

Chapter 5

Oilseeds¹ and oilseed products

Market situation

Starting with very high vegetable oil and oilseed prices since 2010, the 2012 drought in the United States led to even higher prices. Since soybeans contain about 80% meal and only 20% oil, the impact of the drought was much stronger on the world price of protein meal than on the price of vegetable oil. Because of this shortage of oilseeds, crushing margins were comparably low during the 2012 crop marketing year.²

At 14%, the stock to use ratio³ in 2012 is low by historic comparison as well as compared to coarse grains and wheat. Even under the normal weather conditions assumed in the Outlook it is expected to remain at this level making it difficult to buffer the market efficiently in case of production shortfalls.

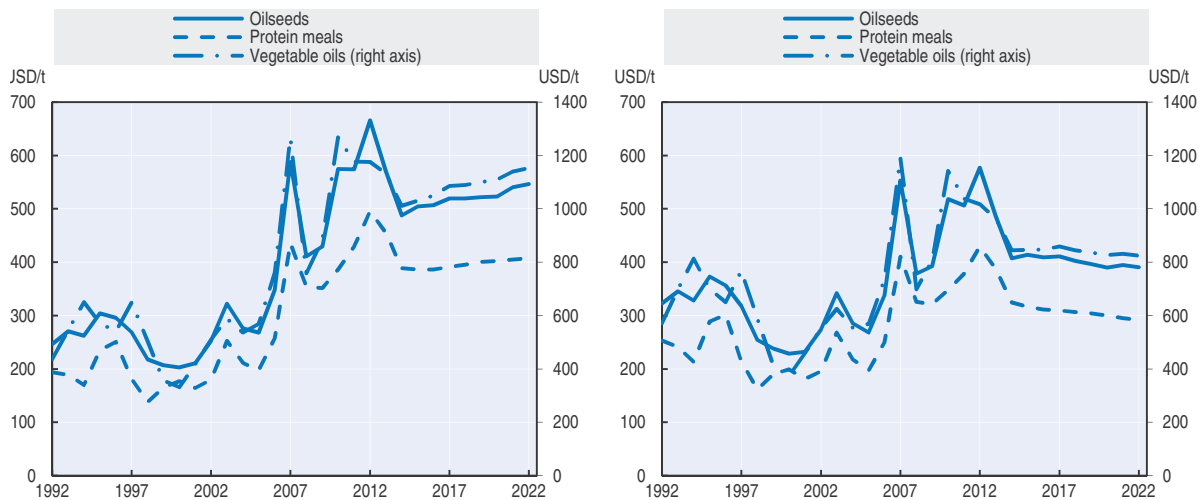
Global supply of vegetable oil remained relatively stable in the 2012 crop year based on growing palm oil production and a more limited impact of the US drought on the global oilseed oil production. The present tightness in the market is mostly due to strong demand for food and biodiesel uses.

Projection highlights

- Assuming normal yields in all producing regions, world production of oilseeds should rebound in marketing years 2013 and 2014 resulting in a sharp reduction of international oilseeds and products prices. After this correction, prices are expected to increase slowly based on strong food and fuel demands of vegetable oil and a solid feed demand for protein meal.
- Relative profitability of oilseeds versus coarse grains is expected to favour the distribution of land toward oilseeds and lead to a 26% increase in world production when combined with yield gains. With 93% of global exports in 2022, the Americas should confirm their role as the oilseeds basket of the world. China is expected to further solidify its position as the leading oilseeds importer but its share of world oilseeds crush is expected to stabilise at 25% of world total.
- After a period of over-proportional growth in palm oil production, its share in total oilseed oil output is projected to stabilise at around one third of the total vegetable oil production. World vegetable oil production remains very concentrated in the coming decade as growth originates in the main producing regions. Demand for food remains strong based on income and population growths, fuel uses are supported by consumption mandates.
- Global protein meal output is projected to increase by 25% or 67 Mt. Two-thirds should come from four countries: Argentina, Brazil, China and the United States. Compared to the past decade, consumption growth of protein meal slows down significantly reflecting both slower absolute growth in global livestock production and slower growth in the relative use of protein meal in feed rations, signalling a less rapid structural transformation process in the livestock sector in the coming decade.


Figure 5.1. **Oilseeds prices remain at higher plateau**

Evolution of prices expressed in nominal and in real terms



Note: The left figure shows nominal prices and the right figure shows real prices.

Source: OECD and FAO Secretariats.

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Market trends and prospects

Prices

After the initial downward correction, all prices of the oilseed complex are expected to increase over the medium term due to strong demands for vegetable oil and protein meal (Figure 5.1). The demand for protein meal is driven by the growth in non-ruminant and milk production in developing countries and by a greater incorporation rate of protein in feed rations in these countries. The demand for fuel use of vegetable oil will be driven by mandates since biodiesel consumption is not expected to be economically viable compared to diesel despite the assumed high crude oil price. The assumption that the United States biodiesel sector will be able to capture part of the advanced biofuel mandate from 2020 adds additional strength to the vegetable oil price in the outer years.

Also in real terms, these prices are expected to fall from their current high levels (Figure 5.1). Over the medium term, oilseed and vegetable oil prices are expected to stabilise at about the levels seen before the recent price spike and protein meal price falls almost 10% below the 2009 level. These corrections bring crush margins back to their long term average level as of 2016.

The lower growth in the protein meal price is the result of the complex nature of the oilseed market. Meal demand is fueled by increasing milk, pork, poultry and egg production in developing and certain developed countries. It is also driven by the high price of fishmeal caused by the growing aquaculture production and by a somewhat stagnating fishmeal supply due to fishing quotas. Finally, demand remains strong because meat and bone meal is still prohibited as farm animal feed in many countries. Supply of protein meal is determined by the combined drivers of meal and oil markets because of their joint product nature. The expected growth in the oil market carries over into meal leading to a very strong supply and flat prices.

Since maize production requires higher inputs of fertiliser and energy than oilseeds, even the projected faster price gains in maize are not expected to offset its cost

disadvantages, resulting in a better profitability for oilseeds over the *Outlook* period. This results in the distribution of land toward them and a more marked reduction in the production growth of maize compared to oilseeds.

Oilseed production and crush

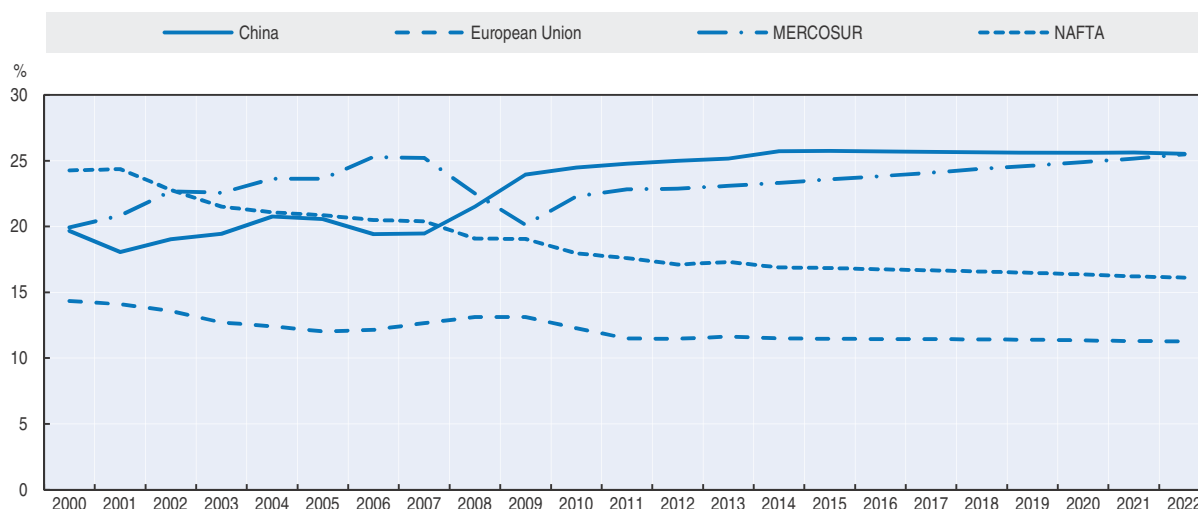
The oilseeds' share of world area for the commodities covered in the *Outlook* is expected to grow slightly between the 2010-12 average and 2022, yet slower than it was the case in the previous decade. Global area expansion of 10% combined with 14% yields improvements should generate a 26% increase in world oilseed production over the coming decade.

MERCOSUR countries (Argentina, Brazil, Paraguay and Uruguay) are expected to reach 38% of world production in 2022 compared to an average of 35% in 2010-12. In spite of a small decline, the United States should remain the leading oilseeds producer, with a global share of 21% by 2022. The Black Sea countries (the Russian Federation, Ukraine and Kazakhstan) are expected to maintain their 6% share throughout the *Outlook* period.


In a context of increasing use of biodiesel to meet the Renewable Energy Directive, European Union oilseeds production should increase by 21% over the projection period and maintain its 7% share of world total. This should be driven by both expansion of the land planted with rapeseed and by yield increases. Australia and Canada are also expected to increase production sufficiently to maintain their share of world production.

