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Japan

Oilseeds and Products Annual

Japan's Oilseed Market Largely Stable

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Report Highlights:

Japan's vegetable oil and protein feed markets began to show signs of slowing in market year (MY) 2017/18, but low soybean prices and a drop in world rapeseed prices in 2018 helped Japan's big 3 crushers to maintain production despite rising labor and transportation costs. A cold and rainy summer in Hokkaido reduced Japanese soybean production by 15.8 percent in 2018, increasing demand for food soybean imports in MY 2018/19. A slowdown in domestic pork production is expected to reduce imports of soybean meal. Japan is expected to increase imports of palm stearin oil to meet demand under Japan's Feed-in Tariff (FIT) for energy generation. Palm kernel shell (PKS) imports for the FIT program, which have grown substantially since 2013, began to flatten in 2018 as Japanese traders look to wood pellet imports from North America.

Oilseeds Section

Commodities:

Oilseed, Soybean

Oilseed, Rapeseed

Oilseed, Cottonseed

Table 1: Production, supply and distribution of soybean (oilseed)

Oilseed, Soybean Market Begin Year Japan	2017/2018		2018/2019		2019/2020	
	Oct 2017		Oct 2018		Oct 2019	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Planted	155	150	155	147	0	150
Area Harvested	150	150	152	147	0	150
Beginning Stocks	217	217	237	205	0	210
Production	249	253	264	213	0	253
MY Imports	3256	3256	3300	3322	0	3307
Total Supply	3722	3726	3801	3740	0	3770
MY Exports	0	0	0	0	0	0
Crush	2350	2400	2350	2400	0	2430
Food Use Dom. Cons.	975	936	1005	940	0	940
Feed Waste Dom. Cons.	160	185	165	190	0	190
Total Dom. Cons.	3485	3521	3520	3530	0	3560
Ending Stocks	237	205	281	210	0	210
Total Distribution	3722	3726	3801	3740	0	3770
Yield	1.66	1.6867	1.7368	1.449	0	1.6867

(1000 HA) ,(1000 MT) ,(MT/HA)

Table 2: Production, supply and distribution of rapeseed (oilseed)

Oilseed, Rapeseed Market Begin Year Japan	2017/2018		2018/2019		2019/2020	
	Oct 2017		Oct 2018		Oct 2019	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Planted	0	2	0	2	0	2
Area Harvested	2	2	2	2	0	2
Beginning Stocks	21	21	54	62	0	85
Production	4	4	4	3	0	4
MY Imports	2384	2384	2450	2378	0	2346
Total Supply	2409	2409	2508	2443	0	2435
MY Exports	0	0	0	0	0	0
Crush	2350	2342	2450	2353	0	2345
Food Use Dom. Cons.	0	0	0	0	0	0
Feed Waste Dom. Cons.	5	5	5	5	0	5
Total Dom. Cons.	2355	2347	2455	2358	0	2350
Ending Stocks	54	62	53	85	0	85
Total Distribution	2409	2409	2508	2443	0	2435
Yield	2	2	2	1.5	0	2

(1000 HA) ,(1000 MT) ,(MT/HA)

Table 3: Production, supply and distribution of cottonseed (oilseed)

Oilseed, Cottonseed Market Begin Year	2017/2018		2018/2019		2019/2020	
	Oct 2017		Oct 2018		Oct 2019	
Japan	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Planted (Cotton)	0	0	0	0	0	0
Area Harvested (Cotton)	0	0	0	0	0	0
Seed to Lint Ratio	0	0	0	0	0	0
Beginning Stocks	10	10	10	10	0	10
Production	0	0	0	0	0	0
MY Imports	102	102	105	103	0	104
Total Supply	112	112	115	113	0	114
MY Exports	0	0	0	0	0	0
Crush	30	28	30	28	0	28
Food Use Dom. Cons.	0	0	0	0	0	0
Feed Waste Dom. Cons.	72	74	75	75	0	76
Total Dom. Cons.	102	102	105	103	0	104
Ending Stocks	10	10	10	10	0	10
Total Distribution	112	112	115	113	0	114
Yield	0	0	0	0	0	0

(1000 HA) ,(RATIO) ,(1000 MT) ,(MT/HA)

Oilseeds

Area Harvested and Production

Soybean

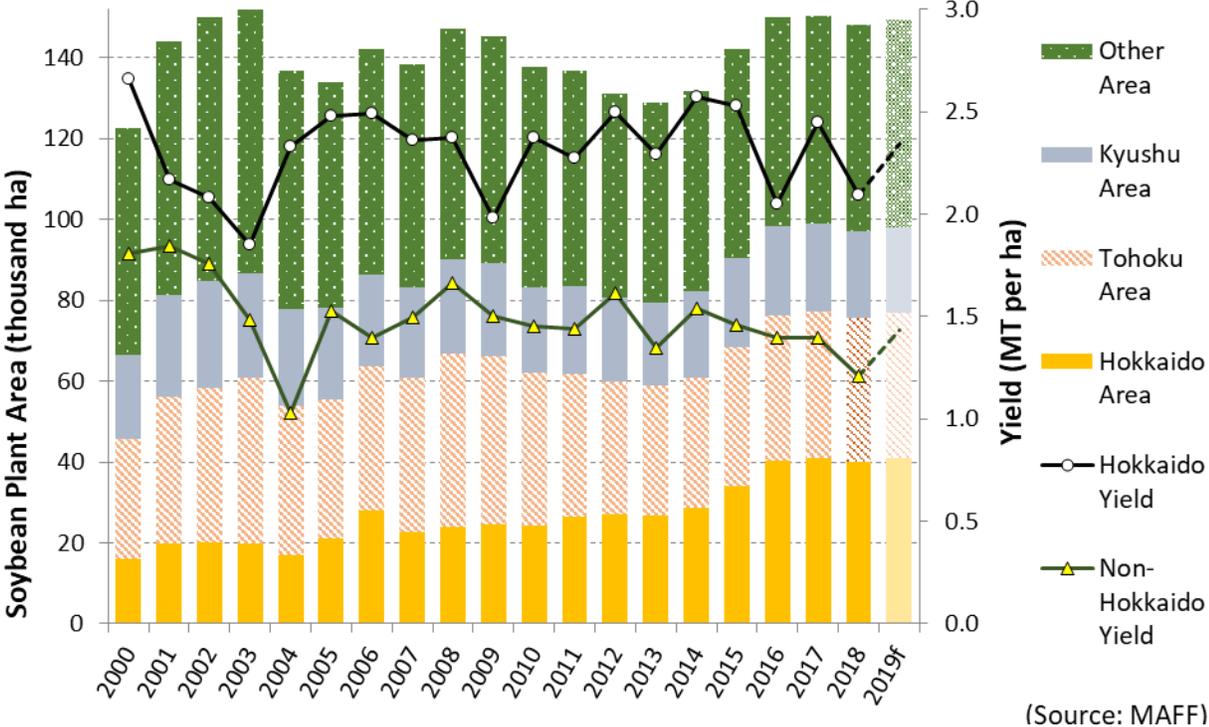
Japan's Ministry of Agriculture, Forestry and Fisheries (MAFF) reported 146,600 hectares (ha) of soybean planted area in market year (MY; October to September) 2018/19. This area is a 2.4 percent decrease from the previous year, and is attributed to increased plantings of other rotation crops, such as adzuki beans and common beans.

FAS/Tokyo forecasts Japan's soybean planted area to recover to 150,000 hectares (ha) in MY 2019/20. Although domestic soybean production was lower than expected in MY 2018/19, adzuki and common bean production was similarly low, limiting the availability of fields to plant additional soybeans in MY 2019/20.

MAFF revised the production of domestic soybeans to 253,000 MT in 2017, a 1.6 percent increase from FAS/Tokyo's estimate. MAFF also announced preliminary domestic soybean production of 212,900 metric tons (MT) in 2018, a 15.8 percent decline from the previous market year, due to cold and wet weather during early summer in Hokkaido that resulted in reduced pod set. The average yield in Hokkaido dropped 14.7 percent from 2.45 MT/ha in 2017 to 2.09 MT/ha in 2018. In western Japan, Typhoon Jebi and Typhoon Trami caused rain and wind damage before the harvest in September. In addition, an extraordinary hot and dry summer (see [JA8047](#)) hampered soybean development throughout Japan. Japan's soybean yield outside Hokkaido declined 13.2 percent in 2018, from 1.40 MT/ha to 1.21 MT/ha.

Assuming normal weather conditions in 2019 and Japan’s 15-year average soybean yield of 1.68 MT/ha (2.34 MT/ha in Hokkaido and 1.43 MT/ha in non-Hokkaido; see Figure 1), FAS/Tokyo forecasts soybean production at 250,000 MT in MY2019/20. Virtually all domestic soybeans are for food use, with little to no contribution to oil crush.

