia, with Viet Nam, Pakistan and Thailand increasing their imports by 3.4 Mt, 1.8 Mt and 1.1 Mt respectively from 2015-17 to 2027.

### Main issues and uncertainties

The uncertainties common to most commodities (e.g. macroeconomic environment, crude oil prices, and weather conditions) also apply to oilseeds. Due to the concentration of production in a few regions of the world, the production impact of weather variations is more pronounced in the oilseeds and palm oil complex than in other major crop markets.

The intensification of domestic oilseed production in India to meet the consumption needs of a growing population will rely on an important expansion in area and productivity of the sector. Such outcomes will be conditioned on the evolution of oilseed prices and the adoption of new policies that sustainably incentivise domestic agricultural production.

The gradual reduction of export taxes in Argentina opens new opportunities for that country's soybeans and sunflowers and their products, although some reallocation of land might take place in favour of competing grain crops, especially maize, that also benefit from export liberalisation.

Consumer concerns regarding soybeans and palm oil production stem, respectively, from the high share of soybean production derived from genetically modified seeds and the expansion of oil palm plantations into rain forests. Certification schemes, labelling, and environmental legislation might curb area expansion in key palm oil producing countries and purchases by major importers, which would eventually affect supply growth. These concerns present specific constraints to the further expansion of oil palm plantations and their exports for Malaysia and Indonesia.

The demand for vegetable oil as feedstock for biodiesel is levelling off following a rapid growth since 2000 due to domestic policies in a number of countries. Indeed, biofuel policies in the United States, the European Union and Indonesia, and the development of mineral oil prices remain a source of major uncertainty in the vegetable oil sector given that about 12% of vegetable oil is destined to biodiesel production. The link between vegetable oil and crude oil prices results from the use of vegetable oil as a major feedstock used for biodiesel and can induce price volatility.

The demand for protein meal experienced exceptional growth due to the intensification of animal production in emerging markets. The pace of intensification of animal production is currently slowing down (especially in China), leading to a less dynamic development for protein meals and oilseeds over the coming decade.

Protein meals compete in part with other feed components in the production of compound feed and are thus reactive to any change in cereal prices. In addition, changing feeding habits, especially in the cattle sector, can alter the demand for protein meals. Ongoing adjustments in domestic cereal prices in China, for example, will affect the composition of its compound feeds, which currently contain a higher share of protein meal than in developed countries and other major emerging economies.

## ANNEX A

**Table A.2. World oilseed projections**

Marketing year

		Average 2015-17est	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
<b>SOYBEAN</b>												
<b>World</b>												
Production	Mt	337.1	355.8	361.9	368.5	374.9	380.9	385.8	390.9	396.3	401.5	406.8
Area	Mha	122.8	128.7	129.7	130.9	131.8	132.9	133.6	134.3	135.1	135.9	136.7
Yield	t/ha	2.74	2.77	2.79	2.82	2.84	2.87	2.89	2.91	2.93	2.95	2.98
Consumption	Mt	332.8	356.3	362.6	368.6	374.7	380.5	385.5	390.7	395.9	401.2	406.4
Crush	Mt	297.5	320.0	326.2	331.9	337.7	343.2	347.9	352.9	357.8	362.8	367.8
Closing stocks	Mt	38.6	41.9	41.1	41.0	41.2	41.6	41.9	42.1	42.4	42.6	43.0
Price <sup>1</sup>	USD/t	399.7	393.7	409.1	416.6	421.1	425.7	430.8	436.4	441.4	447.3	452.5
<b>Developed countries</b>												
Production	Mt	133.3	139.2	140.5	142.6	145.0	146.7	148.5	150.3	152.2	154.0	155.9
Consumption	Mt	88.7	91.7	92.2	93.3	94.2	95.2	96.4	97.3	98.5	99.9	101.2
Crush	Mt	79.6	82.6	83.2	84.3	85.2	86.2	87.3	88.2	89.5	90.8	92.1
Closing stocks	Mt	12.4	15.4	14.6	14.4	14.3	14.3	14.3	14.2	14.2	14.2	14.2
<b>Developing countries</b>												
Production	Mt	203.9	216.6	221.4	225.9	229.9	234.2	237.3	240.6	244.0	247.4	250.8
Consumption	Mt	244.1	264.6	270.5	275.3	280.5	285.2	289.2	293.5	297.4	301.3	305.2
Crush	Mt	217.9	237.4	243.0	247.6	252.5	257.0	260.7	264.7	268.3	272.0	275.7
Closing stocks	Mt	26.2	26.5	26.5	26.6	26.9	27.3	27.6	27.9	28.2	28.5	28.8
<b>OECD<sup>2</sup></b>												
Production	Mt	124.8	129.8	130.9	132.8	135.0	136.5	138.1	139.7	141.4	143.0	144.7
Consumption	Mt	89.2	92.1	92.7	94.0	95.0	96.1	97.3	98.2	99.5	101.0	102.3
Crush	Mt	80.1	83.0	83.7	84.9	85.9	87.0	88.2	89.2	90.5	91.9	93.2
Closing stocks	Mt	13.0	15.8	15.1	14.8	14.8	14.8	14.7	14.7	14.7	14.6	14.6
<b>OTHER OILSEEDS</b>												
<b>World</b>												
Production	Mt	146.8	150.7	152.9	155.3	157.5	160.0	162.5	165.2	167.8	170.5	173.0
Area	Mha	83.9	86.0	86.5	87.1	87.5	88.1	88.6	89.2	89.8	90.4	90.9
Yield	t/ha	1.75	1.75	1.77	1.78	1.80	1.82	1.83	1.85	1.87	1.89	1.90
Consumption	Mt	147.1	150.7	153.1	155.4	157.5	160.0	162.5	165.1	167.7	170.4	173.0
Crush	Mt	124.6	128.6	130.6	132.8	134.7	136.9	139.2	141.6	144.0	146.4	148.8
Closing stocks	Mt	8.5	8.7	8.5	8.4	8.4	8.5	8.5	8.6	8.6	8.7	8.7
Price <sup>3</sup>	USD/t	424.0	439.2	452.6	456.3	463.3	465.2	469.0	472.3	478.4	481.5	487.7
<b>Developed countries</b>												
Production	Mt	88.2	90.2	91.4	92.8	94.1	95.7	97.1	98.7	100.2	101.8	103.4
Consumption	Mt	80.6	80.4	81.5	82.7	83.7	84.9	86.1	87.3	88.5	89.8	91.2
Crush	Mt	72.9	72.6	73.7	74.8	75.8	76.9	78.1	79.2	80.4	81.6	82.9
Closing stocks	Mt	6.3	6.4	6.3	6.1	6.1	6.1	6.1	6.2	6.2	6.2	6.2
<b>Developing countries</b>												
Production	Mt	58.6	60.5	61.5	62.5	63.4	64.4	65.4	66.5	67.6	68.7	69.6
Consumption	Mt	66.5	70.4	71.6	72.8	73.8	75.1	76.4	77.8	79.2	80.6	81.8
Crush	Mt	51.7	55.9	57.0	58.0	59.0	60.0	61.2	62.4	63.7	64.9	65.9
Closing stocks	Mt	2.2	2.2	2.3	2.3	2.3	2.4	2.4	2.4	2.5	2.5	2.6
<b>OECD<sup>2</sup></b>												
Production	Mt	59.5	60.9	61.1	61.5	61.8	62.2	62.6	63.0	63.2	63.5	63.8
Consumption	Mt	56.3	56.1	56.3	56.7	56.8	57.1	57.4	57.6	57.7	57.9	58.1
Crush	Mt	50.9	50.8	51.0	51.3	51.5	51.7	52.0	52.1	52.2	52.4	52.5
Closing stocks	Mt	5.4	5.6	5.4	5.3	5.2	5.3	5.3	5.3	5.3	5.3	5.3
<b>PROTEIN MEALS</b>												
<b>World</b>												
Production	Mt	326.7	348.2	354.1	360.3	366.3	372.2	377.7	383.4	389.0	394.8	400.4
Consumption	Mt	324.7	348.0	354.1	360.1	366.1	372.0	377.5	383.3	389.0	394.7	400.2
Closing stocks	Mt	14.7	14.5	14.5	14.7	14.8	14.9	15.2	15.2	15.3	15.4	15.5
Price <sup>4</sup>	USD/t	316.8	312.9	323.8	333.0	340.7	344.3	349.1	350.7	356.8	360.8	366.0
<b>Developed countries</b>												
Production	Mt	104.6	107.0	107.8	109.2	110.4	111.8	113.3	114.6	116.2	117.9	119.6
Consumption	Mt	120.3	123.3	123.8	124.7	125.7	126.6	127.1	127.9	128.9	129.7	130.4
Closing stocks	Mt	1.8	1.9	1.9	1.9	1.9	2.0	2.0	2.1	2.1	2.2	2.2
<b>Developing countries</b>												
Production	Mt	222.1	241.1	246.4	251.1	255.9	260.5	264.5	268.8	272.9	276.9	280.8
Consumption	Mt	204.3	224.7	230.3	235.4	240.5	245.4	250.3	255.4	260.1	265.0	269.8
Closing stocks	Mt	12.9	12.7	12.6	12.8	12.8	13.0	13.1	13.2	13.2	13.3	13.3
<b>OECD<sup>2</sup></b>												
Production	Mt	96.5	99.1	99.5	100.8	101.8	102.8	104.1	105.0	106.2	107.5	108.8
Consumption	Mt	124.6	127.4	128.2	129.1	130.2	131.3	132.0	132.9	134.1	135.0	135.7
Closing stocks	Mt	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7