Which regions of the world will crush these oilseeds depends on many factors, including transport costs, trade policies, GMO acceptance, processing costs (labour and energy) and infrastructure installations (ports, roads, etc). In this *Outlook*, it is anticipated that China will continue to increase oilseed crush but its share of the world total stabilises around 25% (Figure 5.2). However, since the bulk of the anticipated increase in crushing is expected from imported oilseeds, China's imports need to reach 83 Mt in 2022. Such a large amount has a significant impact on the world price of oilseeds, but also on the price of other crops through supply and demand substitution (Box 5.1).

Figure 5.2. Share of global oilseed crush among leading regions



Source: OECD and FAO Secretariats.

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Large production increases in MERCOSUR gradually reach 25% of the world total crush by the end of the Outlook period. Underpinned by its biodiesel policies, the European Union's production share should only fall slightly over the Outlook period. The downward trend in the share of the NAFTA countries (the United States, Canada and Mexico) should continue but at a slower pace.

Based on the projected smaller rate of growth in global oilseed production, annual average growth in world oilseed crush is expected to be 2.2% compared to 3.8% in the previous decade. This, in absolute terms, translates into an expansion of 89 Mt over the Outlook period (2010-12 average compared to 2022). The largest expansion in crush volume is projected to come from the MERCOSUR countries with 31 Mt followed by China at 24 Mt.

Since prices are expected to remain on the higher plateau and there are no new stock holding policies by any major producer or consumer country, global stock-to-use ratio (including protein meal stocks on an oilseeds equivalent basis) is expected to remain close to 14% over the entire Outlook period. This limited capacity to compensate potential production shortfalls in a major producing region contributes to the continued risk of price volatility in the oilseed sector.

Vegetable oil production and consumption

World vegetable oil production is expected to increase by 25% or 39 Mt over the Outlook period, relative to the 2010-12 average. It is likely to remain very concentrated with eight major producers (Indonesia, Malaysia, China, the European Union, the United States, Argentina, Brazil and India) accounting for almost 80% of total production throughout the projection period. Malaysia's and Indonesia's palm oil output is projected to grow on average at about 1.9% p.a., a slower rate than in the past as land restrictions, environmental constraints and labour costs become more constraining. Due to this lower growth in production, the share of palm oil in total vegetable oil output should stabilise at about 34%. Based on its use of imported seeds in domestic crush, China ranks third in vegetable oil production.

Population growth and rising per capita income are expected to lead to an average 2.1% p.a. growth of food vegetable oil use in developing countries. Annual food vegetable oil use per capita is expected to average 19 kg across developing countries, but no more than 9.5 kg in least developed countries by 2022. As a group, developed countries are showing a stable consumption level of 24-25 kg but individual countries differ based on tastes and preferences in their diets.

In developed countries, continuing sustained demand for non-food uses, in particular for biodiesel production, is expected to lead to an average annual growth of vegetable oil use of 1.5% p.a. This rate is much slower than over the previous decade when biofuel policies were taking effect. The share of vegetable oil consumption used for world biodiesel production is expected to increase from 12% in 2010-12 to 15% in 2022 (Figure 5.3).

Argentina is expected to maintain an export-oriented biodiesel industry: consumption of vegetable oil for biodiesel production is expected to reach 2.9 Mt by 2022, i.e. 73% of domestic vegetable oil use. In the European Union and Thailand, vegetable oil for biodiesel production is expected to account for more than 50% of domestic vegetable oil consumption by 2022.

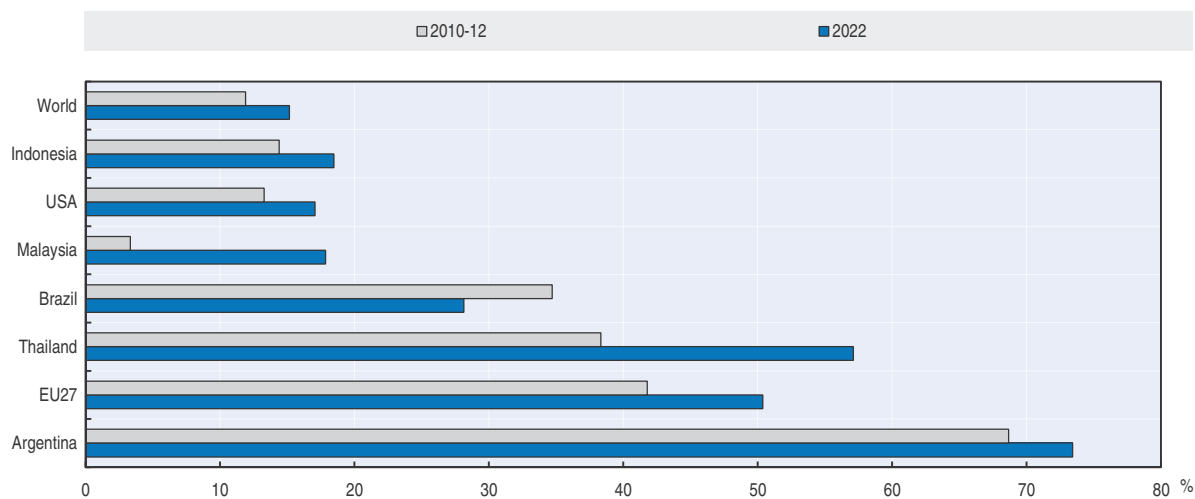
Globally, the use of edible vegetable oil for biodiesel production is expected to expand by about 11 Mt to 30 Mt p.a. over the Outlook period. This constitutes a 61% increase over

the base period and takes up almost one-third of the total production growth of vegetable oil. The European Union is expected to remain the largest producer of biodiesel with a declining but still dominant share of global output throughout the decade. Other important producing countries are Argentina, Brazil and the United States.


The use of maize oil for biodiesel production has emerged in the United States and is expected to amplify over the *Outlook* period. This maize oil is extracted during the processing of maize into ethanol and sweeteners in wet milling plants. Since only about 10% of ethanol is produced in wet milling plants, the largest part of maize oil production is derived as a by-product of maize sweeteners⁴ (about two-thirds).

Figure 5.3. **Biodiesel to use a large share of vegetable oil**

Share of vegetable oil consumption used for biodiesel production



Source: OECD and FAO Secretariats.

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Oilseed meal production and consumption

Global meal output is projected to increase by 25%, reaching almost 339 Mt by 2022. Production remains highly concentrated, with six countries (Argentina, Brazil, China, the European Union, India and the United States) accounting for almost 80% of global production. Two-thirds of the 67 Mt increase will come from only four countries: Argentina, Brazil, China and the United States. In China and the European Union, meal production will continue to rely on both domestically grown and imported seeds.

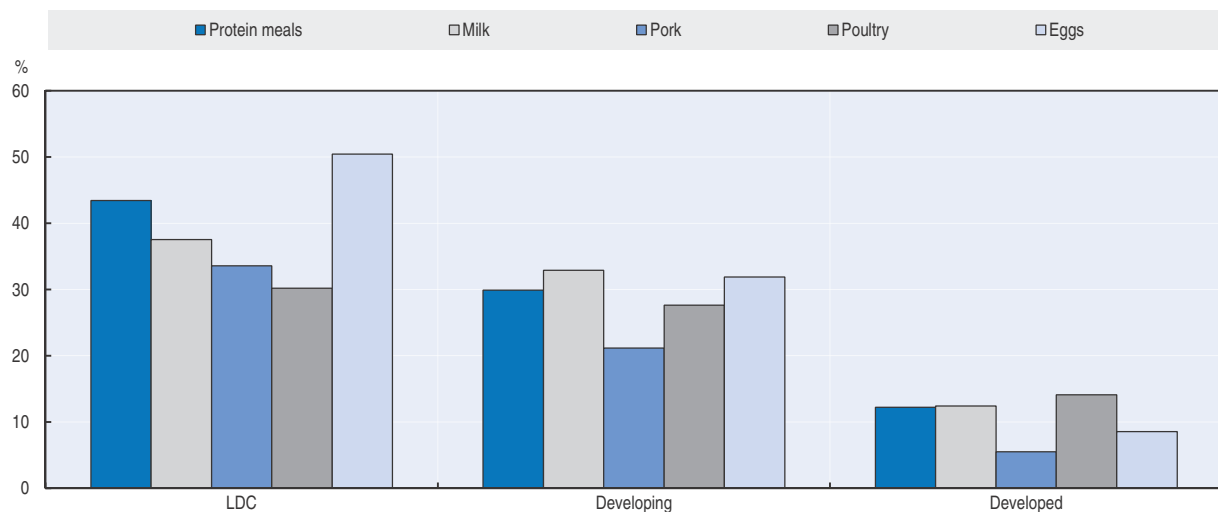
Global meal consumption should rise by 26%, with developing countries accounting for over 80% of the increase and reaching 65% of global consumption by 2022. Compared to the past decade, annual consumption growth is expected to slow down markedly reflecting firstly the lower growth of developing countries livestock industries and secondly, the slower growth in the inclusion of protein meal in feed rations.

In LDCs, protein meal use remains low, but its use is projected to grow faster in the coming ten years than over the previous decade due to the faster development of livestock production and increasing feed intensity of protein meal. While this projected development represents a positive development for these countries, it is not a driving factor in the global protein meal market since the increase in LDC consumption accounts


for only 2% of total growth. As for developed countries, growth in animal production is expected to follow the slow growth path of the past and the penetration rate of protein meal in feed rations remains stable (Figure 5.4).