Figure 1. Japan’s soybean planted area and yield



Rapeseed

According to MAFF, rapeseed production declined 15 percent to 3,130 MT in 2018 due to a lack of sunshine in Hokkaido. FAS/Tokyo forecasts Japan’s rapeseed planted area in MY2019/20 at 2,000 ha—unchanged from the previous MY. Assuming normal weather, FAS/Tokyo forecasts rapeseed production to recover to 4,000 MT in MY 2019/20.

Consumption

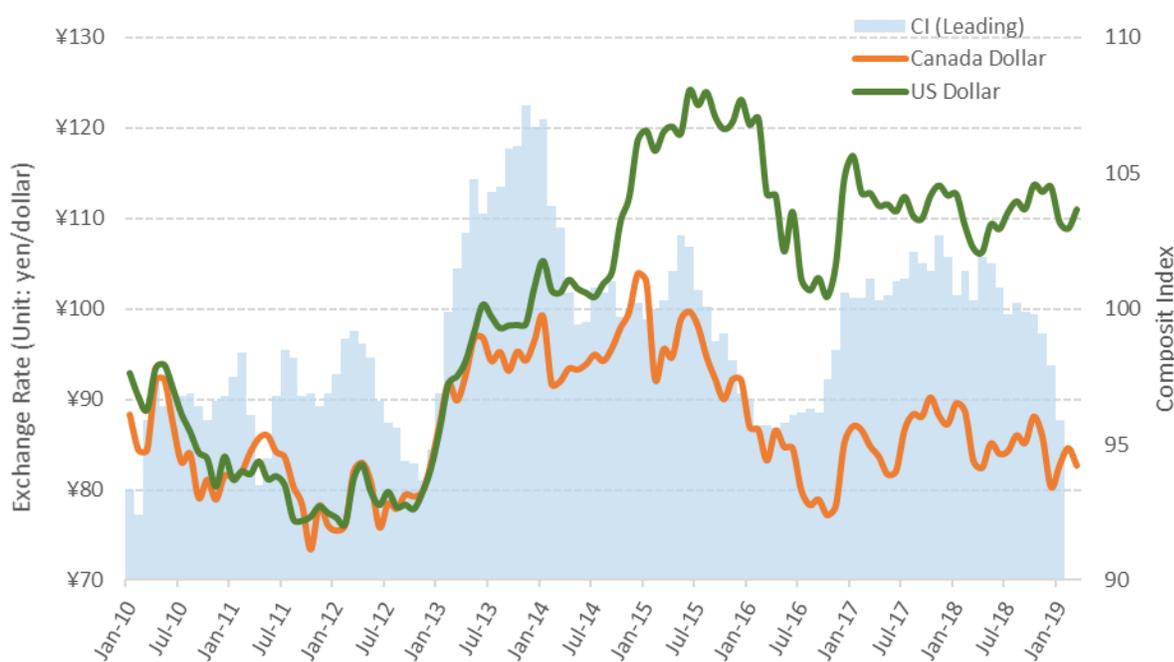
Japanese Demographics and Economy

Japan’s population, which peaked in 2004, shrunk by 230,000 people from the year before to 126.3 million in February 2019¹. The National Institute of Population and Social Security Research (IPSS) forecasts Japan’s population to fall below 100 million by the year 2053, when the population aged 65 and above will reach 40 percent², indicating a sustained contraction in overall demand – though presenting some new opportunities.

¹ Japan’s Ministry of Internal Affairs and Communications.
² IPSS (2018) http://www.ipss.go.jp/pp-zenkoku/j/zenkoku2017/pp29suppl_reportALL.pdf

Japan's demand for vegetable oil and plant meal was strong during the years of modest growth since 2012, and industry contacts believed the demand would remain strong through the 2020 Olympics Games in Tokyo. However, Japan's economy has shown signs of slowing in early 2018. The Japan Cabinet Office leading composite index (CI, an index of future-looking data) signaled a turning point in the business cycle (Figure 2). Some contacts in various industries have expressed concerns such as oversupply of eggs and poultry, softer prices for meat products, reduced demand for vegetable oil, higher production and transportation costs (due to a tight labor market), the proposed consumption tax hike from 8 to 10 percent, and uncertainty in global trade disputes. On the other hand, the price of oilseeds were low in 2018, and the U.S. dollar to Japanese yen exchange rate has been stable at around 110 yen per U.S. dollar since early 2017.

Figure 2. Japanese economic indicator and foreign exchange rate



(Source: Cabinet Office and Bank of Japan)

Oilseed Crush

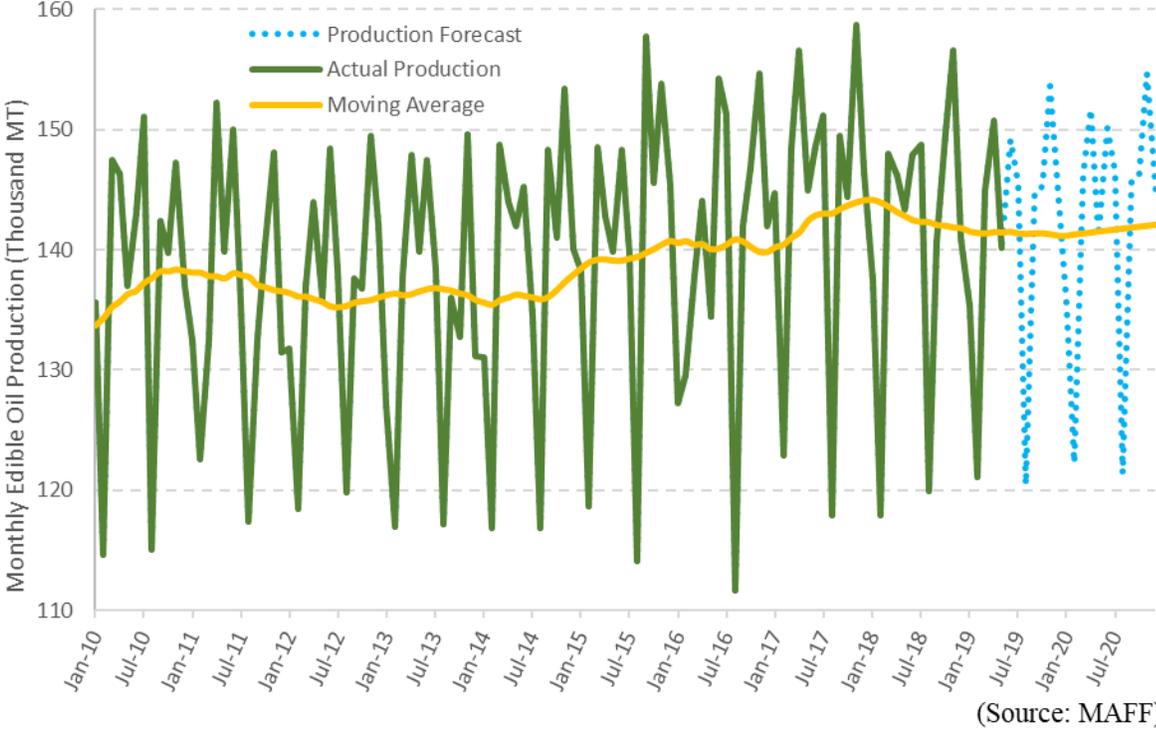
Japan's production of edible vegetable oils³ correlates to the strength of the Japanese economy. People consume foods that are rich in vegetable oil (e.g., food in restaurant or deli, snacks, ready-to-eat-food at grocery stores, etc.) more often when they have higher disposable income. Figure 3 depicts monthly crushing data and the long-term trend and growth in edible oil production. Japanese vegetable oil production grew modestly from 2013 until the end of 2017. However, production slowed in early 2018, in part due to a 4 percent price hike for vegetable oil that the big 3 oil crushers⁴ negotiated with large buyers (such as dressing and margarine manufacturers) in response to higher labor and production costs. Oil crushers reduced production in 2018, reflecting lower demand at the higher price point. In addition,

³ According to the definition of the Japan Oil Products Association and MAFF, edible vegetable oil includes 10 types of oil: soybean oil, canola oil, mustard oil, rice bran oil, cottonseed oil, safflower oil, sesame oil, corn oil, peanuts oil and sunflowerseed oil. Linseed oil and castor oil are not included.

⁴ Nisshin Oillio, J-Oil Mills, and Showa Sangyo produce the bulk of Japan's vegetable oil.

margarine and salad dressing sales were soft in 2018, further reducing demand for vegetable oil production (the details of oil consumption will discuss later in the oils section).