## ANNEX A

**Table A.2. World oilseed projections (cont.)**

Marketing year

		Average 2015-17est	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
<b>VEGETABLE OILS</b>												
<b>World</b>												
Production	Mt	189.6	202.0	205.7	209.7	213.5	217.1	220.6	224.2	227.7	231.2	234.6
of which palm oil	Mt	65.1	71.1	72.6	74.2	75.8	77.1	78.4	79.6	80.8	82.0	83.2
Consumption	Mt	191.6	202.6	205.7	209.6	213.2	216.8	220.4	224.0	227.5	231.0	234.5
Food	Mt	153.5	162.0	164.8	168.1	171.9	175.5	179.1	182.4	185.7	189.0	192.3
Biofuel	Mt	24.0	26.1	26.4	26.9	26.7	26.5	26.6	26.7	26.9	27.0	27.2
Exports	Mt	76.7	81.3	83.5	85.3	86.9	88.5	90.1	91.7	93.2	94.8	96.3
Closing stocks	Mt	22.7	22.3	22.3	22.4	22.6	22.9	23.1	23.3	23.4	23.6	23.7
Price <sup>5</sup>	USD/t	783.5	828.6	829.0	829.9	834.3	842.9	852.5	862.8	874.6	883.0	892.0
<b>Developed countries</b>												
Production	Mt	48.3	48.6	49.1	49.9	50.5	51.2	52.0	52.7	53.5	54.3	55.2
Consumption	Mt	53.7	54.0	53.6	53.9	54.1	54.3	54.5	54.6	54.8	54.9	55.0
Closing stocks	Mt	4.8	4.2	3.9	3.8	3.9	4.1	4.1	4.2	4.2	4.2	4.1
<b>Developing countries</b>												
Production	Mt	141.3	153.4	156.6	159.9	163.0	165.9	168.7	171.5	174.2	176.9	179.5
Consumption	Mt	137.8	148.6	152.1	155.7	159.1	162.5	166.0	169.4	172.7	176.1	179.5
Closing stocks	Mt	17.9	18.1	18.4	18.6	18.7	18.8	19.0	19.1	19.3	19.4	19.6
<b>OECD<sup>2</sup></b>												
Production	Mt	39.3	39.7	39.9	40.3	40.6	41.0	41.3	41.6	42.0	42.4	42.7
Consumption	Mt	53.5	53.9	53.6	53.9	54.1	54.2	54.4	54.6	54.8	54.9	55.0
Closing stocks	Mt	3.9	3.6	3.4	3.3	3.4	3.5	3.6	3.6	3.6	3.6	3.5

Note: Average 2015-17est: Data for 2017 are estimated.

1. Soybean, U.S., CIF Rotterdam (October/September).
2. Excludes Iceland but includes all EU28 member countries.
3. Rapeseed, Europe, CIF Hamburg (October/September).
4. Weighted average protein meal, European port (October/September).
5. Weighted average price of oilseed oils and palm oil, European port (October/September).

Source: OECD/FAO (2018), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database). doi: [dx.doi.org/10.1787/agr-outl-data-en](https://dx.doi.org/10.1787/agr-outl-data-en)



## ANNEX A

**Table A.18.1. Soybean projections: Production and trade**

Marketing year

	PRODUCTION (kt)		Growth (%) <sup>3</sup>		IMPORTS (kt)		Growth (%) <sup>3</sup>		EXPORTS (kt)		Growth (%) <sup>3</sup>	
	Average 2015-17est	2027	2008-17	2018-27	Average 2015-17est	2027	2008-17	2018-27	Average 2015-17est	2027	2008-17	2018-27
<b>WORLD</b>	<b>337 111</b>	<b>406 773</b>	<b>4.85</b>	<b>1.48</b>	<b>144 160</b>	<b>174 935</b>	<b>7.75</b>	<b>1.29</b>	<b>146 781</b>	<b>174 935</b>	<b>7.70</b>	<b>1.29</b>
NORTH AMERICA	121 337	140 613	4.50	1.23	1 022	928	6.04	-0.07	60 417	71 015	6.08	0.89
Canada	6 902	9 523	9.25	1.42	350	250	0.63	-0.02	4 647	6 917	11.27	1.60
United States	114 434	131 090	4.26	1.22	671	678	9.44	-0.09	55 770	64 098	5.73	0.81
LATIN AMERICA	179 002	215 968	5.75	1.57	6 995	7 999	3.75	0.91	82 534	98 522	8.72	1.52
Argentina	56 739	66 379	2.56	1.97	0	0	..	..	13 665	14 379	1.76	2.89
Brazil	105 937	128 878	7.36	1.31	410	410	24.54	0.00	60 089	73 202	11.63	1.26
Chile	0	0	..	..	383	439	9.71	0.75	2	2	0.00	-0.75
Colombia	70	88	0.70	2.00	850	1 251	9.78	2.70	40	15	-13.65	-2.63
Mexico	399	529	14.34	1.50	3 993	4 692	1.83	1.39	0	0	..	..
Paraguay	9 800	12 338	8.32	1.70	0	0	..	..	5 717	7 139	5.47	1.53
EUROPE	10 355	13 225	16.57	1.66	16 607	16 260	2.17	0.16	3 335	4 933	31.42	2.88
European Union	2 520	2 923	14.86	1.33	14 058	13 960	0.96	0.45	138	71	12.44	0.16
Russia	3 367	4 822	19.25	1.96	2 087	1 823	15.81	-1.88	589	1 179	120.30	5.23
Ukraine	4 003	5 014	19.74	1.73	3	4	17.83	0.11	2 601	3 676	29.63	2.28
AFRICA	2 273	2 936	5.53	2.69	3 643	5 283	6.14	1.64	43	52	-13.03	-0.31
Egypt	40	47	3.93	1.56	1 767	2 385	1.82	1.38	0	0	..	..
Ethiopia	70	91	23.48	2.66	25	51	37.91	7.18	0	0	..	..
Nigeria	630	746	-0.69	1.72	0	0	..	..	1	1	-35.89	-4.80
South Africa	1 051	1 472	13.44	3.60	170	350	59.01	3.14	14	24	-18.70	-0.63
ASIA	24 095	33 954	-1.29	1.86	115 892	144 454	9.18	1.44	448	394	0.53	-0.22
China <sup>1</sup>	13 019	19 052	-2.06	1.83	90 742	112 817	9.68	1.52	183	200	-6.46	0.00
India	8 700	11 954	-0.57	2.04	70	60	76.95	-0.86	85	48	8.13	1.62
Indonesia	751	1 023	-1.93	1.39	2 341	2 402	5.66	0.56	2	2	-45.34	-0.05
Iran	178	200	-1.79	1.15	1 946	2 346	15.36	1.02	80	63	71.21	-1.01
Japan	242	272	0.09	1.01	3 226	3 015	-1.05	-0.72	0	0	..	..
Kazakhstan	220	261	11.95	1.35	10	7	-19.92	0.43	0	0	..	..
Korea	96	116	-3.35	0.51	1 327	1 347	1.35	0.38	0	0	..	..
Malaysia	0	0	..	..	807	1 133	5.76	1.26	30	24	10.62	-1.24
Pakistan	4	4	-9.63	1.02	1 533	2 546	30.85	2.36	0	0	..	..
Philippines	1	1	0.00	2.16	130	1 022	11.67	6.97	0	0	..	..
Saudi Arabia	0	0	..	..	600	844	26.58	1.09	0	0	..	..
Thailand	56	67	-14.58	1.68	2 802	3 561	6.97	0.96	13	17	-2.38	-0.95
Turkey	153	192	17.78	2.01	2 450	3 185	9.50	1.87	19	8	-21.08	-1.84
Viet Nam	148	173	-7.63	1.35	1 684	2 005	36.08	1.42	1	1	-2.37	-0.18
OCEANIA	49	77	-2.65	3.29	2	12	-0.46	12.87	5	20	8.66	11.94
Australia	49	77	-2.65	3.29	1	11	-0.84	15.31	5	20	8.66	11.94
New Zealand	0	0	..	..	1	1	0.00	0.00	0	0	..	..
<b>DEVELOPED COUNTRIES</b>	<b>133 257</b>	<b>155 924</b>	<b>5.16</b>	<b>1.29</b>	<b>21 800</b>	<b>21 307</b>	<b>1.87</b>	<b>0.08</b>	<b>63 770</b>	<b>75 991</b>	<b>6.64</b>	<b>1.01</b>
<b>DEVELOPING COUNTRIES</b>	<b>203 854</b>	<b>250 849</b>	<b>4.64</b>	<b>1.61</b>	<b>122 360</b>	<b>153 628</b>	<b>9.15</b>	<b>1.47</b>	<b>83 011</b>	<b>98 944</b>	<b>8.63</b>	<b>1.52</b>
LEAST DEVELOPED COUNTRIES (LDC)	559	680	0.43	1.98	1 339	2 427	39.67	2.40	13	10	1.80	-1.88
<b>OECD<sup>2</sup></b>	<b>124 801</b>	<b>144 727</b>	<b>4.65</b>	<b>1.24</b>	<b>27 568</b>	<b>28 662</b>	<b>1.70</b>	<b>0.59</b>	<b>60 580</b>	<b>71 116</b>	<b>6.10</b>	<b>0.89</b>
<b>BRICS</b>	<b>132 073</b>	<b>166 178</b>	<b>5.63</b>	<b>1.46</b>	<b>93 478</b>	<b>115 460</b>	<b>9.87</b>	<b>1.45</b>	<b>60 961</b>	<b>74 652</b>	<b>11.59</b>	<b>1.31</b>