China and the European Union are expected to remain the leading protein meal consumers followed by the United States and Brazil. The strong protein meal demand increase in China cannot be met entirely by additional domestic production leading to 6 Mt of imports by 2022. In the United States, meal use is expected to expand, following a period of decline that was caused by rising availability of dried distillers grains (DDG). Approaching the RFS2 maximum amount of ethanol that can be produced from maize in 2015, DDG supply will eventually stabilise contributing to rising demand for protein meal. The Russian Federation livestock industry is projected to increase the amount of protein meal used in the feed rations yet still remaining much below the use rate of other developed countries.

Figure 5.4. **Growth in protein meal consumption relative to animal production, (2010-12 vs. 2022)**



Source: OECD and FAO Secretariats.

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Trade in oilseeds and oilseed products

The average annual growth rate of the world oilseeds trade over the next decade is expected to slow to less than one-third of what was reached during the previous decade. This development is a direct result of the projected deceleration in the Chinese crushing sector. The country is expected to expand its crush by only about 24 Mt in the coming decade compared to an increase of 41 Mt in the previous decade.

Imports by the second largest importer, the European Union, remain stable as increased crush demand is met primarily by rising domestic oilseeds production. Many smaller importers are expected to expand their imports significantly relative to the base period, but in absolute volumes these additional shipments are small. Purchases by China and the European Union account for 72% of world imports by 2022.

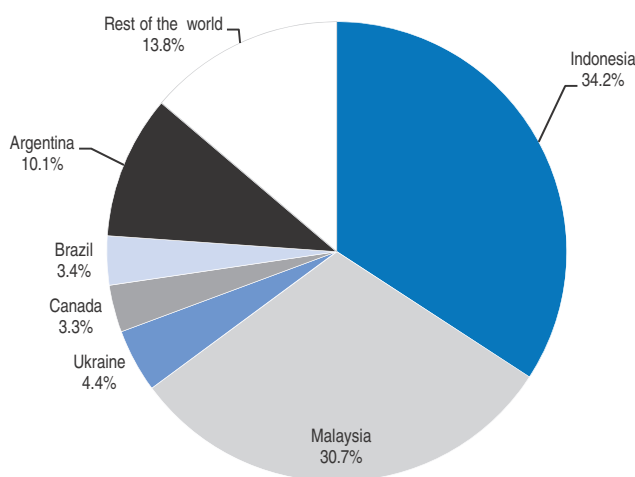
In terms of global oilseed exports, growth over the decade is expected to be smaller for developed countries (23%) than for developing countries (32%). Exports from the United States should grow by 17% over the projection period, while Brazil's shipments should increase by 22%. A similar growth is expected for Canada (29%) as a growing exportable surplus is produced through continued gains in the popularity of cultivating canola in the prairies. Argentina's exports, starting from a lower base, are expected to increase significantly, by 54%. Overall, world trade in oilseeds remains highly concentrated, with these four leading exporters holding an 85% market share in 2022. Adding Paraguay's exports, which are growing over 60% in this *Outlook*, pushes this concentration ratio to 90%.

Vegetable oil imports are less concentrated than oilseeds but there are three main market players. The European Union, China and India are expected to represent about 46% of world imports in 2022. With a projected increase in imports of 25% and 51%, China's and India's import dependency rates reach 31% and 62%, respectively. Because of an 8 Mt increase in domestic oilseed crush, the European Union's imports of vegetable oil increase much less in the next decade than in the previous one.

The vegetable oil deficit of least developed countries will continue to grow along with the domestic usage. The share of domestically produced vegetable oil in this market is expected to stay at around 40% over the *Outlook* period as domestic production in these countries covers only about 40% of the strong demand growth. Their imports are expected to increase from 4.9 Mt in 2010-12 to 6.6 Mt by 2022.

Vegetable oil exports continue to be dominated by a few players (Figure 5.5). Indonesia and Malaysia will continue to account for almost two-thirds of total vegetable oil exports during the coming decade. Argentina is expected to be the third largest exporter with a share of about 10% despite exporting 66% of its domestic production in 2022, as the country favours exports of products rather than oilseeds.

Figure 5.5. Share of vegetable oil exports in 2022



Source: OECD and FAO Secretariats.

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For meal, the projections point to a slowdown in trade expansion from 45% in the previous decade to 31% in the next decade. Deceleration should be slightly more pronounced in developed than in developing countries. Between 2010-12 and 2022, 93% of the anticipated expansion in global imports is projected to occur in the developing world.

The large increase in meal consumption in China is anticipated to change its trade balance from a small net exporter at the beginning of the century to a net importer of about 6 Mt in 2022. The EU trade deficit should remain mostly stable as the additional seeds produced to obtain the necessary oil for biodiesel will also increase the domestic supply of protein meal.

Argentina will remain by far the largest meal exporter because, among the large producers, it is the only country with a very small consumption base. This low level of consumption is directly tied to the composition of its livestock sector which requires small amounts of protein meal. The five significant American producers, Argentina, Paraguay, Brazil, the United States and Canada, account for a large share of protein meal trade, reaching 73% of world exports by 2022.

Risks and uncertainties

In addition to the issues and uncertainties common to most commodities (macroeconomic environment, crude oil prices, weather conditions), each sector has its specific supply and demand sensitivities.

Major uncertainties in the vegetable oil sector originate from the United States and European Union biofuel policies, as they determine a large share of the demand in these countries. The uncertainties related to the proposal by the European Commission to limit the amount of first generation biofuels that can be counted towards the 10% renewable energy targets to 5% are analysed and presented in the biofuel chapter of this document.

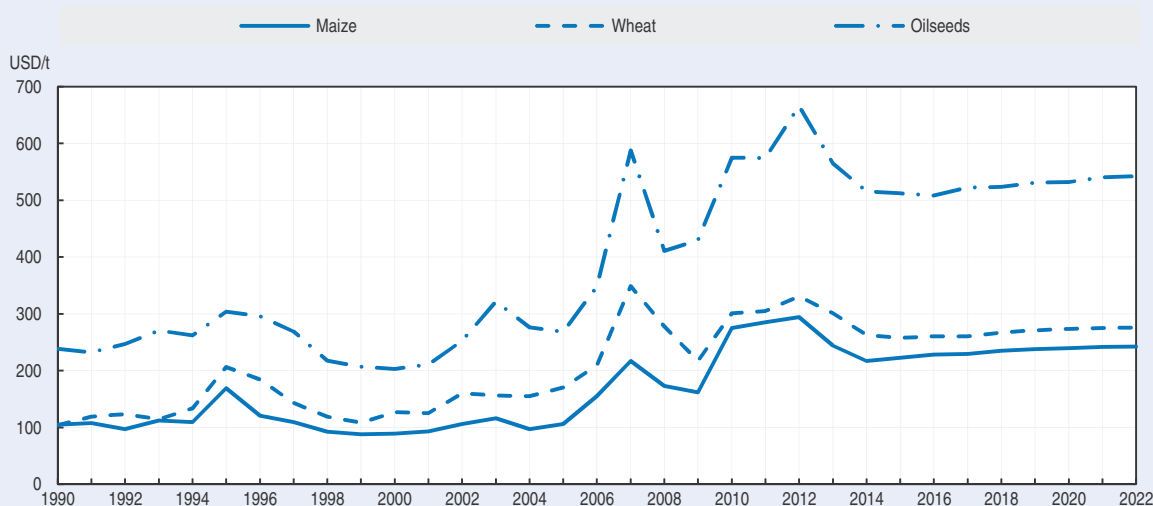
Since biodiesel is considered an advanced biofuel in the United States Renewable Fuel Standard mandates, all the uncertainties related to that policy are also relevant for the vegetable oil market. The main uncertainties are the yearly decision the Environment Protection Agency (EPA) has to take regarding to the cellulosic, advanced and total mandates. Until now, none of the reduction in the cellulosic mandate has translated into reduction in the advanced and total mandates. It was assumed in the *Outlook* that this would not be the case as of 2014. However, if the EPA continues current practices, the size of the American biodiesel market could increase substantially. The other factor affecting the incentives for blenders to use more biodiesel is the ethanol blend wall. In the *Outlook*, it is assumed that E15 blends will be introduced in the market. This is far from being a certainty.

For protein meal, the European Commission announced on 14 February 2013 that processed animal protein (PAP) from poultry and pigs would be allowed in fish farming. There is also a statement indicating that the Commission “intends proposing another measure to reintroduce the use of PAP pork and poultry to poultry and pig farming” as of 2014. Both measures could affect the outlook for oilmeal consumption in the European Union.