Figure 3. Trends and forecasts of monthly edible vegetable oil production in Japan



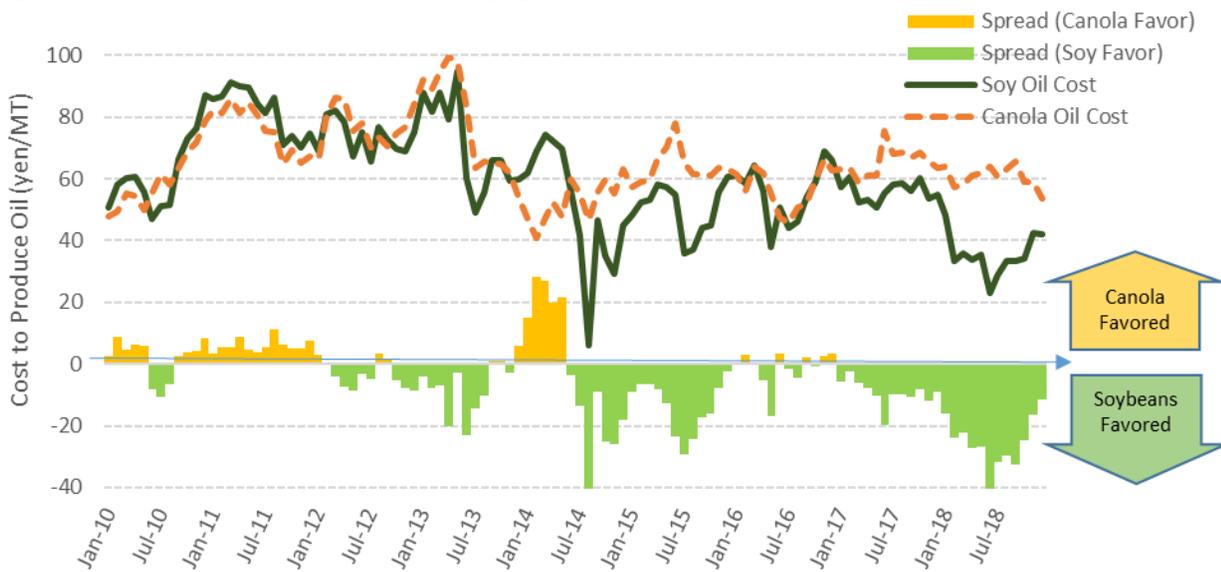
(Source: MAFF)

The Government of Japan (GOJ) has scheduled a rise in the consumption tax from 8 percent to 10 percent on October 1, 2019. The consumption tax on food items (including prepared food for home consumption) will remain at 8 percent (i.e., subject to the Reduced Tax Rate), but the tax on food consumed in restaurants will become 10 percent. The GOJ has announced that it will introduce measures to counter the fluctuations in consumer demand that stem from the tax increase, potentially limiting the impact of the tax hike on oil demand. The Tokyo 2020 summer Olympic Games may also bolster demand for vegetable oil as Japan anticipates inbound tourism to reach a record high of 40 million visitors⁵.

According to MAFF statistics, Japan’s edible oil production was 1.7 million MT (MMT) in MY 2017/18, a 1.6 percent decline from MY 2016/2017. FAS/Tokyo forecasts no change in Japan’s edible vegetable oil production at 1.7 MMT in MY 2018/19 and MY 2019/20 (Fig. 3).

⁵ Japanese tourism has grown from 10.4 million in 2013 to 31.2 million in 2018.

Figure 4. Soybean-canola oil crushing spread



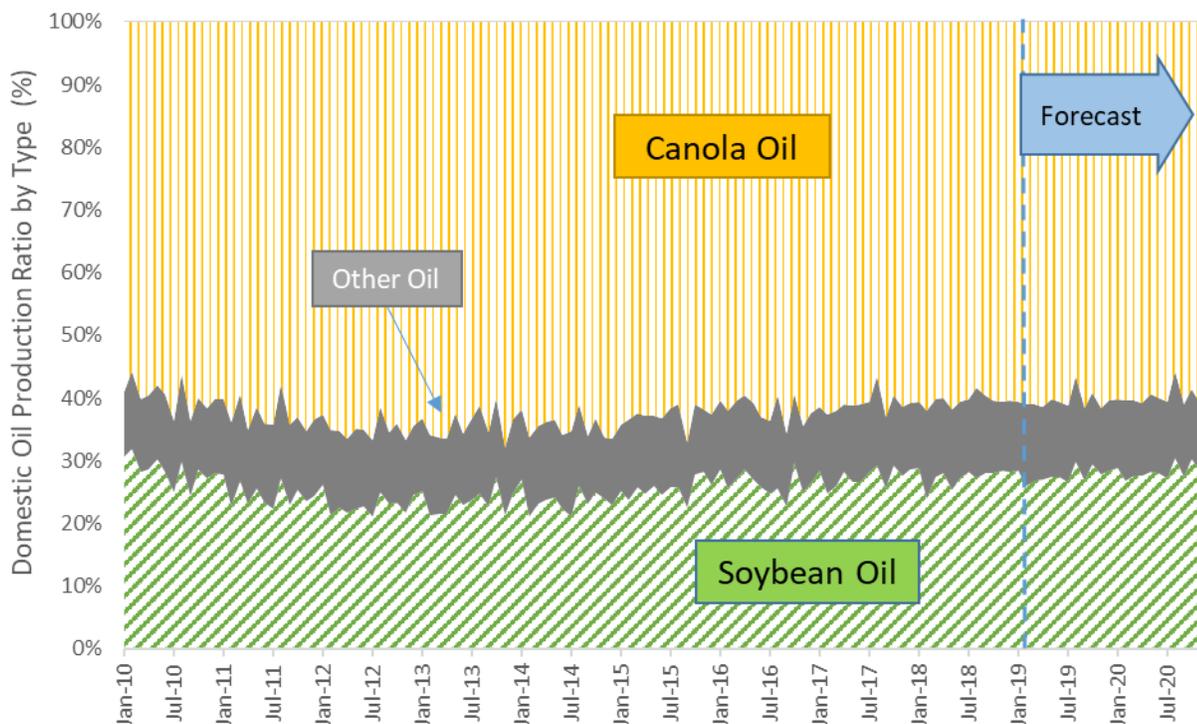
(Source: Chicago Board of Trade, Bloomberg, and Nikkei)

Japanese vegetable oil is largely comprised of rapeseed and soybean in a balance that shifts slightly based on the margins of return from their crush. Figure 4 depicts the soybean and canola oil cost in Japanese yen per MT of oil based on Chicago and Winnipeg futures prices⁶ (which are indicative of the oilseed profit margin for Japanese crushers). Lower costs indicate higher profit margins, and vice versa. Soybean prices dropped significantly during the 2014 harvest season due to record-breaking yields in the United States, which resulted in higher soybean margins. However, the margin of canola crush slowly recovered in 2016 and 2017. By the end of 2017, soybean meal prices increased as drought hit Argentine soy yields, raising soybean meal prices and improving soybean crush margins compared to rapeseed. After China imposed 25 percent tariffs on U.S. soybeans in spring 2018, soybean prices dropped significantly, raising soybean margins further. As a result, Japanese soybean crush enjoyed its highest margins in years. Figure 5 depicts the historical and forecast trend of the monthly “soybean oil ratio” and “canola oil ratio” for domestic edible vegetable oil crush.

Assuming that soybean crush continues to enjoy higher margins, FAS/Tokyo forecasts a marginal increase in the ratio of soy oil over the next two market years. FAS/Tokyo forecasts rapeseed oil to remain flat at 60.5 percent in MY 2018/19, and then to decrease marginally in MY 2019/20 (Figure 5).

Figure 5. Actual and forecasted proportion of oil crush of canola and soybean

⁶ Soybean Oil Cost (yen/MT) = [Soybean Price (\$/bushel) * 36.74 - SBM price (\$/ST) * (1/0.90718474) * 0.753] / 0.194 * Exchange Rate (yen/\$) ; Canola Oil Cost (yen/MT) = Canola Seed Price (Can\$/MT) * Exchange Rate (yen/Can\$) - SBM price (\$/ST) * (1/0.90718474) * 0.7115 * 0.553 * Exchange Rate (yen/\$) ; Spread = Soybean Oil Implied Cost (yen/MT) - Canola Oil Cost (yen/MT); the estimated costs do not include C&F premium (e.g., freight, handling costs of elevators, transportation) and insurance. Ocean freight is usually more expensive for soybeans (Gulf or Brazil) than for canola (Vancouver, BC).



(Source: MAFF)

MAFF reports that Japanese crushers utilized 2,400,360 MT of soybeans (a 0.3 percent increase from the previous year) producing 468,006 MT of soybean oil at an extraction rate of 0.195 in MY 2017/18. MAFF reported that Japan crushed 2,341,815 MT of rapeseed (a 3.9 percent decrease from previous year), producing 1,028,049 MT of rapeseed oil, at an extraction rate 0.439 in MY 2017/18.

Based on the oil crush forecast, Japan will produce 468,000 MT of soybean oil (i.e., 27.5 percent of total oil demand) in MY 2018/19, and 474,000 MT (i.e., 27.8 percent of total oil demand) in 2019/20. FAS/Tokyo forecasts Japanese rapeseed oil production at 1.029 MMT in MY 2018/19 (i.e., 60.5 percent of total oil demand) and 1.024 MMT (i.e., 60.1 percent of total oil demand) in MY 2019/20.