.. Not available

Note: Marketing year: See Glossary of Terms for definitions.

Average 2015-17est: Data for 2017 are estimated.

1. Refers to mainland only. The economies of Chinese Taipei, Hong Kong (China) and Macau (China) are included in the Asia aggregate.
2. Excludes Iceland but includes all EU28 member countries.
3. Least-squares growth rate (see glossary).

Source: OECD/FAO (2018), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database). doi: dx.doi.org/10.1787/agr-outl-data-en

## ANNEX A

**Table A.18.2. Soybean projections: Consumption, domestic crush**

Marketing year

	CONSUMPTION (kt)		Growth (%) <sup>3</sup>		DOMESTIC CRUSH (kt)		Growth (%) <sup>3</sup>	
	Average 2015-17est	2027	2008-17	2018-27	Average 2015-17est	2027	2008-17	2018-27
<b>WORLD</b>	<b>332 778</b>	<b>406 445</b>	<b>4.89</b>	<b>1.46</b>	<b>297 540</b>	<b>367 771</b>	<b>4.96</b>	<b>1.54</b>
NORTH AMERICA	59 430	70 516	2.35	1.42	53 924	64 643	1.93	1.54
Canada	2 625	2 856	5.42	0.86	1 896	2 129	5.12	1.17
United States	56 805	67 660	2.23	1.44	52 028	62 514	1.83	1.55
LATIN AMERICA	103 702	125 409	3.70	1.56	95 721	115 904	3.73	1.56
Argentina	43 690	51 996	3.78	1.74	42 686	50 926	3.87	1.77
Brazil	45 924	56 084	2.81	1.37	40 823	49 963	2.80	1.34
Chile	383	437	9.65	0.76	383	437	9.66	0.76
Colombia	890	1 322	8.75	2.80	886	1 322	8.84	2.80
Mexico	4 223	5 221	2.05	1.31	3 988	4 973	2.13	1.35
Paraguay	4 150	5 175	12.88	1.99	3 974	4 915	13.00	1.99
EUROPE	23 675	24 558	4.62	0.41	21 044	22 344	4.60	0.49
European Union	16 520	16 816	2.35	0.57	14 425	15 125	1.94	0.68
Russia	4 815	5 469	16.06	0.01	4 726	5 390	15.85	0.02
Ukraine	1 421	1 341	11.65	0.40	1 280	1 200	14.22	0.37
AFRICA	5 793	8 157	6.30	2.04	5 092	7 190	6.80	1.91
Egypt	1 797	2 430	2.06	1.39	1 791	2 420	2.03	1.39
Ethiopia	94	142	25.77	4.08	59	94	27.54	4.62
Nigeria	634	745	-0.02	1.73	317	298	0.07	-0.44
South Africa	1 153	1 793	18.22	3.58	1 055	1 653	18.46	3.74
ASIA	140 131	177 735	7.20	1.53	121 718	157 627	7.79	1.67
China <sup>1</sup>	104 144	131 419	8.39	1.57	89 764	115 839	9.15	1.74
India	8 818	11 961	-0.63	2.03	7 213	9 847	-1.94	2.00
Indonesia	3 127	3 422	3.69	0.80	2 420	2 709	5.39	0.98
Iran	2 021	2 481	11.59	1.10	2 014	2 473	11.90	1.10
Japan	3 443	3 290	-1.28	-0.60	2 678	2 541	-1.14	-0.73
Kazakhstan	233	268	9.83	1.39	122	131	5.31	0.70
Korea	1 414	1 463	0.87	0.39	1 004	1 036	1.61	0.49
Malaysia	777	1 108	5.40	1.40	777	1 108	5.40	1.40
Pakistan	1 497	2 546	29.94	2.40	1 497	2 546	30.03	2.40
Philippines	134	1 023	12.48	6.96	130	1 022	12.12	6.97
Saudi Arabia	598	844	26.47	1.10	598	844	26.47	1.10
Thailand	2 842	3 609	5.76	1.01	2 820	3 609	6.30	1.01
Turkey	2 651	3 365	9.22	1.92	2 550	3 262	9.45	1.95
Viet Nam	1 805	2 172	21.17	1.42	1 732	2 097	27.34	1.48
OCEANIA	47	70	-3.05	2.70	41	64	-3.37	3.00
Australia	46	69	-3.10	2.75	41	64	-3.37	3.00
New Zealand	1	1	0.00	0.00	0	0	..	..
<b>DEVELOPED COUNTRIES</b>	<b>88 725</b>	<b>101 232</b>	<b>2.87</b>	<b>1.12</b>	<b>79 603</b>	<b>92 111</b>	<b>2.58</b>	<b>1.23</b>
<b>DEVELOPING COUNTRIES</b>	<b>244 053</b>	<b>305 213</b>	<b>5.72</b>	<b>1.57</b>	<b>217 936</b>	<b>275 660</b>	<b>5.97</b>	<b>1.64</b>
LEAST DEVELOPED COUNTRIES (LDC)	1 864	3 095	15.98	2.36	1 601	2 756	22.08	2.24
<b>OECD<sup>2</sup></b>	<b>89 199</b>	<b>102 265</b>	<b>2.31</b>	<b>1.18</b>	<b>80 062</b>	<b>93 150</b>	<b>2.02</b>	<b>1.30</b>
<b>BRICS</b>	<b>164 854</b>	<b>206 726</b>	<b>6.16</b>	<b>1.51</b>	<b>143 581</b>	<b>182 693</b>	<b>6.46</b>	<b>1.60</b>

.. Not available

Note: Marketing year: See Glossary of Terms for definitions.

Average 2015-17est: Data for 2017 are estimated.

1. Refers to mainland only. The economies of Chinese Taipei, Hong Kong (China) and Macau (China) are included in the Asia aggregate.
2. Excludes Iceland but includes all EU28 member countries.
3. Least-squares growth rate (see glossary).