Box 5.1. The influence of China's oilseed imports on the world price of cereals and oilseed

As illustrated in Figure 5.6, world prices of cereals and oilseeds have experienced a higher price plateau since the crop year 2006. Many factors were identified as having contributed to this new plateau including the growth in demand from developing countries. China joined the WTO in 2001 and since then has become a more active player in international agricultural markets. The influence of China on the world cereal prices has been downplayed on the basis of the relatively small modification in its trade balance between its WTO accession and the period of the higher price plateau. On average, between 2001 and 2005 the combined annual trade balance of wheat and coarse grains of China was a 5.6 Mt surplus, falling to a 0.1 Mt per year deficit on average during the 2006-10 period, a 5.7 Mt difference. This amount represents only 0.3% and 2.3% of 2010 world production and imports, respectively. Given these small shares, a large impact on international prices is unlikely. For oilseeds, the Chinese authorities appear to have eased production targets in favour of sustaining self-sufficiency in cereals (Chapter 2). This shift has led to a substantial increase in the oilseeds trade deficit from 19.8 Mt on average for 2001-05 to 42.6 Mt for 2006-10, a 22.8 Mt difference which represents 6% and 21% of 2010 world production and imports, respectively. This quantity is sufficient to have a sizable impact on the world price of oilseeds. Considering the grain/oilseed substitution possibilities on the supply and demand side, it is highly probable that China had a much stronger impact on the world price of cereals through the change in the oilseeds trade balance than through the change in the cereals trade balance itself.

Figure 5.6. World prices of cereals and oilseeds



Source: OECD and FAO Secretariats.

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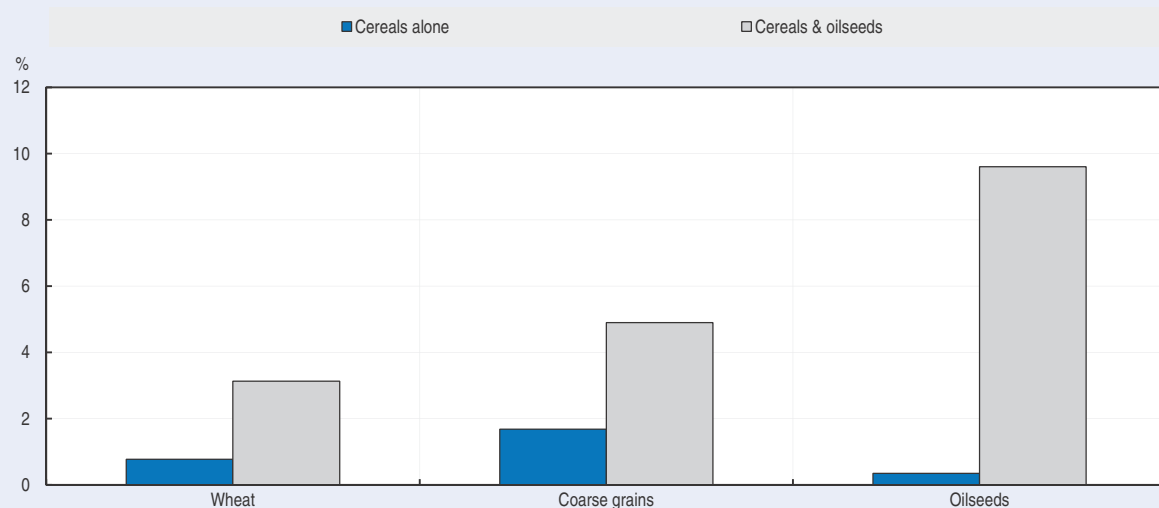
In order to examine this likely impact of the change in China's cereal trade balance, the AGLINK-COSIMO model was used to simulate a similar change over the Outlook period. The simulation involved a gradual improvement in the cereal trade balance over the 2014-22 period similar in scale to the deterioration experienced over the historical period; i.e. 5.7 Mt. In order to avoid any other second round effects from other sectors in the Chinese market, the simulation involved a simultaneous reduction in imports and increase in Chinese production. The impacts on the world prices in the last year (2022) are not very large (1.7% for maize) and would tend to validate the argument that the cereals trade balance of China did not contribute very much to the new higher price plateau.

Box 5.1. The influence of China's oilseed imports on the world price of cereals and oilseed (cont.)

A second scenario involved simultaneous improvements in the trade balances of cereals and oilseeds. Since oilseeds demand is basically derived from the vegetable oil and protein meal demand, changing Chinese crush demand alone in this simulation would have only resulted in a replacement of oilseed imports by vegetable oil and protein meal imports. To perform the desired scenario, a reduction in demand for vegetable oil and protein meal in China was also needed. As a result, oilseeds crush demand as well as vegetable oil and protein meal demand were reduced simultaneously in order to reduce the oilseeds trade deficit by about 23 Mt while maintaining the Chinese trade deficit in vegetable oil and protein meal at their baseline levels. The large reduction in Chinese oilseeds imports generated a 10% reduction in the world price of that commodity (Figure 5.7). Through land substitution and reallocation of land between countries, the decline in oilseeds prices generated a 7.7 Mt increase in world cereals production in 2022. This combined with the improvement in China's cereal trade balance led to a 5% (almost USD 12/t) reduction in the world price of maize and a 3% reduction in the price of wheat (USD 8.5/t).

Three observations can be drawn from this analysis. First, two-thirds of China's influence on world cereal prices comes from their imports of oilseeds. Second, even in a scenario with a partial reduction in China's trade deficit, the negative impact on world prices was significant (10%, 5% and 3% for oilseeds, coarse grains and wheat, respectively). Third, China's influence on these world prices may accentuate in the future given that trade deficits are projected to exceed those during the 2006-10 period.

Figure 5.7. The decline in world prices from a reduced Chinese trade deficit for only cereals or cereals and oilseeds



Source: OECD and FAO Secretariats.

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Notes

1. The projections for oilseeds are not comparable to those published last year because cotton seed was separated from the oilseeds total. It is part of a new cotton component. Cotton seed meal and oil are still included in the protein meal and vegetable oil aggregates.
2. See the glossary for the definition of crop marketing years for oilseeds and products in various countries.
3. Including stocks of oilseed meal (oilseed equivalent basis).
4. As a result, maize oil production from sweeteners of most components of the AGLINK-COSIMO model has been added to the total vegetable oil production.

References

- FAPRI (2013), *US Baseline Briefing Book*, FAPRI, March 2013.
- Baffes, J. and T. Haniotis (2010), *Placing the 2006/08 commodity price boom into perspective*, Washington DC, World Bank, 2010.