Assuming the 5-year average oil extraction rate for soybeans at 0.195 and for rapeseeds at 0.437, FAS/Tokyo forecasts that Japanese crushers will require 2.40 MMT of soybeans in MY 2018/19, and 2.43 MMT in MY 2019/20. FAS/Tokyo forecasts that Japan will require 2.353 MMT of rapeseed in MY 2018/19 and 2.345 MMT in MY 2019/20. Table 4 summarizes the three years of crush volumes discussed above.

Table 4. Actual and forecast Japanese oilseed crush (unit: MT)

	Soybean Oil		Rapeseed Oil		Total Edible Oil
	Soybeans	Production	Rapeseeds	Production	Production

MY 2015/16	2,283,043	444,877	2,413,993	1,036,508	1,677,066
MY 2016/17	2,392,412 (+4.8%)	466,832 (+4.9%)	2,436,278 (+0.9%)	1,060,898 (+2.4%)	1,728,208 (+3.0%)
MY 2017/18	2,400,360 (+0.3%)	468,006 (+0.3%)	2,341,815 (-3.9%)	1,028,049 (-3.1%)	1,699,719 (-1.6%)
MY 2018/19 Forecasts	2,400,000 (0%)	468,000 (0%)	2,353,000 (+0.5%)	1,029,000 (+0.1%)	1,700,000 (0%)
MY 2019/20 Forecasts	2,430,000 (+1.3%)	474,000 (+1.3%)	2,345,000 (-0.3%)	1,024,000 (-0.5%)	1,703,000 (+0.2%)
<i>Ref: MY 2018/19 YTD [Oct-Jan]</i>	<i>2,387,096 (-0.6%)</i>	<i>466,805 (-0.3%)</i>	<i>2,399,421 (+2.5%)</i>	<i>1,032,973 (+0.5%)</i>	<i>1,709,694 (+0.6%)</i>

(Source: MAFF)

Note: Percentage in parentheses is a change from the previous MY. The last row numbers are estimation deriving from year-to-date numbers from October 2018 to January 2019.

The big 3 crushers shifted production marginally in favor of soybeans and recorded stronger profits but did not increase production. Four factors contributed to the big 3 crushers not increasing soybean crush significantly, despite higher margins in MY 2017/18. First, canola oil dominates the household market following years of successful marketing, diminishing the shelf space retailers will dedicate to soybean oil products. Second, the industrial market has well-established practices and is wary of changing recipe formulas. Third, traders and crushers understand that the current situation is the result of temporary political uncertainties. Finally, despite recent vegetable oil price hikes and lower soybean input costs, crushers face rising costs of transportation and labor.

Cottonseed

MAFF data reports that oil crushers used 28,254 MT of cottonseed in MY 2017/18, an increase of 4.7 percent from the previous market year. Oil crushers produced 4,891 MT of cottonseed oil in MY 2017/18, and thus an oil extraction rate of 0.1731. Okamura Oil Mill in Osaka is the only crusher that uses cottonseed in Japan. Japanese use cottonseed oil for high-end cooking oil, professional tempura oil, and high-end oil for canned fish. Okamura also produced 12,073 MT of cottonseed meal for protein feed in MY 2017/18. FAS/Tokyo forecasts the crush number to remain unchanged in the next two market years.

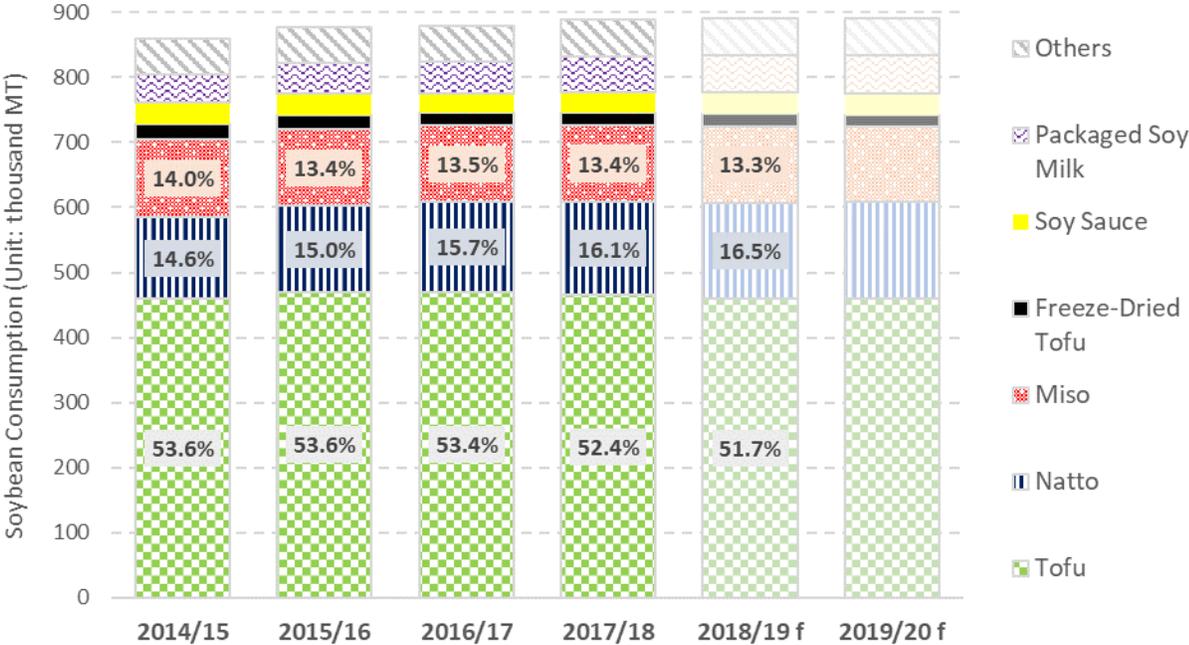
Oilseed Food Consumption

Soybeans are a fundamental part of the Japanese diet. The various soybean foods each require their own characteristics, resulting in numerous varieties of food-grade soybeans. While almost all Japanese soybean production is directed to tofu, natto, and miso paste, Japan is unable meet more than half of Japanese demand for food-grade soybeans. Due to high demand for quality and segregation, Japanese importers contract specific varieties for planting and transportation of Identity Preserved (IP) soybeans – most of which originate from northern U.S. states.

Figure 6 depicts demand in the processed soy food sector (tofu, natto, miso, simmered beans, soy sauce, soymilk), which industry contacts believe will remain stable over the next two years. Japan's processed soy food sector consumed 888,000 MT of soybeans in MY 2017/18, and FAS/Tokyo forecasts an increase to 892,000 MT in MY 2018/19 and 2019/20, as the natto sector will more than make up a

decrease in demand for tofu. In addition, Japanese farmers produced approximately 48,000 MT of non-standard soybeans⁷, which are consumed locally (e.g., home consumption, sold at farmers’ markets). With the addition of soybeans consumed locally, FAS/Tokyo estimates Japan’s soybean food consumption at 936,000 in MY 2017/18, and forecasts a marginal consumption increase to 940,000 MT in MY 2018/19 and 2019/20.

Figure 6. Food soybean consumption by food type



(Source: Daily Soybeans & Oil Seeds)

Tofu (soybean curd)

Japan’s “Act for Securing Business Opportunities for Small and Medium Enterprises by Adjusting the Business Activities of Large Enterprises” prohibits large companies from producing tofu in Japan. Accordingly, tofu producers are numerous and dispersed all over Japan. Yet, in recent years, some companies have come to dominate regional tofu retail markets, such as Sagamiya Foods Co. (Gunma), Taishi Food Inc. (Aomori), Satonoyuki Co. (Tokushima), Takano Foods Inc. (Ibaraki), and Yamami Company (Hiroshima). At the same time, many medium-sized manufacturers have closed, in part because they were unable to differentiate their products, and many independent, micro-sized tofu manufacturers who supplied traditional shopping streets closed their doors as owners retired.

According to the [Ministry of Health, Labour and Welfare \(MHLW\)](#), the number of tofu producers have dropped steadily from 15,028 in 2001 to 6,563 in 2017. The price of tofu declined in late 2018, likely due to weak demand. Industry contacts estimate that Japan consumed 465,000 MT of high protein soybeans for the production of tofu in MY 2017/18. FAS/Tokyo forecasts a slight decrease to 460,000 MT and 459,000 MT in MY 2018/19 and MY 2019/20, respectively, due to Japan’s long-term population decline.

⁷ JA only buys standard grade soybeans. According to JA, 60,257 MT of domestic soybeans were non-standard in MY 2017/18 and JA estimates the number will be 49,900 MT in MY 2018/19. Based on the production forecasts, FAS/Tokyo estimates 61,000 MT will be non-standard soybeans in MY 2019/20.