Source: OECD/FAO (2018), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database). doi: dx.doi.org/10.1787/agr-outl-data-en

## ANNEX A

**Table A.19.1. Other oilseed projections: Production and trade**

Marketing year

	PRODUCTION (kt)		Growth (%) <sup>3</sup>		IMPORTS (kt)		Growth (%) <sup>3</sup>		EXPORTS (kt)		Growth (%) <sup>3</sup>	
	Average 2015-17est	2027	2008-17	2018-27	Average 2015-17est	2027	2008-17	2018-27	Average 2015-17est	2027	2008-17	2018-27
<b>WORLD</b>	<b>146 793</b>	<b>172 994</b>	<b>3.10</b>	<b>1.55</b>	<b>20 134</b>	<b>23 758</b>	<b>4.33</b>	<b>1.15</b>	<b>20 150</b>	<b>23 758</b>	<b>4.57</b>	<b>1.15</b>
NORTH AMERICA	24 322	26 787	5.63	0.67	949	1 163	0.00	0.36	11 669	13 182	5.07	0.64
Canada	19 824	22 000	6.24	0.69	246	251	-1.74	0.10	10 975	12 143	5.26	0.74
United States	4 498	4 787	3.31	0.58	703	912	0.73	0.44	694	1 039	2.44	-0.41
LATIN AMERICA	5 871	7 723	1.97	1.93	1 703	2 075	1.66	1.83	1 075	1 187	7.30	1.65
Argentina	4 356	5 906	2.58	2.04	1	1	-8.96	0.00	884	936	11.94	1.64
Brazil	433	553	2.98	2.12	5	5	-9.50	0.00	68	62	8.24	0.31
Chile	88	105	0.87	1.53	14	9	-5.87	-3.22	3	4	-1.24	2.05
Colombia	2	3	0.00	1.92	7	7	0.00	-0.02	0	0	..	..
Mexico	112	115	4.16	0.51	1 651	2 037	1.94	1.91	3	3	12.70	0.00
Paraguay	255	308	-0.59	1.46	0	0	..	..	32	55	-11.10	3.49
EUROPE	58 624	70 276	3.65	1.94	5 765	4 750	4.19	-0.65	2 946	4 590	-1.55	3.59
European Union	29 770	30 390	1.58	0.34	5 472	4 470	4.03	-0.73	660	666	1.09	-1.31
Russia	11 825	13 922	6.64	2.22	194	169	7.71	0.69	236	141	3.80	-0.68
Ukraine	15 233	23 642	6.46	4.31	31	33	11.07	-0.16	1 537	2 960	-4.62	5.66
AFRICA	8 185	9 946	1.87	1.75	373	402	6.49	0.16	158	176	-5.10	-2.96
Egypt	152	185	-0.50	1.83	71	88	9.58	1.57	8	5	-9.65	-1.40
Ethiopia	26	32	0.00	2.34	0	0	..	..	0	0	..	..
Nigeria	2 120	2 701	0.47	2.07	0	0	..	..	42	62	-11.84	-4.93
South Africa	940	1 078	1.17	1.20	57	19	5.73	-6.87	4	0	-31.90	..
ASIA	46 509	54 369	1.52	1.50	11 320	15 342	5.21	1.77	1 938	1 701	11.22	0.31
China <sup>1</sup>	29 178	32 280	2.19	1.03	4 618	8 036	10.80	3.47	631	627	2.85	-0.13
India	10 726	13 974	-0.74	2.56	262	270	6.25	-4.94	532	300	13.00	2.59
Indonesia	647	745	-1.97	1.15	256	246	3.96	-0.74	1	1	-2.74	0.06
Iran	252	242	-1.33	-0.47	209	410	52.26	2.66	1	1	0.00	-0.24
Japan	23	26	1.60	0.92	2 508	2 516	0.85	0.06	0	0	..	..
Kazakhstan	827	1 138	11.97	2.43	7	7	-11.62	0.06	293	281	35.05	-0.05
Korea	13	13	2.60	0.00	31	31	-0.80	0.08	0	0	..	..
Malaysia	5	6	3.32	1.30	44	46	2.40	0.69	3	3	2.12	-0.68
Pakistan	852	967	0.01	1.54	1 174	1 287	6.79	1.37	2	5	-30.09	-0.12
Philippines	20	23	0.55	1.26	61	69	2.56	1.22	0	0	..	..
Saudi Arabia	3	3	0.00	-0.22	4	4	0.00	0.91	0	0	..	..
Thailand	90	107	-0.27	1.47	53	44	5.58	-2.34	4	4	11.45	1.71
Turkey	1 753	2 302	8.40	1.75	720	764	-0.97	-1.57	50	55	9.56	0.88
Viet Nam	335	382	-0.66	1.37	26	29	123.61	0.22	40	43	4.98	-0.22
OCEANIA	3 281	3 892	5.86	0.64	25	25	-0.54	0.00	2 363	2 921	9.21	0.70
Australia	3 269	3 879	5.89	0.64	21	20	1.04	0.00	2 363	2 921	9.21	0.70
New Zealand	10	10	0.00	0.00	4	4	-5.19	0.00	0	0	..	..
<b>DEVELOPED COUNTRIES</b>	<b>88 203</b>	<b>103 424</b>	<b>4.26</b>	<b>1.54</b>	<b>9 565</b>	<b>8 764</b>	<b>2.90</b>	<b>-0.30</b>	<b>17 305</b>	<b>21 007</b>	<b>4.13</b>	<b>1.21</b>
<b>DEVELOPING COUNTRIES</b>	<b>58 590</b>	<b>69 570</b>	<b>1.52</b>	<b>1.58</b>	<b>10 569</b>	<b>14 994</b>	<b>5.67</b>	<b>2.09</b>	<b>2 845</b>	<b>2 750</b>	<b>7.68</b>	<b>0.67</b>
LEAST DEVELOPED COUNTRIES (LDC)	5 356	6 467	1.92	1.77	143	289	-4.65	6.28	85	91	6.83	-2.22
<b>OECD<sup>2</sup></b>	<b>59 502</b>	<b>63 778</b>	<b>3.49</b>	<b>0.54</b>	<b>11 527</b>	<b>11 145</b>	<b>2.24</b>	<b>-0.05</b>	<b>14 764</b>	<b>16 854</b>	<b>5.39</b>	<b>0.57</b>
<b>BRICS</b>	<b>53 103</b>	<b>61 807</b>	<b>2.33</b>	<b>1.63</b>	<b>5 134</b>	<b>8 499</b>	<b>10.21</b>	<b>2.95</b>	<b>1 470</b>	<b>1 131</b>	<b>5.14</b>	<b>0.46</b>

.. Not available

Note: Marketing year: See Glossary of Terms for definitions.

Average 2015-17est: Data for 2017 are estimated.

1. Refers to mainland only. The economies of Chinese Taipei, Hong Kong (China) and Macau (China) are included in the Asia aggregate.
2. Excludes Iceland but includes all EU28 member countries.
3. Least-squares growth rate (see glossary).

Source: OECD/FAO (2018), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database). doi: dx.doi.org/10.1787/agr-outl-data-en