Table A.11. World oilseed projections

		Average 2010/11- 2012/13est	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
OILSEED (crop year)²												
World												
Production	mt	390.4	408.2	414.0	427.0	435.7	443.7	452.5	460.7	470.9	480.8	490.5
Area	mha	150.0	188.8	188.6	191.1	192.8	194.3	195.9	197.3	199.6	201.8	203.5
Yield	t/ha	1.9	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.4	2.4	2.4
Consumption	mt	392.0	406.2	416.2	426.6	436.3	444.5	453.3	461.6	470.7	480.5	489.6
Crush	mt	345.3	357.5	366.5	376.5	385.0	392.4	400.5	408.2	416.7	425.8	434.3
Exports	mt	74.5	118.6	120.1	123.8	125.8	127.6	129.6	131.4	134.4	137.3	140.2
Closing stocks	mt	40.3	38.5	37.2	38.6	39.0	39.2	39.4	39.5	40.7	41.9	43.8
Price ³	USD/t	605.0	564.1	514.0	511.2	507.0	521.7	523.0	530.0	530.5	538.9	540.0
Developed countries												
Production	mt	165.5	176.3	177.3	182.6	186.2	188.3	191.5	194.0	197.3	200.5	203.2
Consumption	mt	136.6	139.2	142.1	145.2	148.5	151.0	153.7	156.1	158.6	160.9	163.0
Crush	mt	124.4	126.5	128.8	132.2	134.8	137.0	139.6	141.9	144.4	146.6	148.6
Closing stocks	mt	14.4	13.9	14.2	15.6	16.0	16.2	16.2	16.1	16.3	16.4	16.6
Developing countries												
Production	mt	224.9	231.9	236.7	244.3	249.5	255.4	261.0	266.6	273.6	280.3	287.2
Consumption	mt	255.4	267.0	274.1	281.4	287.8	293.5	299.6	305.5	312.2	319.6	326.6
Crush	mt	220.9	231.0	237.7	244.3	250.1	255.4	260.9	266.3	272.4	279.1	285.6
Closing stocks	mt	25.8	24.5	23.0	23.0	23.0	23.0	23.3	23.4	24.4	25.6	27.2
OECD¹												
Production	mt	140.8	150.7	150.6	155.7	157.8	159.0	161.2	162.7	165.0	167.1	169.0
Consumption	mt	123.4	125.0	127.1	129.7	132.1	133.9	135.8	137.3	139.0	140.5	141.8
Crush	mt	112.5	113.9	115.4	118.2	120.0	121.6	123.3	124.7	126.4	127.8	129.1
Closing stocks	mt	13.2	13.2	13.3	14.7	15.1	15.2	15.1	15.0	15.1	15.1	15.2
PROTEIN MEALS (marketing year)												
World												
Production	mt	271.5	280.9	288.3	295.5	301.7	307.0	313.4	319.3	325.7	332.4	338.8
Consumption	mt	268.9	280.6	287.8	295.2	301.6	307.0	313.3	319.1	325.5	332.1	338.5
Closing stocks	mt	15.4	14.9	15.5	15.9	16.1	16.2	16.4	16.6	16.9	17.3	17.6
Price ⁴	USD/t	436.9	464.3	403.9	389.0	387.0	390.2	396.2	401.7	403.6	404.2	406.1
Developed countries												
Production	mt	87.2	88.6	90.4	92.6	94.2	95.3	97.1	98.5	100.1	101.5	102.8
Consumption	mt	107.3	111.5	112.2	113.5	114.8	115.1	116.5	117.3	118.3	119.3	120.0
Closing stocks	mt	1.3	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.4	1.4
Developing countries												
Production	mt	184.3	192.3	197.9	203.0	207.5	211.7	216.2	220.7	225.6	230.9	236.0
Consumption	mt	161.6	169.1	175.5	181.7	186.9	191.9	196.8	201.8	207.2	212.8	218.5
Closing stocks	mt	14.2	13.7	14.2	14.6	14.7	14.9	15.1	15.3	15.6	15.9	16.3
OECD												
Production	mt	82.6	83.8	85.2	87.0	88.2	89.0	90.3	91.2	92.4	93.4	94.3
Consumption	mt	110.3	114.6	115.5	117.1	118.5	119.0	120.3	121.1	122.2	123.2	124.0
Closing stocks	mt	1.5	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
VEGETABLE OILS (marketing year)												
World												
Production	mt	156.2	163.3	166.9	170.9	174.3	177.5	181.2	184.6	188.3	192.1	195.7
Of which palm oil	mt	52.1	55.7	56.9	58.2	59.4	60.6	61.9	63.1	64.4	65.6	66.9
Consumption	mt	154.9	163.7	167.9	170.6	174.9	178.3	181.8	185.3	189.0	192.6	196.2
Food	mt	108.4	133.6	137.0	138.6	141.2	143.4	145.8	148.1	150.5	153.2	156.0
Biofuel	mt	19.4	21.0	21.5	22.5	24.0	25.1	26.2	27.1	28.4	29.1	29.7
Exports	mt	41.8	65.6	66.0	67.5	68.5	70.1	71.5	73.1	74.7	76.0	77.3
Closing stocks	mt	21.3	22.1	22.0	23.1	23.5	23.6	23.8	24.1	24.3	24.7	25.0
Price ⁵	USD/t	1 206.6	1 141.4	1 038.3	1 077.6	1 065.2	1 097.7	1 104.9	1 117.6	1 136.1	1 154.6	1 160.3
Developed countries												
Production	mt	39.8	40.5	41.2	42.3	43.1	43.7	44.6	45.4	46.2	47.0	47.7
Consumption	mt	46.9	47.7	48.3	48.9	49.8	50.6	51.3	52.1	53.3	53.7	54.1
Closing stocks	mt	3.4	3.3	3.3	3.4	3.5	3.5	3.5	3.6	3.6	3.8	3.9
Developing countries												
Production	mt	116.4	122.8	125.7	128.6	131.2	133.8	136.5	139.2	142.1	145.0	147.9
Consumption	mt	108.0	116.0	119.5	121.7	125.1	127.7	130.5	133.2	135.7	139.0	142.2
Closing stocks	mt	17.9	18.8	18.7	19.7	20.0	20.1	20.3	20.5	20.7	20.9	21.1
OECD												
Production	mt	34.3	34.8	35.2	36.0	36.5	36.9	37.5	37.9	38.5	38.9	39.3
Consumption	mt	45.8	46.5	47.0	47.5	48.2	49.0	49.6	50.5	51.6	52.0	52.4
Closing stocks	mt	3.0	2.9	2.9	3.0	3.0	3.1	3.1	3.1	3.2	3.3	3.5

1. Excludes Iceland but includes all EU27 member countries.
2. Beginning crop marketing year - see Glossary of Terms for definitions. Cotton seeds have been extracted from the oilseed total. Based on the cotton outlook, cotton seed production and crush would reach about 50 mt in 2022. Average 2010/11-2012/13est: Data for 2012/13 are estimated.
3. Weighted average oilseed price, European port.
4. Weighted average protein meal, European port.
5. Weighted average price of oilseed oils and palm oil, European port.

Source: OECD and FAO Secretariats.


StatLink  <http://dx.doi.org/10.1787/888932861358>

Table A.12.1. Oilseed projections: Production and trade

Crop year

	PRODUCTION (kt)		Growth (%) ⁴		IMPORTS (kt)		Growth (%) ⁴		EXPORTS (kt)		Growth (%) ⁴	
	Average 2010-12est	2022	2003-12	2013-22	Average 2010-12est	2022	2003-12	2013-22	Average 2010-12est	2022	2003-12	2013-22
WORLD	390 414	490 460	3.13	2.07	110 714	141 194	6.68	1.82	110 371	140 197	6.27	1.83
DEVELOPED COUNTRIES	165 474	203 242	3.70	1.63	25 357	27 995	-0.47	0.86	55 540	68 070	6.67	1.22
NORTH AMERICA	107 682	128 468	2.35	1.13	1 649	1 477	1.95	0.07	49 400	59 152	6.15	1.01
Canada	18 184	23 367	8.05	1.62	519	541	-6.30	0.00	10 594	13 703	10.35	2.00
United States	89 497	105 101	1.44	1.03	1 130	936	8.70	0.10	38 805	45 449	5.23	0.73
EUROPE	52 349	66 678	6.59	2.46	17 592	20 816	0.53	1.27	4 040	5 912	12.51	3.21
European Union	28 073	33 832	4.20	1.97	16 096	18 981	-0.21	1.24	657	662	-0.30	0.34
Russian Federation	9 933	12 095	7.03	2.68	895	1 272	73.42	2.31	283	1 011	0.00	9.84
Ukraine	12 088	17 859	14.45	3.41	24	25	0.86	-0.19	2 705	3 640	25.61	2.20
OCEANIA DEVELOPED	2 861	4 130	9.33	2.53	35	30	1.32	-0.01	1 864	2 876	11.72	2.46
Australia	2 851	4 120	9.32	2.53	25	25	1.53	0.00	1 863	2 876	11.72	2.46
New Zealand	10	10	14.26	0.00	10	5	1.54	-0.08	0	0	-0.11	-1.52
OTHER DEVELOPED ¹	2 582	3 966	5.88	4.01	6 081	5 672	-3.48	-0.31	237	130	16.66	-6.76
Japan	246	239	0.93	0.00	5 222	4 476	-4.23	-1.03	0	0	-10.09	0.00
South Africa	1 523	2 714	6.32	5.21	46	130	-2.67	15.25	127	23	34.46	-20.01
DEVELOPING COUNTRIES	224 940	287 218	2.71	2.39	85 357	113 200	9.89	2.07	54 831	72 128	5.80	2.45
AFRICA	10 043	12 910	1.11	2.65	3 009	3 773	12.34	1.84	281	169	9.41	4.51
NORTH AFRICA	555	656	0.26	1.88	2 902	3 633	13.23	1.76	36	34	0.79	-1.37
Algeria	115	136	1.15	2.17	205	260	10.64	0.68	0	0	0.00	-0.05
Egypt	270	327	-0.48	1.96	1 894	2 288	20.33	1.31	30	30	12.44	-1.30
SUB-SAHARAN AFRICA	9 489	12 254	1.16	2.69	108	140	-0.97	4.18	244	135	11.52	6.83
LATIN AMERICA and CARIBBEAN	139 470	189 415	4.17	2.84	7 409	8 705	-0.21	0.07	52 832	71 075	6.06	2.58
Argentina	52 500	73 607	2.14	3.54	294	1 686	-42.13	0.81	11 372	17 501	1.51	2.24
Brazil	73 635	95 403	5.01	2.31	84	68	-22.83	0.08	34 064	41 569	6.58	2.38
Chile	83	144	1.12	5.25	209	234	-1.29	3.06	5	3	-5.15	-2.85
Mexico	297	209	3.89	-4.29	5 432	5 589	2.08	0.11	10	10	2.67	-0.06
Uruguay	2 623	4 434	21.71	2.99	4	4	-9.13	-0.53	2 242	3 488	21.69	3.06
ASIA and PACIFIC	75 427	84 893	0.62	1.42	74 939	100 721	11.41	2.27	1 719	884	-0.88	-5.15
Bangladesh	365	435	3.47	1.60	252	237	2.91	1.04	0	0	0.00	-0.07
China ²	44 380	47 951	0.01	1.20	58 898	82 830	14.17	2.57	932	409	-4.71	-7.41
India	23 222	27 165	1.29	1.71	191	2	62.22	-34.98	521	202	7.12	-4.35
Indonesia	1 899	2 425	0.16	2.16	2 184	2 230	7.32	0.75	3	2	-7.15	-0.06
Iran, Islamic Republic of	501	586	3.76	1.38	712	803	0.03	0.47	3	3	-1.41	-0.06
Korea	136	144	0.88	0.00	1 311	1 453	-1.78	1.47	0	0	-4.56	0.00
Malaysia	7	8	4.37	1.28	559	587	-1.35	0.95	17	22	-6.53	-0.14
Pakistan	871	1 070	8.42	2.55	1 311	1 709	7.06	1.68	8	0	68.19	-0.29
Saudi Arabia	4	4	0.00	0.81	5	7	0.00	1.89	0	0	0.00	-1.86
Turkey	1 257	1 620	6.08	0.94	2 150	2 169	5.53	1.10	38	40	33.86	-0.66
LEAST DEVELOPED COUNTRIES (LDC)	6 617	8 640	0.98	2.60	381	356	1.60	1.03	106	143	4.40	7.82
OECD³	140 802	168 962	2.82	1.32	33 185	35 719	-0.25	0.73	51 994	62 761	6.16	1.06
BRICS	152 693	185 330	2.89	1.98	60 114	84 302	13.94	2.56	35 927	43 214	6.14	2.27

Note: Crop year: Beginning crop marketing year - see Glossary of Terms for definitions.