Natto (fermented soybeans)

Natto production requires firm soybeans of uniform size and color. Natto producers prefer soybeans that range from very small to medium-sized. Unlike tofu, the natto industry is highly consolidated, with just six companies accounting for more than three-quarters of natto production - Takano Foods Inc. (Ibaraki), Mizkan Inc. (Aichi), Azuma Foods Inc. (Tochigi), Yamada Foods Co. (Akita), Marukin Foods Inc. (Kumamoto), and Marumiya Inc. (Kumamoto). However, many small and micro natto manufacturers produce specialty products locally, or target high-end markets. Industry contacts suggest that natto's recent rise in popularity is due to its low price and convenience, its perception as a health food, and its expansion into markets in western Japan where consumers have not traditionally consumed natto. Natto manufacturers enjoyed continued growth in 2018 despite raising prices. Industry data indicate that Japan consumed 143,000 MT of soybeans for the production of natto in MY 2017/18. Due to its growing popularity, FAS/Tokyo forecasts an increase to 149,000 MT in MY 2018/19 and 150,000 MT in MY 2019/20.

Miso (soybean paste)

Miso manufacturers require medium to large-size soybeans that have a high sugar content. Miso is differentiated by color, sweetness, and minor ingredients, with a high rate of regional specialty, resulting in numerous small regional miso producers. Several miso manufacturers have high nationwide market shares, including Marukome (Nagano), Hanamaruki (Nagano), Marusan-Ai Co. (Aichi), Hikari Miso (Nagano), and Shinsyu-ichi Miso Co. (Tokyo/Nagano). As Japanese lifestyles and diets have changed, consumers demand less miso soup, which was once a staple food. For example, older consumers may avoid miso soup to reduce salt. Yet, miso producers are introducing innovative products such as instant freeze-dried miso soup, and are exporting miso. Industry estimates show that Japan consumed 119,000 MT in soybeans to produce miso in MY 2017/18. FAS/Tokyo forecasts a slight decrease to 118,000 MT in MY 2018/19 and no change in MY 2019/20.

Others (soy sauce, soymilk, simmered soybeans)

Soy sauce producers prefer to use soybean meal rather than soybeans as oil is unnecessary and adds to the cost of production. However, some companies produce soy sauce made from whole soybeans, and successfully market this "maru-daizu" (whole soybean) soy sauce as a high-end product. The soy sauce sector consumed 33,000 MT of whole soybeans, which may displace more soybean meal in the near future.

Pre-packed soymilk⁸ and freeze-dried tofu producers require soybeans that are high in protein, similar to tofu soybeans. Large companies, such as Kikkoman (Chiba), Marusan Ai (Aichi), Sujahta Meiraku (Aichi), Pokka Sapporo (Aichi), Otsuka Holdings (Tokyo), and Yakult (Tokyo), produce soymilk, which they sometimes mix with juice or coffee. The soymilk sector consumed 54,000 MT of soybeans, which is likely to increase due to consumer interest in health foods.

Simmered soybean producers demand large soybeans that are high in sugar. Appearance is very important for simmered soybeans, and some even use different colored variety, such as white, black and red soybeans. Simmered soybean producers usually use the most expensive soybean variety.

⁸ Pre-packed tofu milk is sold in supermarkets, whereas soymilk is also sold as a byproduct of tofu production and is sold in local tofu shops with tofu and deep-fried tofu. The volume of this soymilk is included in the tofu estimate.

As pre-packed soymilk and “maru-daizu” soy sauce are increasingly popular, FAS/Tokyo estimates that other processed soybean food manufacturers used 161,000 MT of soybeans in MY 2017/18, and forecasts an increase to 165,000 MT in MY 2018/19 and 2019/20.

Oilseed Feed, Seed, Waste Consumption

According to MAFF feed statistics, Japan used 82,327 MT of soybeans for feed in MY 2017/18, an increase of 7.2 percent from the previous market year. Feed manufacturers have increased their use of soybeans gradually since 2013, taking advantage of lower soybean prices. Based on recent trade statistics and continued low soybean prices, FAS/Tokyo forecasts a 5.7 percent increase in soybeans for feed in MY 2018/19, remaining unchanged in MY 2019/20. Other uses of soybeans for feed include approximately 5,000 MT for aquaculture and other animals. Including waste and seed, FAS/Tokyo estimates feed, seed, and waste soybean consumption at 185,000 MT, and forecasts an increase to 190,000 MT in MY 2018/19, remaining unchanged in 2019/20.

Feed manufacturers use cottonseed as minor ingredient, though more in dairy feed due to its high oil content. FAS/Tokyo estimates Japan’s cottonseed feed and waste consumption at 74,000 MT. FAS/Tokyo has forecast an increase in Japan’s milk production in 2019 (see the [2018 Dairy and Products Annual JA8083](#)), reflecting an increase the number of dairy cows (see the [2019 Livestock Semiannual JA9023](#)). Accordingly, FAS/Tokyo forecasts cottonseed feed consumption to increase marginally to 75,000 MT in MY 2018/19 and to 76,000 MT in MY 2019/20.

Total Soybean Consumption (Oil Crush, Food Soybean, and Feed/Seed/Waste)

Japan’s total domestic consumption of soybeans increased very slightly to 3.521 MMT in MY2017/18. Of this volume, 68.2 percent (or 2.4 MMT) was for crushing, 26.6 percent (936,000 MT) was consumed as food, and the rest was feed and waste. FAS/Tokyo forecasts no change to total soybean consumption of soybeans at 3.53 MMT in MY 2018/19, including 2.4 MMT for oil crushing, 940,000 MT for food, and the remaining 190,000 MT as feed, seed and waste. Assuming that the soybean crush margin will remain higher than the crush margin for rapeseed, FAS/Tokyo forecasts a slight increase in total domestic soybean consumption to 3.56 MMT in MY 2019/20, including 2.43 MMT for oil crushing, 940,000 MT for food, and the remaining 190,000 MT for feed, seed, and waste.

Total Rapeseed Consumption

FAS/Tokyo estimates Japans’ total rapeseed consumption at 2.34 MMT in MY2017/18, virtually all of which is for crushing. As oil demand is not expected to increase, total consumption of rapeseeds is forecast to remain at 2.35 million MT in MY 2018/19, remaining flat in MY 2019/20.

Trade

Soybeans

Japan imported 3,256,432 MT of soybeans in MY 2017/18, a 2.6 percent increase from the previous market year. Approximately 77 percent of Japan’s soybean imports was oil and feed grade, and 23 percent was food grade soybeans. Japan imported 2,334,713 MT from the United States, approximately 17 percent of which was food grade and 83 percent was oil and feed grade.

Japan imported roughly 775,000 MT of food-grade soybeans in MY 2017/18. FAS/Tokyo estimates that the United States supplied approximately 392,000 MT of food soybeans, representing 42 percent of food soybean imports – an increase of 13.8 percent over the previous market year. Canada supplied 335,247 MT of soybeans, making up 35.7 percent of Japan’s soybean imports. China supplied another 27,160 MT for 2.9 percent. Because 20 percent of the soybeans food manufacturers use are domestic production, and MAFF estimates a reduction in MY 2018/19 production, FAS/Tokyo forecasts an increase in food soybean imports to 815,000 MT.

Japan imports oil and feed grade soybeans from the United States and Brazil. Brazilian soybeans supplement U.S. oil grade soybeans between May and November. In MY 2016/17, the United States supplied 79 percent of oil and feed soybeans. Brazil supplied 21 percent (513,866 MT). Since the trade dispute between the United States and China made Brazilian soybeans more expensive than U.S. soybeans, it was expected that the U.S. soybeans would increase the share in MY 2017/18. However, the share of the United States dropped to 78 percent and the share of Brazil increased to 22 percent (558,675 MT). The first reason for this drop is that Japanese crushers already bought the majority of Brazilian soybeans in MY 2017/18 before the trade disputes worsened. The second is that Japanese crushers compensated for lower U.S. soybeans protein in MY 2017/18 with higher protein soybeans from Brazil, despite their higher price. According to crushers, U.S. soybean protein is higher in MY 2018/19, and therefore FAS/Tokyo forecasts a higher U.S. share.

Based on FAS/Tokyo’s forecast demand for soybeans, we forecast an increase in soybean imports to 3.312 MMT in MY 2018/19, remaining virtually flat at 3.307 MMT in MY 2019/20.

Rapeseed

Japan imports virtually all rapeseed from Canada and Australia. Japan imported 2,383,636 MT of rapeseeds in MY 2017/18; 92.6 percent from Canada, and 7.4 percent Australia. Based on FAS/Tokyo’s canola oil consumption forecast, FAS/Tokyo estimates Japan’s import of rapeseed at 2.378 MMT in MY2018/19, and forecasts imports of 2.346 MMT in MY 2019/20.

Cottonseed

Japan imported 102,475 MT of cottonseeds in MY 2017/18, 58.2 percent is from the United States (for crushing and feed), 21.1 percent was from Brazil (mainly for crushing), and 17.3 percent was from Australia (mainly for feed). Based on the consumption forecasts, Japan is expected to import 103,000 MT and 104,000 MT of cottonseeds in MY 2018/19 and in MY 2019/20, respectively.