## ANNEX A

**Table A.19.2. Other oilseed projections: Consumption, domestic crush**

Marketing year

	CONSUMPTION (kt)		Growth (%) <sup>3</sup>		DOMESTIC CRUSH (kt)		Growth (%) <sup>3</sup>	
	Average 2015-17est	2027	2008-17	2018-27	Average 2015-17est	2027	2008-17	2018-27
<b>WORLD</b>	<b>147 068</b>	<b>172 955</b>	<b>3.20</b>	<b>1.54</b>	<b>124 603</b>	<b>148 768</b>	<b>3.41</b>	<b>1.64</b>
NORTH AMERICA	13 732	14 778	6.02	0.67	11 572	12 492	6.66	0.67
Canada	9 281	10 113	7.87	0.61	8 778	9 670	7.73	0.60
United States	4 451	4 664	3.03	0.80	2 794	2 821	4.09	0.89
LATIN AMERICA	6 499	8 610	0.90	1.95	6 025	8 026	0.80	1.97
Argentina	3 477	4 971	0.40	2.11	3 354	4 801	0.13	2.12
Brazil	370	495	2.00	2.45	307	409	1.46	2.36
Chile	99	109	-0.29	1.04	91	99	-0.40	0.98
Colombia	9	10	0.00	0.49	8	8	0.00	0.61
Mexico	1 758	2 149	2.05	1.83	1 638	2 028	2.39	1.93
Paraguay	223	253	3.97	1.15	186	207	4.16	0.93
EUROPE	61 408	70 429	4.20	1.62	56 245	64 832	4.39	1.69
European Union	34 442	34 195	2.10	0.16	31 819	31 556	2.16	0.16
Russia	11 863	13 950	6.82	2.25	11 242	13 113	7.47	2.21
Ukraine	13 720	20 707	9.10	4.13	12 477	19 353	9.21	4.41
AFRICA	8 430	10 170	2.32	1.79	4 621	5 374	2.98	1.33
Egypt	216	268	2.53	1.82	133	159	4.02	1.28
Ethiopia	26	32	0.00	2.34	17	23	0.00	2.90
Nigeria	2 083	2 638	0.88	2.28	729	904	0.88	1.94
South Africa	1 017	1 096	2.30	0.96	917	988	2.41	0.95
ASIA	56 057	67 972	2.07	1.60	45 264	57 116	2.10	1.81
China <sup>1</sup>	33 410	39 690	3.21	1.50	26 027	32 842	3.20	1.83
India	10 321	13 911	-0.90	2.34	8 975	12 276	-0.82	2.46
Indonesia	911	990	-0.55	0.65	302	385	2.87	1.38
Iran	458	651	6.77	1.41	431	624	7.45	1.45
Japan	2 531	2 542	0.70	0.07	2 505	2 522	0.74	0.09
Kazakhstan	549	861	5.49	3.44	424	682	4.98	3.82
Korea	44	44	-0.15	0.06	39	40	-0.07	0.06
Malaysia	46	50	2.51	0.84	45	48	2.44	0.78
Pakistan	2 057	2 248	3.88	1.44	1 882	2 032	4.04	1.34
Philippines	80	92	2.13	1.24	68	78	2.39	1.34
Saudi Arabia	7	7	0.00	0.47	5	5	0.00	0.45
Thailand	140	146	1.38	0.16	84	94	2.96	0.67
Turkey	2 434	3 009	4.87	0.86	2 232	2 761	4.51	0.79
Viet Nam	321	367	-0.37	1.50	203	226	0.33	1.21
OCEANIA	943	995	0.66	0.45	876	928	0.34	0.49
Australia	927	979	0.71	0.46	865	916	0.35	0.49
New Zealand	14	14	-2.23	0.00	11	11	0.00	0.00
<b>DEVELOPED COUNTRIES</b>	<b>80 590</b>	<b>91 179</b>	<b>4.31</b>	<b>1.40</b>	<b>72 895</b>	<b>82 854</b>	<b>4.51</b>	<b>1.47</b>
<b>DEVELOPING COUNTRIES</b>	<b>66 478</b>	<b>81 776</b>	<b>1.97</b>	<b>1.70</b>	<b>51 708</b>	<b>65 914</b>	<b>2.00</b>	<b>1.86</b>
LEAST DEVELOPED COUNTRIES (LDC)	5 420	6 665	1.69	2.00	3 101	3 756	2.24	1.77
<b>OECD<sup>2</sup></b>	<b>56 265</b>	<b>58 078</b>	<b>2.96</b>	<b>0.39</b>	<b>50 928</b>	<b>52 546</b>	<b>3.03</b>	<b>0.38</b>
<b>BRICS</b>	<b>56 982</b>	<b>69 142</b>	<b>2.94</b>	<b>1.81</b>	<b>47 468</b>	<b>59 628</b>	<b>3.12</b>	<b>2.03</b>

Note: Marketing year: See Glossary of Terms for definitions.

Average 2015-17est: Data for 2017 are estimated.

1. Refers to mainland only. The economies of Chinese Taipei, Hong Kong (China) and Macau (China) are included in the Asia aggregate.
2. Excludes Iceland but includes all EU28 member countries.
3. Least-squares growth rate (see glossary).

Source: OECD/FAO (2018), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database). doi: dx.doi.org/10.1787/agr-outl-data-en

## ANNEX A

**Table A.20.1. Protein meal projections: Production and trade**

Marketing year

	PRODUCTION (kt)		Growth (%) <sup>3</sup>		IMPORTS (kt)		Growth (%) <sup>3</sup>		EXPORTS (kt)		Growth (%) <sup>3</sup>	
	Average 2015-17est	2027	2008-17	2018-27	Average 2015-17est	2027	2008-17	2018-27	Average 2015-17est	2027	2008-17	2018-27
<b>WORLD</b>	<b>326 717</b>	<b>400 370</b>	<b>4.24</b>	<b>1.56</b>	<b>85 224</b>	<b>101 994</b>	<b>3.29</b>	<b>1.54</b>	<b>87 419</b>	<b>101 994</b>	<b>3.66</b>	<b>1.54</b>
NORTH AMERICA	53 140	62 631	2.57	1.39	4 643	5 297	6.77	1.93	15 637	19 255	5.15	1.73
Canada	6 508	7 157	7.14	0.73	792	728	-4.69	-0.23	4 653	5 094	10.40	0.66
United States	46 633	55 474	2.06	1.47	3 851	4 569	11.46	2.32	10 985	14 161	3.56	2.16
LATIN AMERICA	80 105	97 724	3.68	1.61	9 318	11 943	3.72	2.38	51 698	60 833	4.12	1.67
Argentina	35 302	42 496	3.67	1.80	0	0	..	..	31 475	38 189	4.24	1.91
Brazil	33 353	41 300	3.02	1.42	5	5	-32.13	0.00	15 705	18 182	2.51	1.52
Chile	353	401	7.57	0.79	1 131	1 445	4.31	2.70	1	1	-27.58	-0.24
Colombia	844	1 226	6.84	2.73	1 335	1 827	11.26	2.73	113	69	7.40	-2.65
Mexico	4 333	5 292	2.47	1.45	2 175	2 821	5.13	2.63	20	20	4.41	0.00
Paraguay	3 213	3 938	12.37	1.96	2	2	-5.18	-0.05	2 559	2 928	17.05	1.91
EUROPE	44 046	48 468	3.98	1.10	27 961	27 038	-0.09	-0.79	7 534	9 598	7.62	3.39
European Union	29 210	29 586	2.02	0.35	26 198	24 919	-0.14	-0.90	1 063	871	4.40	-2.86
Russia	7 600	8 760	9.21	1.10	399	397	-4.22	-0.57	1 536	1 905	7.61	2.52
Ukraine	6 555	9 550	9.96	3.93	37	46	-10.78	-1.36	4 590	6 583	9.27	5.37
AFRICA	7 855	10 420	5.18	1.79	6 150	8 520	7.66	3.97	493	285	-0.81	-4.71
Egypt	1 519	2 078	1.46	1.53	1 751	2 384	17.04	5.14	5	5	12.37	-0.49
Ethiopia	99	129	13.42	2.53	0	0	..	..	0	0	..	..
Nigeria	922	1 047	1.41	1.28	353	526	32.88	2.31	179	132	6.22	-2.26
South Africa	1 269	1 783	10.96	2.93	933	1 075	-2.14	1.85	23	22	-16.55	-0.57
ASIA	140 525	179 636	5.33	1.69	34 202	45 382	5.04	2.41	11 957	11 924	-0.96	-0.41
China <sup>1</sup>	87 689	111 479	7.10	1.71	1 449	2 389	-0.43	1.60	1 475	1 575	3.41	4.03
India	16 113	21 755	-0.42	2.25	314	405	25.41	0.47	1 623	1 970	-13.80	-1.13
Indonesia	6 848	8 313	5.75	1.60	4 397	4 971	6.71	1.09	4 433	4 187	6.06	-1.08
Iran	1 863	2 320	10.34	1.07	1 667	2 608	0.73	3.89	40	44	-14.51	-1.41
Japan	3 570	3 467	-0.40	-0.41	1 869	1 782	-1.49	-0.78	0	0	..	..
Kazakhstan	334	448	2.99	2.26	5	5	-2.53	0.25	92	118	-6.75	1.78
Korea	890	915	2.01	0.43	3 221	3 324	0.09	0.39	83	80	14.53	0.00
Malaysia	3 223	4 151	1.51	1.43	1 373	1 450	4.95	-0.01	2 548	2 725	1.44	0.01
Pakistan	3 816	5 283	4.32	1.75	634	2 405	4.98	13.33	286	62	9.22	-11.81
Philippines	925	1 803	-0.38	3.76	2 906	3 467	8.21	1.65	365	334	-3.22	-1.62
Saudi Arabia	475	669	122.77	1.09	1 080	1 424	11.99	2.72	57	43	31.20	-2.64
Thailand	2 675	3 463	7.12	1.22	3 179	4 281	1.89	2.77	9	12	2.45	-0.26
Turkey	3 696	4 763	6.89	1.69	2 088	2 978	11.78	2.29	126	89	18.13	-1.58
Viet Nam	1 530	1 885	23.27	1.65	5 628	9 072	9.53	4.22	77	42	32.37	-3.71
OCEANIA	1 046	1 492	2.98	4.12	2 950	3 814	8.12	2.12	99	98	0.50	0.97
Australia	902	1 321	3.26	4.49	787	918	3.98	0.30	28	29	0.75	0.00
New Zealand	8	8	0.00	0.00	2 152	2 886	10.16	2.79	10	0	21.04	..
<b>DEVELOPED COUNTRIES</b>	<b>104 601</b>	<b>119 572</b>	<b>3.05</b>	<b>1.26</b>	<b>39 048</b>	<b>39 958</b>	<b>1.01</b>	<b>-0.07</b>	<b>23 344</b>	<b>29 032</b>	<b>5.71</b>	<b>2.25</b>
<b>DEVELOPING COUNTRIES</b>	<b>222 116</b>	<b>280 798</b>	<b>4.85</b>	<b>1.69</b>	<b>46 176</b>	<b>62 036</b>	<b>5.59</b>	<b>2.72</b>	<b>64 075</b>	<b>72 962</b>	<b>3.00</b>	<b>1.27</b>
LEAST DEVELOPED COUNTRIES (LDC)	3 807	5 432	7.36	2.06	758	959	9.61	2.98	219	93	-0.17	-7.80
<b>OECD<sup>2</sup></b>	<b>96 471</b>	<b>108 764</b>	<b>2.42</b>	<b>1.06</b>	<b>45 165</b>	<b>47 418</b>	<b>1.63</b>	<b>0.23</b>	<b>17 156</b>	<b>20 407</b>	<b>5.08</b>	<b>1.39</b>
<b>BRICS</b>	<b>146 024</b>	<b>185 076</b>	<b>5.15</b>	<b>1.69</b>	<b>3 100</b>	<b>4 272</b>	<b>-1.10</b>	<b>1.32</b>	<b>20 361</b>	<b>23 654</b>	<b>0.32</b>	<b>1.49</b>