Average 2010-12est: Data for 2012 are estimated.

1. Includes Israel and also transition economies: Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan, Armenia, Azerbaijan and Georgia.
2. Refers to mainland only. The economies of Chinese Taipei, Hong Kong (China) and Macau (China) are included in the Other Asia Pacific aggregate.
3. Excludes Iceland but includes all EU27 member countries.
4. Least-squares growth rate (see glossary).

Source: OECD and FAO Secretariats.

StatLink  <http://dx.doi.org/10.1787/888932861377>

Table A.12.2. Oilseed projections: Consumption, domestic crush

Crop year

	CONSUMPTION (kt)		Growth (%) ¹		DOMESTIC CRUSH (kt)		Growth (%) ¹	
	Average 2010-12est	2022	2003-12	2013-22	Average 2010-12est	2022	2003-12	2013-22
WORLD	391 994	489 640	3.47	2.06	345 295	434 270	3.77	2.15
DEVELOPED COUNTRIES	136 565	162 990	2.26	1.77	124 420	148 629	2.66	1.82
NORTH AMERICA	60 840	70 687	0.49	1.36	55 230	63 790	0.88	1.41
Canada	8 913	10 210	5.93	1.31	8 018	8 970	6.96	1.09
United States	51 928	60 476	-0.23	1.36	47 211	54 820	0.09	1.46
EUROPE	66 277	81 556	4.72	2.17	61 019	75 510	5.20	2.19
European Union	43 878	52 162	2.73	1.86	40 533	48 402	3.07	1.80
Russian Federation	10 569	12 336	9.28	2.07	9 996	11 645	9.77	2.20
Ukraine	9 385	14 234	12.81	3.75	8 459	13 116	14.90	4.01
OCEANIA DEVELOPED	939	1 284	5.84	2.39	912	1 262	6.30	2.44
Australia	920	1 270	5.80	2.42	901	1 250	6.26	2.46
New Zealand	19	14	7.79	0.02	12	12	9.62	0.02
OTHER DEVELOPED ²	8 508	9 463	-1.41	1.52	7 259	8 068	-1.76	1.63
Japan	5 564	4 708	-3.73	-0.82	4 681	3 828	-4.23	-0.99
South Africa	1 440	2 787	4.67	6.49	1 283	2 599	4.66	6.96
DEVELOPING COUNTRIES	255 429	326 650	4.16	2.21	220 875	285 641	4.44	2.32
AFRICA	12 794	16 507	2.89	2.45	7 954	9 335	4.22	1.42
NORTH AFRICA	3 427	4 250	10.42	1.85	3 211	3 972	11.20	1.79
Algeria	322	396	6.38	1.26	303	375	6.60	1.20
Egypt	2 126	2 580	15.42	1.49	1 990	2 397	17.35	1.38
SUB-SAHARAN AFRICA	9 367	12 257	0.99	2.67	4 743	5 363	1.05	1.15
LATIN AMERICA and CARIBBEAN	93 868	126 728	3.24	2.79	87 468	119 734	3.02	2.93
Argentina	41 332	57 507	2.12	3.91	40 384	56 487	2.16	3.98
Brazil	39 560	53 885	4.26	2.25	35 117	49 158	3.58	2.44
Chile	289	375	-0.42	3.91	279	363	-0.48	3.98
Mexico	5 718	5 788	2.15	-0.09	5 374	5 444	3.19	-0.09
Uruguay	385	948	21.65	2.87	326	828	21.32	3.00
ASIA and PACIFIC	148 767	183 414	4.90	1.81	125 453	156 572	5.52	1.94
Bangladesh	633	671	3.60	1.40	545	547	3.09	0.99
China ³	102 415	129 172	6.12	1.94	85 461	109 856	7.02	2.13
India	22 729	26 866	1.47	1.63	20 113	23 502	1.46	1.59
Indonesia	4 103	4 651	3.55	1.47	2 322	2 997	6.73	2.57
Iran, Islamic Republic of	1 209	1 386	1.56	0.85	1 151	1 312	1.46	0.79
Korea	1 499	1 596	-0.90	1.33	1 066	1 079	-0.84	0.95
Malaysia	550	572	-1.06	1.04	543	566	-1.11	1.04
Pakistan	2 244	2 777	8.12	2.01	2 027	2 475	8.38	1.99
Saudi Arabia	9	11	0.00	1.50	6	7	0.00	0.61
Turkey	3 414	3 747	5.78	1.08	3 201	3 491	5.83	0.98
LEAST DEVELOPED COUNTRIES (LDC)	6 921	8 851	1.02	2.47	4 608	5 469	1.20	1.69
OECD⁴	123 370	141 813	1.22	1.41	112 470	129 099	1.60	1.41
BRICS	176 713	225 046	5.15	2.03	151 970	196 759	5.43	2.20

Note: Crop year: Beginning crop marketing year - see Glossary of Terms for definitions.

Average 2010-12est: Data for 2012 are estimated.

1. Least-squares growth rate (see glossary).
2. Includes Israel and also transition economies: Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan, Armenia, Azerbaijan and Georgia.
3. Refers to mainland only. The economies of Chinese Taipei, Hong Kong (China) and Macau (China) are included in the Other Asia Pacific aggregate.
4. Excludes Iceland but includes all EU27 member countries.

Source: OECD and FAO Secretariats.

StatLink  <http://dx.doi.org/10.1787/888932861396>

Table A.13.1. Protein meal projections: Production and trade

Marketing year

	PRODUCTION (kt)		Growth (%) ⁴		IMPORTS (kt)		Growth (%) ⁴		EXPORTS (kt)		Growth (%) ⁴	
	Average 2010-12est	2022	2003-12	2013-22	Average 2010-12est	2022	2003-12	2013-22	Average 2010-12est	2022	2003-12	2013-22
WORLD	271 467	338 786	3.50	2.06	73 198	96 187	3.44	2.75	74 002	96 106	3.36	2.75
DEVELOPED COUNTRIES	87 154	102 790	1.70	1.64	38 808	39 805	1.39	0.19	17 259	22 539	7.25	3.53
NORTH AMERICA	45 300	52 053	0.35	1.30	3 820	4 465	3.77	1.30	11 566	12 458	5.69	1.94
Canada	4 831	5 504	5.44	1.21	1 055	863	-1.74	-0.60	3 239	3 566	9.74	1.71
United States	40 469	46 549	-0.13	1.31	2 764	3 603	6.73	1.82	8 327	8 892	4.49	2.04
EUROPE	35 036	42 976	4.39	2.10	28 943	29 012	-0.16	0.11	5 438	9 856	11.25	6.10
European Union	25 377	30 180	2.14	1.74	26 674	26 317	-0.53	-0.06	1 039	3 997	5.47	11.55
Russian Federation	4 906	5 682	12.10	2.34	440	702	-3.95	4.84	1 153	831	7.69	1.02
Ukraine	3 940	6 137	17.15	4.01	70	53	-2.38	-4.03	2 973	4 807	16.36	4.27
OCEANIA DEVELOPED	893	1 147	6.23	1.79	2 046	2 423	20.00	0.48	23	22	5.85	-0.01
Australia	885	1 139	6.21	1.81	620	702	5.99	0.91	23	22	5.85	0.00
New Zealand	8	8	8.22	0.00	1 425	1 721	36.79	0.31	0	0
OTHER DEVELOPED ¹	5 926	6 615	-1.82	1.52	4 000	3 905	7.28	-0.56	231	203	8.81	-0.65
Japan	3 219	2 697	-4.73	-0.99	2 350	2 585	8.70	0.79	2	0	-25.78	0.00
South Africa	767	1 551	4.19	6.78	1 148	756	4.68	-4.66	64	75	40.43	4.86
DEVELOPING COUNTRIES	184 313	235 996	4.45	2.24	34 390	56 381	6.25	5.04	56 744	73 567	2.36	2.53
AFRICA	6 299	8 713	3.80	2.81	2 947	5 200	4.57	5.52	420	857	-0.11	6.14
NORTH AFRICA	2 530	3 083	9.93	1.78	2 626	4 858	4.45	5.71	6	5	5.03	-0.49
Algeria	197	246	8.49	1.20	943	1 619	8.18	4.75	0	0	0.00	-0.33
Egypt	1 651	1 948	12.86	1.40	675	1 854	-1.82	9.19	2	2	0.00	-0.70
SUB-SAHARAN AFRICA	3 769	5 630	0.93	3.42	321	341	5.61	3.19	413	852	-0.17	6.20
LATIN AMERICA and CARIBBEAN	68 590	93 732	3.04	2.96	6 675	9 132	3.42	3.57	42 562	58 725	1.77	3.18
Argentina	30 867	42 826	2.35	4.04	0	0	0.00	0.00	27 780	38 384	1.22	4.17
Brazil	28 358	39 424	3.54	2.45	24	25	-30.56	4.47	12 289	18 256	2.65	1.96
Chile	202	254	-0.53	3.98	961	1 209	4.44	1.62	10	9	115.95	-1.44
Mexico	3 965	4 180	2.61	0.01	564	1 427	10.65	10.02	15	15	12.44	0.08
Uruguay	201	555	21.58	2.99	253	251	18.48	7.60	6	5	0.03	-4.95
ASIA and PACIFIC	109 423	133 552	5.44	1.73	24 769	42 049	7.36	5.32	13 762	13 985	4.50	0.00
Bangladesh	369	383	2.90	1.18	343	711	11.03	6.94	0	0	0.00	-0.48
China ²	65 513	80 784	7.08	1.75	1 592	5 847	21.76	17.80	918	128	2.21	-22.04
India	19 270	23 074	3.21	1.76	76	80	1.76	-0.23	5 380	6 118	3.67	1.99
Indonesia	5 428	6 920	7.57	1.97	3 351	6 365	7.51	6.08	3 329	3 986	7.66	1.20
Iran, Islamic Republic of	1 005	1 231	1.86	1.61	2 086	3 051	21.25	4.42	180	104	24.19	-4.24
Korea	881	893	-0.80	0.89	3 211	3 811	2.63	1.65	0	0
Malaysia	3 084	3 832	1.96	1.86	1 104	1 089	5.72	-0.33	2 354	2 573	2.82	0.33
Pakistan	3 589	4 599	2.31	2.63	626	1 385	19.22	4.79	142	77	20.40	-3.68
Saudi Arabia	29	3	-0.16	0.60	592	857	-1.58	2.29	4	0	7.06	-2.24
Turkey	2 522	2 565	3.26	0.54	1 386	3 171	6.72	6.72	183	60	13.89	-6.24
LEAST DEVELOPED COUNTRIES (LDC)	3 148	4 678	0.71	3.49	527	1 035	7.95	7.05	200	682	-1.28	9.66
OECD³	82 611	94 257	0.84	1.29	41 942	46 395	1.56	0.90	12 902	16 624	5.78	3.53
BRICS	118 813	150 514	5.61	1.99	3 281	7 411	5.97	10.57	19 804	25 408	3.16	1.35