Stocks

MAFF data reports that oil crushers held 200,148 MT of soybean stocks and that feed manufacturers held an additional 4,676 MT at the beginning of MY2017/18 (October 1, 2018). FAS/Tokyo forecasts soybean ending stocks to maintain 210,000 MT in MY 2018/19 and in MY 2019/20.

MAFF statistics show that crushers held 187,740 MT⁹ in rapeseed stocks. FAS/Tokyo forecasts rapeseed stocks to remain unchanged.

⁹ FAS/Tokyo adjusted Japan’s rapeseed stocks to compensate for measuring discrepancies between MAFF and Japanese customs data.

FAS/Tokyo estimates the stock of cottonseeds is about 10,000 MT (30 percent by oil crushers and the remainders by feed manufacturers).¹⁰ FAS/Tokyo forecasts cottonseed stocks to remain unchanged.

¹⁰ MAFF official data show that oil crushers held of soybean stocks held 844 MT of cottonseed stock at the beginning of MY2017/18 (October 1, 2017), and then increased to 2,427 MT at the end of MY2017/18 (October 1, 2018).

Meals Section

Commodities:

Meal, Soybean
Meal, Rapeseed
Meal, Fish
Meal, Palm Kernel

Table 5: Production, supply and distribution of soybean meal

Meal, Soybean Market Begin Year	2017/2018		2018/2019		2019/2020	
	Oct 2017		Oct 2018		Oct 2019	
Japan	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Crush	2350	2400	2350	2400	0	2430
Extr. Rate, 999.9999	0.7545	0.7567	0.7545	0.7558	0	0.756
Beginning Stocks	98	98	93	115	0	115
Production	1773	1816	1773	1814	0	1837
MY Imports	1728	1728	1770	1722	0	1664
Total Supply	3599	3642	3636	3651	0	3616
MY Exports	1	1	1	1	0	1
Industrial Dom. Cons.	280	240	280	240	0	240
Food Use Dom. Cons.	125	180	130	180	0	180
Feed Waste Dom. Cons.	3100	3106	3130	3115	0	3080
Total Dom. Cons.	3505	3526	3540	3535	0	3500
Ending Stocks	93	115	95	115	0	115
Total Distribution	3599	3642	3636	3651	0	3616

(1000 MT) ,(PERCENT)

Table 6: Production, supply and distribution of rapeseed meal

Meal, Rapeseed Market Begin Year	2017/2018		2018/2019		2019/2020	
	Oct 2017		Oct 2018		Oct 2019	
Japan	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Crush	2350	2342	2450	2353	0	2345
Extr. Rate, 999.9999	0.5562	0.5495	0.5563	0.5533	0	0.5535
Beginning Stocks	59	59	52	64	0	64
Production	1307	1287	1363	1302	0	1298
MY Imports	6	7	7	6	0	6
Total Supply	1372	1353	1422	1372	0	1368
MY Exports	0	0	0	0	0	0
Industrial Dom. Cons.	250	171	250	175	0	174
Food Use Dom. Cons.	0	0	0	0	0	0
Feed Waste Dom. Cons.	1070	1118	1125	1133	0	1130
Total Dom. Cons.	1320	1289	1375	1308	0	1304
Ending Stocks	52	64	47	64	0	64
Total Distribution	1372	1353	1422	1372	0	1368

(1000 MT) ,(PERCENT)

Table 7: Production, supply and distribution of palm kernel meal and palm kernel shell

Meal, Palm Kernel Market Begin Year Japan	2017/2018		2018/2019		2019/2020	
	Oct 2017		Oct 2018		Oct 2019	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Crush	0	0	0	0	0	0
Extr. Rate, 999.9999	0	0	0	0	0	0
Beginning Stocks	0	0	0	0	0	0
Production	0	0	0	0	0	0
MY Imports	1235	1235	1300	1300	0	1250
Total Supply	1235	1235	1300	1300	0	1250
MY Exports	0	0	0	0	0	0
Industrial Dom. Cons.	1226	1226	1291	1291	0	1241
Food Use Dom. Cons.	0	0	0	0	0	0
Feed Waste Dom. Cons.	9	9	9	9	0	9
Total Dom. Cons.	1235	1235	1300	1300	0	1250
Ending Stocks	0	0	0	0	0	0
Total Distribution	1235	1235	1300	1300	0	1250

(1000 MT) ,(PERCENT)

Table 8: Production, supply and distribution of fishmeal

Meal, Fish Market Begin Year Japan	2017/2018		2018/2019		2019/2020	
	Jan 2018		Jan 2018		Jan 2019	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Catch For Reduction	860	837	860	840	0	830
Extr. Rate, 999.9999	0.2151	0.2162	0.2151	0.2167	0	0.2169
Beginning Stocks	15	15	10	18	0	20
Production	185	181	185	182	0	180
MY Imports	160	174	165	189	0	180
Total Supply	360	370	360	389	0	380
MY Exports	5	4	5	4	0	4
Industrial Dom. Cons.	50	50	50	50	0	50
Food Use Dom. Cons.	0	0	0	0	0	0
Feed Waste Dom. Cons.	295	298	295	315	0	306
Total Dom. Cons.	345	348	345	365	0	356
Ending Stocks	10	18	10	20	0	20
Total Distribution	360	370	360	389	0	380

(1000 MT) ,(PERCENT)

Production

Japan produces roughly half of its meal demand through domestic crush, importing the rest based on crush output and prices. Japan produced 1.816 MMT of soybean meal from 2.4 MMT of soybeans (an extraction rate of 0.7567) in MY 2017/18. Based on Japan's five-year average soybean meal extraction rate of 0.756, FAS/Tokyo forecasts Japan's soybean meal production at 1.814 MMT in MY 2018/19, and 1.837 MMT of soybean meal in MY 2019/20.

Japan produced 1.287 MMT of rapeseed meal from 2.342 MMT of rapeseeds (an extraction rate of 0.5496) in MY 2017/18. Based on Japan's average rapeseed meal extraction rate of 0.553, FAS/Tokyo

forecasts Japan’s rapeseed meal production at 1.302 MMT in MY 2018/19, and 1.298 MMT in MY 2019/20.

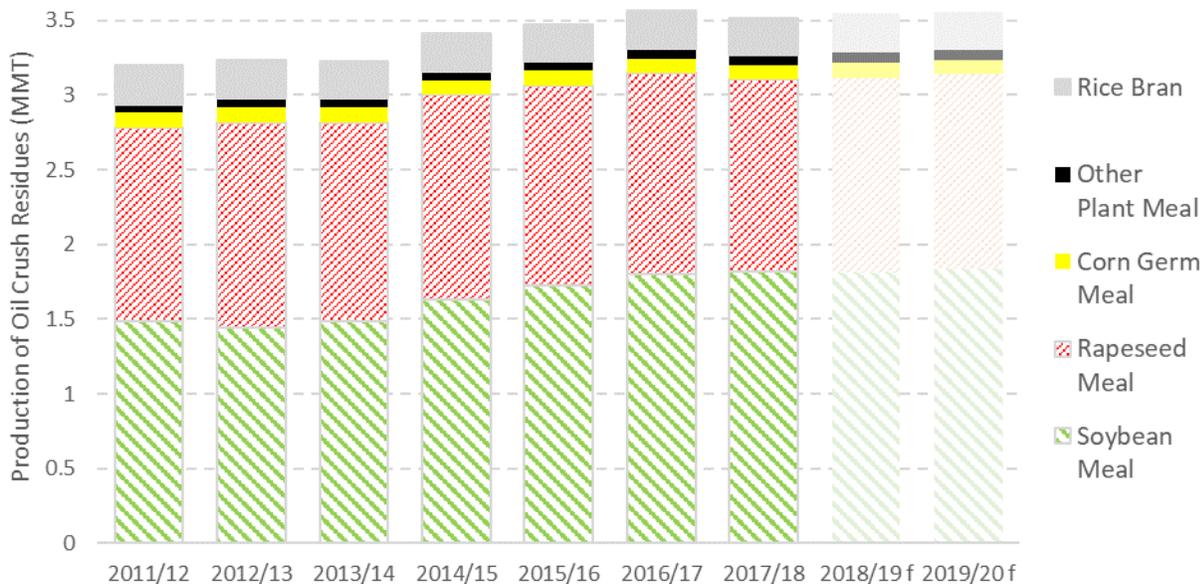
Table 9: Actual and forecast oilseeds demand and meal production (unit: MT)

	Soybean Meal			Rapeseed Meal		
	Soybeans	Production	Extr.Rate	Rapeseeds	Production	Extr.Rate
MY 2015/16	2,283,043	1,723,286	.7548	2,413,993	1,342,609	.5562
MY 2016/17	2,392,412 (+4.8%)	1,805,335 (+4.8%)	.7546	2,436,278 (+0.9%)	1,339,886 (-0.2%)	.5500
MY 2017/18	2,400,360 (+0.3%)	1,816,027 (+0.6%)	.7567	2,341,815 (-3.9%)	1,287,164 (-3.9%)	.5496
MY 2018/19 Forecasts	2,400,000 (0%)	1,814,000 (-0.1%)	.756	2,353,000 (+0.5%)	1,302,000 (+1.2%)	.553
MY 2019/20 Forecasts	2,430,000 (+1.3%)	1,837,000 (+1.3%)	.756	2,345,000 (-0.3%)	1,298,000 (-0.3%)	.553
<i>Ref:MY18/19 YTD [Oct-Jan]</i>	<i>2,387,096 (-0.6%)</i>	<i>1,812,166 (-0.2%)</i>	<i>.7592</i>	<i>2,399,421 (+2.5%)</i>	<i>1,330,096 (+3.3%)</i>	<i>.5543</i>

(Source: MAFF)

Figure 7 visually depicts the historical and forecast production of meal by Japanese crushers. Domestic meal production increased from MY 2013/14 to MY 2016/17, but is expected to remain flat over the next two market years, consistent with the production of oil. In addition, the proportion of soybean meal to rapeseed meal is expected to remain constant.