.. Not available

Note: Average 2015-17est: Data for 2017 are estimated.

1. Refers to mainland only. The economies of Chinese Taipei, Hong Kong (China) and Macau (China) are included in the Asia aggregate.
2. Excludes Iceland but includes all EU28 member countries.
3. Least-squares growth rate (see glossary).

Source: OECD/FAO (2018), "OECD-FAO Agricultural Outlook", *OECD Agriculture statistics* (database). doi: dx.doi.org/10.1787/agr-outl-data-en

## ANNEX A

**Table A.20.2. Protein meal projections: Consumption**

Marketing year

	CONSUMPTION (kt)		Growth (%) <sup>3</sup>	
	Average 2015-17est	2027	2008-17	2018-27
<b>WORLD</b>	<b>324 656</b>	<b>400 216</b>	<b>4.24</b>	<b>1.56</b>
<b>NORTH AMERICA</b>	<b>42 141</b>	<b>48 674</b>	<b>2.12</b>	<b>1.31</b>
Canada	2 653	2 791	-0.39	0.60
United States	39 488	45 883	2.31	1.36
<b>LATIN AMERICA</b>	<b>37 732</b>	<b>48 812</b>	<b>3.40</b>	<b>1.72</b>
Argentina	3 861	4 308	3.97	0.92
Brazil	17 498	23 122	2.90	1.35
Chile	1 516	1 844	5.59	2.25
Colombia	2 073	2 980	9.37	2.90
Mexico	6 487	8 093	3.29	1.85
Paraguay	669	993	5.85	2.07
<b>EUROPE</b>	<b>64 479</b>	<b>65 836</b>	<b>1.76</b>	<b>0.02</b>
European Union	54 345	53 613	0.89	-0.18
Russia	6 436	7 259	8.27	0.66
Ukraine	2 041	2 957	11.40	1.19
<b>AFRICA</b>	<b>13 472</b>	<b>18 641</b>	<b>6.60</b>	<b>2.88</b>
Egypt	3 242	4 453	7.47	3.30
Ethiopia	99	129	13.42	2.54
Nigeria	1 096	1 440	5.30	2.07
South Africa	2 185	2 834	4.23	2.52
<b>ASIA</b>	<b>162 903</b>	<b>213 045</b>	<b>6.01</b>	<b>1.97</b>
China <sup>1</sup>	87 632	112 293	7.17	1.68
India	14 758	20 208	3.16	2.60
Indonesia	6 818	9 093	6.12	2.79
Iran	3 572	4 884	5.69	2.51
Japan	5 442	5 249	-0.89	-0.53
Kazakhstan	247	334	9.24	2.44
Korea	4 038	4 159	0.20	0.40
Malaysia	2 069	2 854	3.42	2.13
Pakistan	4 147	7 615	3.97	4.56
Philippines	3 471	4 932	6.75	2.65
Saudi Arabia	1 482	2 048	17.63	2.29
Thailand	5 851	7 730	4.18	2.05
Turkey	5 665	7 647	8.58	1.98
Viet Nam	7 176	10 907	12.11	3.76
<b>OCEANIA</b>	<b>3 929</b>	<b>5 207</b>	<b>6.77</b>	<b>2.68</b>
Australia	1 683	2 210	3.71	2.60
New Zealand	2 159	2 894	9.96	2.79
<b>DEVELOPED COUNTRIES</b>	<b>120 346</b>	<b>130 425</b>	<b>1.93</b>	<b>0.64</b>
<b>DEVELOPING COUNTRIES</b>	<b>204 310</b>	<b>269 791</b>	<b>5.83</b>	<b>2.04</b>
<b>LEAST DEVELOPED COUNTRIES (LDC)</b>	<b>4 343</b>	<b>6 297</b>	<b>8.28</b>	<b>2.45</b>
<b>OECD<sup>2</sup></b>	<b>124 559</b>	<b>135 748</b>	<b>1.82</b>	<b>0.73</b>
<b>BRICS</b>	<b>128 509</b>	<b>165 717</b>	<b>5.99</b>	<b>1.70</b>

Note: Average 2015-17est: Data for 2017 are estimated.

1. Refers to mainland only. The economies of Chinese Taipei, Hong Kong (China) and Macau (China) are included in the Asia aggregate.

2. Excludes Iceland but includes all EU28 member countries.

3. Least-squares growth rate (see glossary).

Source: OECD/FAO (2018), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database). doi: dx.doi.org/10.1787/agr-outl-data-en