Note: Average 2010-12est: Data for 2012 are estimated.

1. Includes Israel and also transition economies: Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan, Armenia, Azerbaijan and Georgia.
2. Refers to mainland only. The economies of Chinese Taipei, Hong Kong (China) and Macau (China) are included in the Other Asia Pacific aggregate.
3. Excludes Iceland but includes all EU27 member countries.
4. Least-squares growth rate (see glossary).

Source: OECD and FAO Secretariats.


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Table A.13.2. Protein meal projections: Consumption

Marketing year

	CONSUMPTION (kt)		Growth (%) ¹	
	Average 2010-12est	2022	2003-12	2013-22
WORLD	268 898	338 524	3.60	2.06
DEVELOPED COUNTRIES	107 329	120 048	0.96	0.84
NORTH AMERICA	36 117	44 062	-0.58	1.12
Canada	2 665	2 801	-0.89	0.01
United States	33 452	41 261	-0.55	1.20
EUROPE	58 577	62 124	1.55	0.65
European Union	51 013	52 500	0.63	0.36
Russian Federation	4 201	5 551	10.23	2.85
Ukraine	1 056	1 380	16.52	2.79
OCEANIA DEVELOPED	2 912	3 547	14.26	0.89
Australia	1 479	1 818	5.92	1.47
New Zealand	1 433	1 729	36.58	0.31
OTHER DEVELOPED ²	9 723	10 315	1.03	0.76
Japan	5 600	5 282	-0.59	-0.12
South Africa	1 848	2 231	4.11	1.45
DEVELOPING COUNTRIES	161 569	218 475	5.72	2.81
AFRICA	8 841	13 047	4.32	3.62
NORTH AFRICA	5 155	7 929	6.84	4.02
Algeria	1 136	1 862	8.14	4.25
Egypt	2 329	3 797	6.34	4.51
SUB-SAHARAN AFRICA	3 686	5 118	1.49	3.02
LATIN AMERICA and CARIBBEAN	32 186	43 983	5.10	2.80
Argentina	3 044	4 406	20.45	3.03
Brazil	15 600	21 105	4.26	2.87
Chile	1 149	1 452	3.37	2.17
Mexico	4 514	5 592	3.30	1.83
Uruguay	448	801	20.17	4.24
ASIA and PACIFIC	120 542	161 446	6.01	2.74
Bangladesh	713	1 094	6.15	4.56
China ³	66 212	86 437	7.51	2.52
India	14 152	17 004	3.25	1.73
Indonesia	5 401	9 254	7.39	5.13
Iran, Islamic Republic of	2 909	4 175	11.16	3.83
Korea	4 092	4 704	1.58	1.51
Malaysia	1 826	2 342	3.04	2.63
Pakistan	4 072	5 903	3.44	3.22
Saudi Arabia	617	859	-1.46	2.29
Turkey	3 733	5 669	4.24	3.71
LEAST DEVELOPED COUNTRIES (LDC)	3 477	5 031	1.72	3.48
OECD⁴	110 256	124 021	0.69	0.88
BRICS	102 013	132 328	6.31	2.46

Note: Average 2010-12est: Data for 2012 are estimated.

1. Least-squares growth rate (see glossary).
2. Includes Israel and also transition economies: Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan, Armenia, Azerbaijan and Georgia.
3. Refers to mainland only. The economies of Chinese Taipei, Hong Kong (China) and Macau (China) are included in the Other Asia Pacific aggregate.
4. Excludes Iceland but includes all EU27 member countries.

Source: OECD and FAO Secretariats.

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Table A.14.1. Vegetable oil projections: Production and trade

Marketing year

	PRODUCTION (kt)		Growth (%) ⁴		IMPORTS (kt)		Growth (%) ⁴		EXPORTS (kt)		Growth (%) ⁴	
	Average 2010-12est	2022	2003-12	2013-22	Average 2010-12est	2022	2003-12	2013-22	Average 2010-12est	2022	2003-12	2013-22
WORLD	156 234	195 658	4.62	2.01	64 207	78 226	5.66	1.93	64 072	77 321	5.24	1.95
DEVELOPED COUNTRIES	39 787	47 722	3.82	1.85	16 455	18 208	4.41	1.24	9 688	11 736	11.90	2.64
NORTH AMERICA	14 922	16 796	1.40	1.17	3 875	3 308	9.57	-2.46	3 997	4 504	10.91	2.12
Canada	3 181	3 590	9.39	1.17	262	232	1.96	-1.21	2 564	2 929	13.10	1.87
United States	11 740	13 206	-0.09	1.17	3 613	3 076	10.38	-2.55	1 433	1 575	7.44	2.61
EUROPE	21 829	27 485	6.37	2.32	10 218	12 483	3.09	2.84	5 442	6 935	12.67	3.02
European Union	14 197	17 164	4.51	1.91	8 209	10 315	2.89	3.42	999	876	2.09	0.19
Russian Federation	3 543	4 160	8.26	2.11	944	1 118	0.96	1.80	1 157	1 408	22.23	2.67
Ukraine	3 645	5 629	14.58	4.01	326	266	6.02	-3.85	3 080	4 420	17.27	4.00
OCEANIA DEVELOPED	461	622	5.33	2.05	488	524	5.50	1.04	138	195	15.90	2.19
Australia	457	617	5.30	2.07	381	416	9.19	1.29	138	194	15.98	2.19
New Zealand	5	5	8.98	0.00	107	108	-2.64	0.12	0	0	-0.60	-0.22
OTHER DEVELOPED ¹	2 574	2 819	-0.27	1.59	1 874	1 894	2.99	-0.78	111	103	5.79	2.15
Japan	1 441	1 166	-2.30	-0.95	730	940	2.60	0.51	1	0	9.08	0.00
South Africa	398	762	3.41	6.57	786	592	3.32	-2.81	86	77	6.30	2.89
DEVELOPING COUNTRIES	116 447	147 936	4.90	2.07	47 752	60 018	6.13	2.15	54 384	65 585	4.34	1.83
AFRICA	5 421	7 213	2.88	2.48	7 322	9 346	6.15	2.83	1 145	645	12.20	-2.66
NORTH AFRICA	763	917	7.42	1.66	2 994	3 423	3.44	1.45	419	292	25.61	-1.57
Algeria	83	102	4.26	1.20	560	691	1.04	1.65	34	20	-6.97	-1.62
Egypt	433	510	10.71	1.40	1 745	2 174	5.70	2.15	319	219	51.50	-2.11
SUB-SAHARAN AFRICA	4 658	6 297	2.28	2.61	4 327	5 924	8.40	3.72	726	353	9.05	-3.48
LATIN AMERICA and CARIBBEAN	21 666	29 507	3.37	2.72	3 913	3 841	4.30	2.00	8 588	11 809	-2.31	4.35
Argentina	8 177	11 516	1.85	3.76	11	13	2.26	-0.11	4 933	7 639	-3.32	5.36
Brazil	7 659	10 524	3.78	2.42	397	486	16.82	1.58	1 849	2 912	-4.90	3.95
Chile	71	95	-0.05	3.98	309	374	2.27	0.90	3	3	-5.24	-0.66
Mexico	1 643	1 772	3.07	0.22	750	927	3.30	4.14	22	0	-15.22	..
Uruguay	83	192	20.32	2.99	80	51	13.04	1.48	2	2	-2.16	-0.62
ASIA and PACIFIC	89 360	111 215	5.43	1.87	36 518	46 831	6.33	2.03	44 651	53 131	5.91	1.41
Bangladesh	218	221	4.14	1.00	1 436	2 120	4.16	2.84	0	0	0.00	-0.20
China ²	21 320	25 733	5.57	1.68	9 101	11 418	3.52	1.60	119	159	-3.93	-0.98
India	7 258	8 694	1.72	1.76	9 688	14 665	10.26	3.20	69	99	-11.14	-0.52
Indonesia	30 051	38 365	8.80	1.84	74	65	6.93	-0.25	20 969	26 288	8.22	1.64
Iran, Islamic Republic of	302	372	1.76	1.66	1 460	1 470	1.81	1.00	189	93	0.29	-0.99
Korea	250	256	-0.43	0.82	850	953	6.62	0.71	19	5	13.41	0.00
Malaysia	21 080	26 093	3.32	1.97	2 695	2 299	13.01	-1.40	19 510	22 878	4.33	1.42
Pakistan	1 321	1 651	4.57	2.45	2 296	2 943	4.31	2.55	113	0	1.09	-46.34
Saudi Arabia	11	2	-0.15	0.60	386	581	-0.46	3.39	8	1	-16.64	-3.28
Turkey	1 241	1 320	4.12	0.70	1 168	1 391	4.57	1.11	443	399	33.73	-1.09
LEAST DEVELOPED COUNTRIES (LDC)	2 740	3 939	1.78	3.24	4 923	6 599	5.04	2.85	256	130	5.81	-2.10
OECD³	34 342	39 311	2.61	1.37	16 832	19 263	4.73	1.58	5 695	6 058	9.27	1.55
BRICS	40 177	49 874	4.63	1.94	20 916	28 278	6.26	2.28	3 280	4 655	-0.02	3.21