Figure 7. Plant meal production by Japanese crushers



(Source: MAFF)

Fishmeal

According to the Fishmeal Association, Japan produced approximately 181,500 MT¹¹ of fishmeal in 2018, which is almost unchanged from the previous year (181,469 MT). In 2018, Japanese fishmeal producers used 839,700 MT of raw material, including 177,300 MT of whole fish and 662,400 MT of trimmings. Japan's sardine catch off the coast of eastern Hokkaido has been strong for two years in a row, with about 140,000 MT in 2018, supplying 110-120,000 MT to fishmeal producers. On the other hand, trimmings from fish processors have decreased continuously, especially following the 2011 Great Tohoku Earthquake and tsunami, which closed many factories in northeastern Japan.

Since the supply of trimmings is expected to decline further and the catch of sardines is expected to decrease, FAS/Tokyo forecasts the production of fishmeal to decline slightly to 180,000 MT in 2019.

Table 9. Japan's fishmeal production and imports (unit: thousand MT)

		2014	2015	2016	2017	2018 e
Domestic Input	Trimmings	771	758	720	681	662
	Whole Fish	88	89	97	156	177
	Total	859	848	816	837	840
Domestic Production	Fish Oil	62	61	62	78	74
	Extr. Rate	7.3%	7.2%	7.6%	9.3%	8.8%
	Fishmeal	187	184	177	181	182
	Extr. Rate	21.7%	21.7%	21.7%	21.7%	21.6%
Fishmeal Imports	Peru	73	25	23	42	44
	Chile	20	18	16	24	23
	Ecuador	23	25	18	14	11
	US	16	12	12	12	12
	<i>US (%)</i>	<i>6.4%</i>	<i>5.5%</i>	<i>7.8%</i>	<i>6.6%</i>	<i>6.3%</i>
	Total	248	227	154	174	189
Total Fishmeal Supply		435	411	331	356	371

(Sources: Japan Marine Oil Association, Japan Ministry of Finance)

Consumption

Figure 8 shows FAS/Tokyo's estimated proportion of crude protein (CP) in compound feed (not including mixed feed or on-farm feed) by animal group in MY 2017/18. Based on MAFF statistics, poultry (broiler, layer, and quail) consumed 1.73 MMT of soybeans and soybean meal as compound feed (representing 44 percent of CP formulation), swine consumed 580,000 MT (33 percent of CP), cattle consumed 590,000 MT (27 percent of CP), and fish consumed approximately 70,000 MT¹² (12 percent of CP) in MY 2017/18.

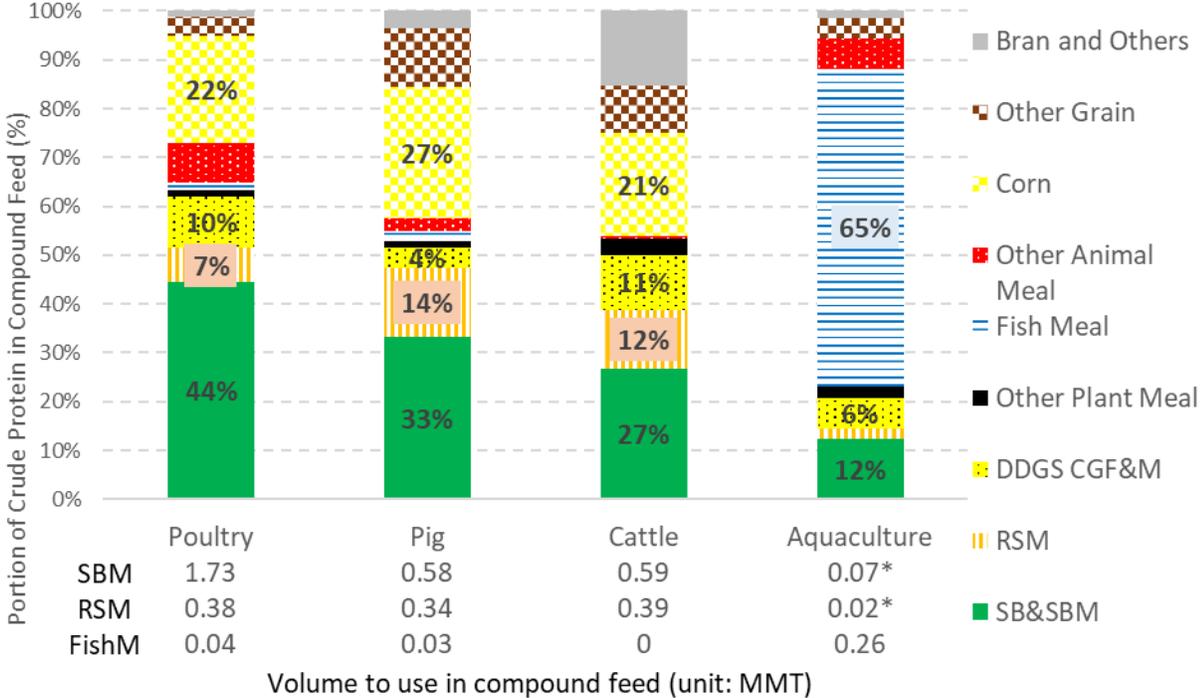
¹¹ Based on the current data available from January to November 2018.

¹² Since MAFF's statistics do not cover some large feed manufacturers of aquaculture, FAS/Tokyo estimated this number based on local contacts.

Japanese feed manufacturers use rapeseed more in hog feed (14 percent of CP) than poultry feed (7 percent).

Carnivorous fish, such as yellowtail (buri/hamachi), sea bream (tai), blue-fin tuna (kuro-maguro), and coho salmon (gin-zake), are popular aquaculture species in Japan that have difficulty digesting soybean meal. Therefore, fishmeal remains the dominant source of protein for aquaculture, representing 65 percent of CP.

Figure 8. Proportion of crude protein in compound feed by animal groups



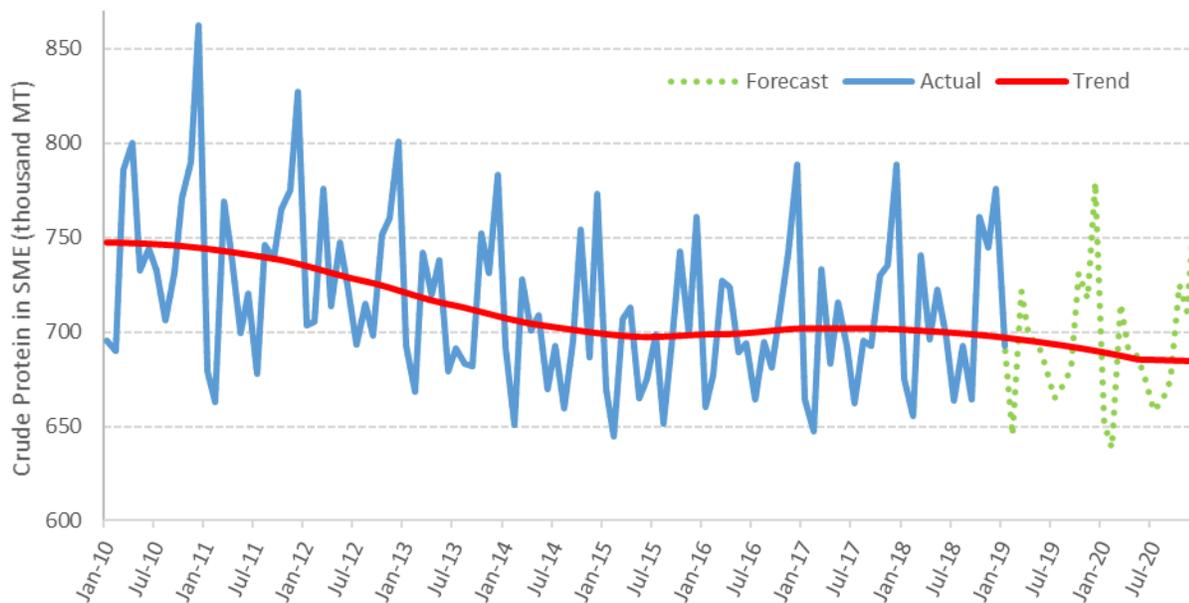
(Source: MAFF)

Figure 9 depicts the estimated CP content in terms of soybean meal equivalent (SME)¹³ in monthly manufactured feed (including compound, mixed, and on-farm feed). Based on MAFF statistics, the CP in Japanese manufactured feed in terms of SME was 8.46 MMT in MY 2017/18, an increase 0.4 percent from the previous market year. This growth reflects strong demand, especially from the poultry sector. However, by spring 2019, the price of chicken meat and eggs was in decline due to overproduction (see [JA9028 Grain and Feed Annual](#)). Also, FAS/Tokyo forecasts a reduction in swine from 9.28 million head in 2018 to 9.26 million (see [JA9023 Livestock and Products Semi-Annual](#)).