## ANNEX A

**Table A.21.1. Vegetable oil projections: Production and trade**

Marketing year

	PRODUCTION (kt)		Growth (%) <sup>3</sup>		IMPORTS (kt)		Growth (%) <sup>3</sup>		EXPORTS (kt)		Growth (%) <sup>3</sup>	
	Average 2015-17est	2027	2008-17	2018-27	Average 2015-17est	2027	2008-17	2018-27	Average 2015-17est	2027	2008-17	2018-27
<b>WORLD</b>	<b>189 591</b>	<b>234 643</b>	<b>4.11</b>	<b>1.67</b>	<b>77 894</b>	<b>96 262</b>	<b>4.08</b>	<b>1.85</b>	<b>76 710</b>	<b>96 262</b>	<b>3.75</b>	<b>1.85</b>
<b>NORTH AMERICA</b>	17 057	19 399	3.75	1.23	4 695	5 139	4.11	0.46	4 584	6 026	3.17	1.95
Canada	4 265	4 548	7.83	0.65	282	285	-2.33	0.00	3 147	3 475	6.89	0.37
United States	12 792	14 851	2.68	1.41	4 414	4 854	4.67	0.49	1 437	2 551	-2.15	4.60
<b>LATIN AMERICA</b>	25 557	31 977	3.82	1.81	4 686	4 795	4.23	-0.10	10 711	13 599	3.05	3.01
Argentina	9 226	11 387	3.21	1.92	18	20	6.27	0.00	5 815	7 601	0.92	3.75
Brazil	8 641	10 720	2.42	1.47	501	515	4.65	0.00	1 458	2 142	-2.30	4.78
Chile	104	117	5.15	0.83	444	536	6.04	1.83	1	1	-5.39	-0.28
Colombia	1 719	2 387	7.70	2.44	740	650	12.28	-1.99	621	809	15.47	2.03
Mexico	1 788	2 176	2.71	1.56	1 006	1 088	6.11	0.68	36	36	1.41	0.00
Paraguay	789	966	11.52	1.91	13	11	-0.17	-1.61	671	803	17.90	1.64
<b>EUROPE</b>	27 643	31 668	4.44	1.59	13 045	11 740	2.67	-0.75	9 882	13 406	11.56	3.31
European Union	16 119	16 140	2.14	0.25	10 891	9 693	2.77	-0.78	1 778	1 722	10.50	0.41
Russia	5 400	6 307	8.24	1.96	1 036	1 048	3.15	0.00	2 487	3 221	16.29	3.28
Ukraine	5 831	8 907	9.41	4.29	260	169	-6.61	-4.03	5 372	8 161	10.77	4.20
<b>AFRICA</b>	6 791	8 408	3.33	1.76	10 162	14 174	5.15	3.13	1 148	898	-0.58	-2.69
Egypt	404	555	1.03	1.67	2 023	2 634	3.46	2.30	171	136	-5.09	-2.25
Ethiopia	40	48	9.84	1.69	490	940	30.54	5.87	0	0	..	..
Nigeria	1 719	2 079	1.60	1.88	1 454	2 297	8.22	4.31	53	47	-7.91	-2.57
South Africa	536	674	6.17	2.14	841	944	2.17	1.16	36	20	-14.61	-1.13
<b>ASIA</b>	111 303	141 626	4.23	1.71	44 957	60 085	4.27	2.49	49 565	61 283	2.98	1.39
China <sup>1</sup>	27 066	34 018	5.87	1.70	8 207	7 101	-1.78	-1.63	173	163	-4.41	0.51
India	8 118	10 924	-0.05	2.32	15 511	25 936	8.50	4.68	65	59	-3.80	-0.82
Indonesia	40 559	51 538	6.61	1.80	78	71	0.93	0.04	28 214	35 763	5.79	1.65
Iran	557	714	9.37	1.09	1 287	1 689	0.49	1.87	118	137	-1.74	-1.84
Japan	1 553	1 534	0.60	-0.17	831	924	1.63	0.40	4	4	10.15	0.00
Kazakhstan	239	360	3.74	3.05	108	116	2.01	-0.64	47	52	31.11	0.65
Korea	233	239	1.93	0.40	1 010	1 023	4.42	-0.79	3	3	-9.24	0.00
Malaysia	21 360	27 123	1.27	1.44	1 276	1 110	-5.31	-1.33	17 990	22 198	0.01	1.35
Pakistan	1 851	2 404	2.39	1.55	3 210	4 469	6.22	2.59	88	61	-2.00	-2.47
Philippines	1 627	2 134	-1.07	2.14	1 134	1 488	13.42	1.49	807	751	-2.40	-1.47
Saudi Arabia	110	154	77.48	1.09	627	877	10.45	3.07	1	1	-28.73	-0.41
Thailand	2 970	4 109	6.26	2.17	315	264	19.87	-1.56	172	265	-7.53	1.52
Turkey	1 758	2 266	5.69	1.39	1 660	1 605	8.50	0.14	629	636	13.28	-0.14
Viet Nam	566	753	16.71	2.34	956	1 482	6.08	3.99	155	109	33.46	-3.83
<b>OCEANIA</b>	1 240	1 565	1.55	2.23	349	328	4.88	-0.81	820	1 051	1.98	2.13
Australia	471	614	2.25	3.05	219	197	7.06	-1.26	155	223	7.14	3.70
New Zealand	5	5	0.00	0.00	96	103	3.38	0.39	0	0	..	..
<b>DEVELOPED COUNTRIES</b>	<b>48 338</b>	<b>55 160</b>	<b>3.95</b>	<b>1.42</b>	<b>20 260</b>	<b>19 611</b>	<b>3.05</b>	<b>-0.28</b>	<b>14 768</b>	<b>19 797</b>	<b>8.16</b>	<b>2.86</b>
<b>DEVELOPING COUNTRIES</b>	<b>141 253</b>	<b>179 482</b>	<b>4.17</b>	<b>1.75</b>	<b>57 635</b>	<b>76 651</b>	<b>4.47</b>	<b>2.48</b>	<b>61 941</b>	<b>76 465</b>	<b>2.90</b>	<b>1.61</b>
<b>LEAST DEVELOPED COUNTRIES (LDC)</b>	<b>3 020</b>	<b>3 888</b>	<b>3.52</b>	<b>1.97</b>	<b>5 973</b>	<b>9 039</b>	<b>7.07</b>	<b>3.63</b>	<b>409</b>	<b>287</b>	<b>4.76</b>	<b>-3.77</b>
<b>OECD<sup>2</sup></b>	<b>39 337</b>	<b>42 744</b>	<b>2.92</b>	<b>0.83</b>	<b>21 521</b>	<b>20 964</b>	<b>3.84</b>	<b>-0.21</b>	<b>7 296</b>	<b>8 757</b>	<b>5.39</b>	<b>1.47</b>
<b>BRICS</b>	<b>49 762</b>	<b>62 643</b>	<b>4.27</b>	<b>1.79</b>	<b>26 096</b>	<b>35 544</b>	<b>3.83</b>	<b>2.74</b>	<b>4 219</b>	<b>5 605</b>	<b>4.76</b>	<b>3.66</b>

.. Not available

Note: Average 2015-17est: Data for 2017 are estimated.

1. Refers to mainland only. The economies of Chinese Taipei, Hong Kong (China) and Macau (China) are included in the Asia aggregate.
2. Excludes Iceland but includes all EU28 member countries.
3. Least-squares growth rate (see glossary).

Source: OECD/FAO (2018), "OECD-FAO Agricultural Outlook", *OECD Agriculture statistics* (database). doi: [dx.doi.org/10.1787/agr-outl-data-en](https://dx.doi.org/10.1787/agr-outl-data-en)