Note: Average 2010-12est: Data for 2012 are estimated.

1. Includes Israel and also transition economies: Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan, Armenia, Azerbaijan and Georgia.
2. Refers to mainland only. The economies of Chinese Taipei, Hong Kong (China) and Macau (China) are included in the Other Asia Pacific aggregate.
3. Excludes Iceland but includes all EU27 member countries.
4. Least-squares growth rate (see glossary).

Source: OECD and FAO Secretariats.


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Table A.14.2. Vegetable oil projections: Consumption, per capita food use

Marketing year

	CONSUMPTION (kt)		Growth (%) ¹		PER CAPITA FOOD USE (kg)		Growth (%) ¹	
	Average 2010-12est	2022	2003-12	2013-22	Average 2010-12est	2022	2003-12	2013-22
WORLD	154 876	196 243	4.75	2.02	18.3	20.0	1.82	0.67
DEVELOPED COUNTRIES	46 869	54 088	3.00	1.50	24.9	24.4	-0.57	-0.05
NORTH AMERICA	15 163	15 523	1.63	0.08	37.9	32.2	-0.83	-1.01
Canada	903	893	0.77	-1.42	23.9	20.8	-1.73	-0.59
United States	14 260	14 630	1.69	0.18	39.5	33.5	-0.77	-1.03
EUROPE	26 552	33 024	4.16	2.37	21.8	23.3	-0.76	0.46
European Union	21 409	26 597	4.06	2.54	21.9	22.3	-2.74	-0.05
Russian Federation	3 267	3 869	3.43	1.80	22.9	27.6	3.59	1.98
Ukraine	905	1 474	7.52	2.27	19.4	22.8	7.83	0.64
OCEANIA DEVELOPED	809	946	4.10	1.44	26.4	27.0	0.89	0.26
Australia	698	834	5.61	1.63	26.7	27.9	2.00	0.44
New Zealand	111	112	-2.41	0.11	25.1	22.8	-3.51	-0.83
OTHER DEVELOPED ²	4 345	4 595	1.03	0.59	16.2	16.4	0.26	0.21
Japan	2 180	2 093	-0.67	-0.28	17.2	16.9	-0.69	-0.08
South Africa	1 105	1 275	3.31	1.35	20.3	22.0	1.44	0.82
DEVELOPING COUNTRIES	108 007	142 155	5.59	2.23	16.7	19.0	2.98	0.95
AFRICA	11 557	15 900	4.10	2.97	11.4	12.2	1.57	0.68
NORTH AFRICA	3 333	4 039	3.06	1.76	19.7	20.7	1.50	0.57
Algeria	611	772	1.97	1.72	16.8	18.7	0.45	0.52
Egypt	1 854	2 458	4.89	2.48	22.2	25.0	3.04	1.02
SUB-SAHARAN AFRICA	8 224	11 861	4.55	3.42	9.7	10.7	1.78	0.93
LATIN AMERICA and CARIBBEAN	16 581	21 592	7.59	1.85	19.2	22.3	1.24	0.76
Argentina	3 071	3 959	18.86	1.72	23.4	23.9	-0.31	0.22
Brazil	6 035	8 089	8.45	1.75	20.1	26.6	1.26	0.99
Chile	375	466	1.62	1.47	21.5	24.6	0.64	0.73
Mexico	2 347	2 699	3.39	1.22	20.4	21.1	2.11	0.26
Uruguay	161	241	16.94	2.64	16.0	17.7	2.21	0.59
ASIA and PACIFIC	79 869	104 663	5.44	2.20	17.7	20.5	3.61	1.15
Bangladesh	1 646	2 337	4.19	2.68	10.8	13.6	2.96	1.56
China ³	29 828	36 919	4.60	1.64	21.9	26.3	4.06	1.37
India	16 919	23 244	6.25	2.66	13.3	16.0	4.61	1.41
Indonesia	8 801	12 031	9.75	2.40	19.1	22.3	2.67	1.16
Iran, Islamic Republic of	1 544	1 746	1.76	1.27	20.4	21.1	0.58	0.47
Korea	1 079	1 204	4.36	0.73	22.3	24.1	3.87	0.45
Malaysia	3 912	5 483	3.48	2.68	23.6	26.6	3.16	0.81
Pakistan	3 492	4 615	4.58	2.53	19.4	20.3	2.56	0.60
Saudi Arabia	392	582	0.52	3.39	13.8	16.7	-2.19	1.50
Turkey	1 912	2 307	1.92	1.37	25.5	27.6	0.59	0.40
LEAST DEVELOPED COUNTRIES (LDC)	7 388	10 400	3.72	3.08	8.5	9.5	1.30	0.94
OECD⁴	45 764	52 410	2.86	1.44	26.0	25.1	-0.97	-0.25
BRICS	57 154	73 396	5.34	1.97	18.3	21.8	3.80	1.27

Note: Average 2010-12est: Data for 2012 are estimated.

1. Least-squares growth rate (see glossary).
2. Includes Israel and also transition economies: Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan, Armenia, Azerbaijan and Georgia.
3. Refers to mainland only. The economies of Chinese Taipei, Hong Kong (China) and Macau (China) are included in the Other Asia Pacific aggregate.
4. Excludes Iceland but includes all EU27 member countries.

Source: OECD and FAO Secretariats.

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Table A.15. Main policy assumptions for oilseed markets

Crop year

		Average 2010/11- 2012/13est	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
ARGENTINA												
Oilseed export tax	%	33.5	33.5	33.5	33.5	33.5	33.5	33.5	33.5	33.5	33.5	33.5
Protein meal export tax	%	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0
Oilseed oil export tax	%	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0
AUSTRALIA												
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
CANADA												
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
EUROPEAN UNION												
Single farm payment ¹	EUR/ha	187.9	187.9	187.9	187.9	187.9	187.9	187.9	187.9	187.9	187.9	187.9
Tariffs												
Soybean oil	%	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Rapeseed oil	%	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
JAPAN												
New output payments												
Soybeans	JPY/kg	188.5	188.5	188.5	188.5	188.5	188.5	188.5	188.5	188.5	188.5	188.5
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
KOREA												
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	156	146	141	138	134	130	127	123	119	115	112
MEXICO												
Tariffs												
Soybeans	%	33	33	33	33	33	33	33	33	33	33	33
Soybeans meal	%	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8
Soybeans oil	%	45	45	45	45	45	45	45	45	45	45	45
UNITED STATES												
ACRE participation rate												
Soybeans	%	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Soybeans 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
CRP area												
Soybeans	mha	1.8	1.7	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Tariffs												
Rapeseed	%	3	3	3	3	3	3	3	3	3	3	3
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
Subsidised export limits												
Oilseed oils	kt	141	141	141	141	141	141	141	141	141	142	142
CHINA												
Tariffs												
Soybeans	%	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
INDIA												
Input subsidy rate, oilseeds ²	INR/t	4 888.3	4 888.3	4 888.3	4 888.3	4 888.3	4 888.3	4 888.3	4 888.3	4 888.3	4 888.3	4 888.3
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
Sunflower tariff	%	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Oilseed 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	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Rapeseed meal tariff	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sunflower meal tariff	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Soybean oil tariff	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rapeseed oil tariff	%	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
Sunflower oil tariff	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Palm oil tariff	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0