## ANNEX A

**Table A.21.2. Vegetable oil projections: Consumption, food**

Marketing year

	CONSUMPTION (kt)		Growth (%) <sup>3</sup>		FOOD (kg/cap)		Growth (%) <sup>3</sup>	
	Average 2015-17est	2027	2008-17	2018-27	Average 2015-17est	2027	2008-17	2018-27
<b>WORLD</b>	<b>191 590</b>	<b>234 515</b>	<b>4.48</b>	<b>1.65</b>	<b>20.6</b>	<b>23.1</b>	<b>2.69</b>	<b>0.98</b>
<b>NORTH AMERICA</b>	17 123	18 512	3.99	0.75	39.0	39.4	1.67	0.44
Canada	1 310	1 358	5.42	0.66	31.3	27.6	2.16	0.16
United States	15 814	17 154	3.87	0.76	39.9	40.7	1.64	0.46
<b>LATIN AMERICA</b>	19 563	23 169	4.56	0.72	20.9	21.7	1.11	0.02
Argentina	3 435	3 805	8.40	-1.02	18.7	19.0	-0.03	0.15
Brazil	7 649	9 093	3.93	0.62	23.8	23.4	0.04	-0.82
Chile	546	652	5.93	1.65	29.9	33.1	4.99	0.99
Colombia	1 842	2 226	7.29	1.11	24.6	27.3	5.08	0.67
Mexico	2 772	3 228	3.90	1.27	21.7	22.4	2.44	0.21
Paraguay	133	174	-2.22	2.96	19.4	22.4	-3.52	1.85
<b>EUROPE</b>	30 744	30 058	2.09	-0.12	24.8	25.2	1.49	0.34
European Union	25 176	24 170	1.99	-0.27	25.9	25.6	1.08	0.13
Russia	3 908	4 134	3.65	0.31	27.2	29.1	3.57	0.47
Ukraine	756	911	-3.16	2.95	16.2	20.9	-2.89	3.57
<b>AFRICA</b>	15 896	21 665	4.94	2.90	12.3	13.0	2.40	0.59
Egypt	2 296	3 049	4.50	2.45	23.0	25.6	2.87	0.87
Ethiopia	534	989	26.22	5.63	5.1	7.4	22.96	3.36
Nigeria	3 145	4 326	4.82	3.19	14.1	15.2	2.27	1.08
South Africa	1 344	1 598	4.81	1.60	23.3	24.7	3.50	0.60
<b>ASIA</b>	107 489	140 269	5.27	2.19	20.6	25.0	3.69	1.58
China <sup>1</sup>	35 611	40 957	4.53	1.00	25.4	28.4	3.97	0.79
India	23 868	36 782	5.16	3.93	17.3	24.2	3.74	3.06
Indonesia	12 246	15 777	9.14	2.16	24.0	29.1	4.48	1.50
Iran	1 698	2 261	2.81	1.90	21.0	25.6	1.59	1.15
Japan	2 404	2 454	0.85	-0.02	18.8	19.9	0.95	0.33
Kazakhstan	290	423	1.30	2.34	15.8	20.9	-0.28	1.48
Korea	1 237	1 260	4.01	-0.57	12.9	13.0	-1.32	-0.08
Malaysia	4 730	6 008	3.72	1.45	29.1	32.9	2.01	0.96
Pakistan	4 993	6 806	4.88	2.27	24.8	28.1	2.82	0.59
Philippines	1 955	2 866	6.24	3.01	12.2	16.4	6.36	2.11
Saudi Arabia	730	1 029	13.54	2.77	19.5	24.1	11.35	1.59
Thailand	3 171	4 105	9.16	1.95	16.4	24.2	7.37	3.24
Turkey	2 801	3 234	6.07	1.10	29.9	32.2	4.25	0.50
Viet Nam	1 363	2 122	8.08	3.97	14.3	20.3	6.85	3.08
<b>OCEANIA</b>	776	842	2.96	1.06	19.3	18.1	1.07	-0.19
Australia	543	588	3.51	1.20	22.5	21.5	1.98	0.07
New Zealand	101	108	3.20	0.38	21.7	21.1	2.10	-0.43
<b>DEVELOPED COUNTRIES</b>	<b>53 747</b>	<b>55 029</b>	<b>2.67</b>	<b>0.27</b>	<b>27.1</b>	<b>27.7</b>	<b>1.55</b>	<b>0.41</b>
<b>DEVELOPING COUNTRIES</b>	<b>137 843</b>	<b>179 486</b>	<b>5.26</b>	<b>2.11</b>	<b>19.0</b>	<b>22.1</b>	<b>3.21</b>	<b>1.18</b>
<b>LEAST DEVELOPED COUNTRIES (LDC)</b>	<b>8 623</b>	<b>12 628</b>	<b>5.87</b>	<b>3.33</b>	<b>10.6</b>	<b>12.1</b>	<b>3.45</b>	<b>1.09</b>
<b>OECD<sup>2</sup></b>	<b>53 517</b>	<b>55 009</b>	<b>2.98</b>	<b>0.28</b>	<b>28.0</b>	<b>28.5</b>	<b>1.64</b>	<b>0.35</b>
<b>BRICS</b>	<b>72 380</b>	<b>92 562</b>	<b>4.62</b>	<b>2.00</b>	<b>21.9</b>	<b>26.2</b>	<b>3.47</b>	<b>1.46</b>

Note: Average 2015-17est: Data for 2017 are estimated.

1. Refers to mainland only. The economies of Chinese Taipei, Hong Kong (China) and Macau (China) are included in the Asia aggregate.

2. Excludes Iceland but includes all EU28 member countries.

3. Least-squares growth rate (see glossary).

Source: OECD/FAO (2018), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database). doi: dx.doi.org/10.1787/agr-outl-data-en

## ANNEX A

**Table A.22. Main policy assumptions for oilseed markets**

Marketing year

		Average 2015-17est	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
<b>ARGENTINA</b>												
Export tax												
Soybean	%	30.2	21.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Other oilseeds	%	11.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Soybean meal	%	27.3	18.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Soybean oil	%	27.3	18.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
<b>AUSTRALIA</b>												
Tariffs												
Soybean oil	%	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Rapeseed oil	%	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
<b>CANADA</b>												
Tariffs												
Rapeseed oil	%	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
<b>EUROPEAN UNION<sup>1</sup></b>												
Voluntary coupled support												
Soybean	mln EUR	146	23	24	25	25	25	26	26	26	27	27
Tariffs												
Soybean oil	%	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Rapeseed oil	%	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
<b>JAPAN</b>												
New output payments												
Soybean	JPY/kg	168.5	154.2	154.2	154.2	154.2	154.2	154.2	154.2	154.2	154.2	154.2
Tariffs												
Soybean oil	JPY/kg	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9
Rapeseed oil	JPY/kg	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9
<b>KOREA</b>												
Soybean tariff-quota	kt	1 032	1 032	1 032	1 032	1 032	1 032	1 032	1 032	1 032	1 032	1 032
In-quota tariff	%	5	5	5	5	5	5	5	5	5	5	5
Out-of-quota tariff	%	487	487	487	487	487	487	487	487	487	487	487
Soybean (for food) mark up	'000 KRW/t	131	131	131	131	131	131	131	131	131	131	131
<b>MEXICO</b>												
Tariffs												
Soybean	%	33	33	33	33	33	33	33	33	33	33	33
Soybean meal	%	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8
Soybean oil	%	45	45	45	45	45	45	45	45	45	45	45
<b>UNITED STATES</b>												
ARC participation rate												
Soybean	%	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9
Soybean loan rate	USD/t	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7
Tariffs												
Rapeseed	%	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Soybean meal	%	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
Rapeseed meal	%	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Soybean oil	%	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7
Rapeseed oil	%	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
<b>CHINA</b>												
Tariffs												
Soybean	%	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Soybean meal	%	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
Soybean oil in-quota tariff	%	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Vegetable oil tariff-quota	kt	7 998.1	7 998.1	7 998.1	7 998.1	7 998.1	7 998.1	7 998.1	7 998.1	7 998.1	7 998.1	7 998.1
<b>INDIA</b>												
Soybean tariff	%	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Rapeseed tariff	%	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Soybean meal tariff	%	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Soybean oil tariff	%	10.8	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
<b>INDONESIA</b>												
Protein meal tariff	%	1.7	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
<b>PAKISTAN</b>												
Protein meal tariff	%	10.7	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
<b>VIET NAM</b>												
Protein meal tariff	%	0.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Note: Marketing year: See Glossary of Terms for definitions.

Average 2015-17est: Data for 2017 are estimated.

The sources for tariffs and Tariff Rate Quotas are the national questionnaire reply, UNCTAD and WTO.

1. Since 2015 the Basic payment scheme (BPS) holds, which shall account for 68% maximum of the national direct payment envelopes. On top of this, compulsory policy instruments have been introduced: the Green Payment (30%) and young farmer scheme (2%).

Source: OECD/FAO (2018), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database). doi: dx.doi.org/10.1787/agr-outl-data-en

# OECD-FAO Agricultural Outlook 2018-2027

The fourteenth joint edition of the OECD-FAO Agricultural Outlook provides market projections for major agricultural commodities, biofuels and fish, as well as a special feature on the prospects and challenges of agriculture and fisheries in the Middle East and North Africa.

World agricultural markets have changed markedly since the food price spikes of 2007-8, as production has grown strongly while demand growth has started to weaken. In the coming decade, real agricultural prices are expected to remain low as a result of reduced growth in global food and feed demand. Net exports will tend to increase from land abundant countries and regions, notably in the Americas. Countries with limited natural resources, slow production expansion and high population growth will see rising net imports. Increasing import dependence is projected in particular for the Middle East and North Africa, where a scarcity of arable land and water constrains agricultural production.

The projections and past trends presented in the statistical annex can be viewed in more detail at <http://dx.doi.org/10.1787/agr-outl-data-en>.

Supplementary information can be found at [www.agri-outlook.org](http://www.agri-outlook.org).

Consult this publication on line at [http://dx.doi.org/10.1787/agr\\_outlook-2018-en](http://dx.doi.org/10.1787/agr_outlook-2018-en).

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