Based on these forecasts for poultry and swine, FAS/Tokyo forecasts crude protein consumption to decrease about 0.4 percent to 8.43 MMT SME in MY 2018/19, and a further 0.8 percent to 8.36 MMT SME in MY 2019/20 (Figure 9).

¹³ FAS employs a soybean meal equivalent (SME) factor to capture crude protein in feed. Soybean meal equivalent is equal to soybean meal; 1 MT of rapeseed meal is 0.7115 of SME; 1 MT of cottonseed meal is 0.8103 of SME; 1 MT of fishmeal is 1.445 of SME, 1 MT of soybeans is 0.8 of SME, and 1 MT of DDGS is 0.5833 of SME.

Figure 9. Monthly crude protein demand by Japanese feed manufacturers



(Source: MAFF)

Figure 10 shows the ratio of crude protein by ingredient. Japanese feed manufacturers prefer to maintain the formula of their compound feed, but substituted ingredients marginally based on price advantages.

Japanese feed manufacturers have relied heavily on imports of Chinese soybean meal for two decades. However, as soybean meal became more expensive, feed manufacturers began experimenting with alternative sources of plant protein. The CP share of dried distillers grains with solubles (DDGS), corn gluten feed (CGF), and corn gluten meal (CGM) increased from 727,734 SME MT (8.6 percent of CP) in MY 2016/17 to 774,486 SME MT (9.2 percent of CP) in MY 2017/18. DDGS has gradually increased since Japanese feed manufacturers began to adopt it widely in 2010. Demand for DDGS slowed in 2018 as the price of DDGS and soybean meal converged. Feed manufacturers replaced some DDGS with cheaper supplies of locally produced CGF. Also, chicken farmers prefer to use CGM, which they say reduces chicken manure. FAS/Japan forecasts the ratio of protein feed derived from corn to continue to grow to 780,000 SME MT (9.3 percent of CP) in MY 2018/19 and to 790,000 SME MT (9.4 percent of CP) in MY 2019/20.

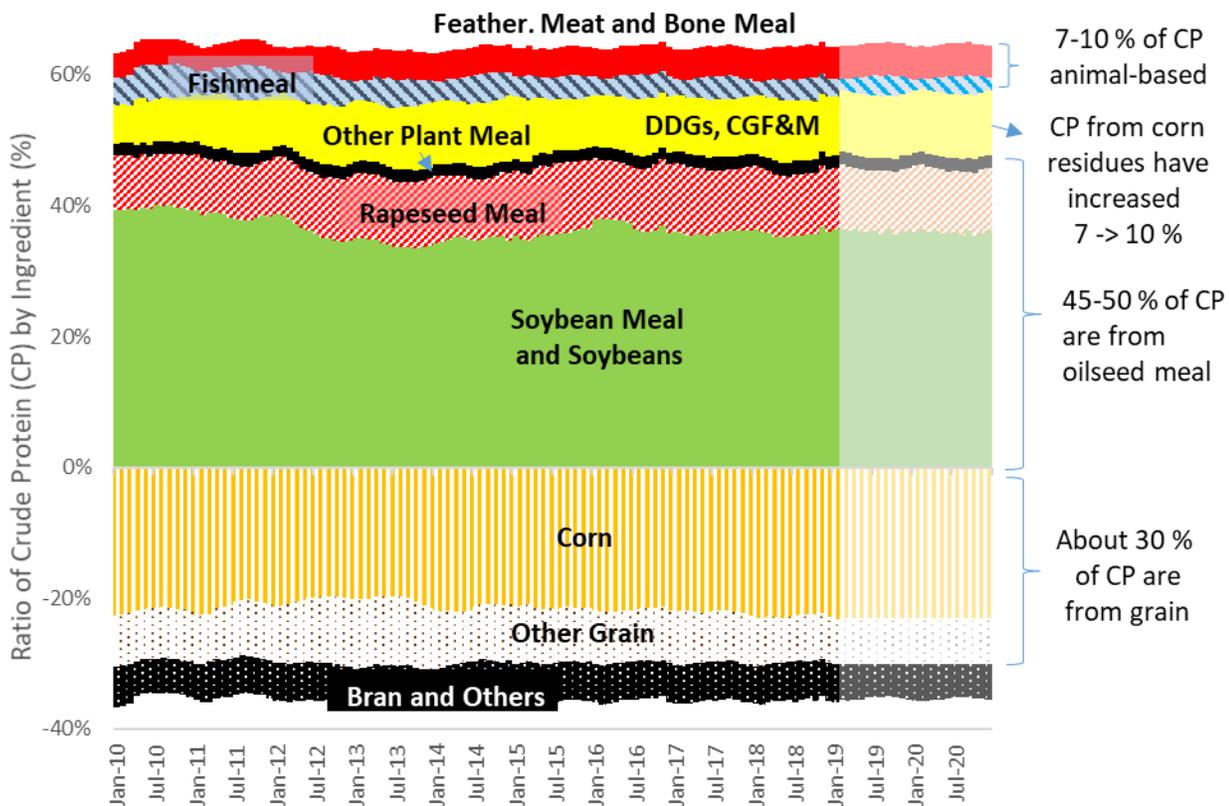
The CP share of fishmeal declined by half over 10 years to 3 percent (254,000 SME MT) in MY 2017/18. According to the [World Bank](#), the global price of fishmeal rose sharply at the end of 2017, but decreased slightly since spring 2018. However, fishmeal remains more expensive than other alternative plant proteins.

Japan's Ministry of Finance previously required feed mills to use at least 2 percent of animal-base ingredients (including fishmeal) by total weight of compound feed in order for grain ingredients to be imported duty free. However, this restriction was removed in April 2017 (see [JA7021](#)) and thus feed mills can significantly reduce the amount of fishmeal in their compound feed. Though the majority of

fishmeal is used in the aquaculture sector. FAS/Japan forecasts the fishmeal ratio in feed compound to decrease continuously in the years to come - to 2.8 percent of CP in MY 2018/19 and to 2.4 percent of CP in MY 2019/20.

Grain is mainly used for energy, but also contains protein. Approximately 30 percent of crude protein is from grain, such as corn (excluding DDGS, CGF, and CGM), wheat, sorghum, barley, rye, and rice, and this ratio is very stable over time. Please refer to the 2019 Grain and Feed Annual ([JA9028](#)) for more information.

Figure 10. Proportion of crude protein intake by type of feed ingredient



(Source: MAFF)

Plant meal accounts for 45-50 percent of total CP in Japanese feed. Japan does not import rapeseed meal for feed, utilizing rapeseed meal produced by domestic crushers. Japanese feed manufacturers use 85-90 percent of the rapeseed meal produced in Japan. According to MAFF statistics, Japanese feed manufacturers used 1,119,832 MT of rapeseed meal in MY 2017/18. The CP share of rapeseed meal decreased from 10.1 percent (851,000 SME MT) in MY 2016/17 to 9.5 percent (801,000 SME MT) in MY 2017/18, reflecting the decrease in rapeseed crush by the big 3 crushers. Assuming the rapeseed utilization rate for the coming year is roughly equal to the five-year average of 87 percent, FAS/Tokyo forecasts 1.133 MMT of rapeseed meal consumption in MY 2018/19 (9.6 percent of total CP) and 1.130 MMT in MY 2019/20 (9.6 percent of total CP).

The remaining CP requirement generally comes from soybean meal. Domestic soybean meal fulfills 50-60 percent of feed demand¹⁴, and Japan imports what it does not produce. Feed manufacturers used 2,956,807 MT of soybean meal in MY 2017/18, which accounted for 34.9 percent of total CP. Given the forecast CP for the next two years, FAS/Tokyo forecasts Japan to increase soybean meal consumption to 2.97 MMT of soybean meal (35.3 percent of total CP) in MY 2018/19, before contracting slightly to 2.94 MMT (35.2 percent of total CP) in MY 2019/20.

Food Consumption

Food manufacturers such as soy sauce and plant protein manufactures are the leading consumers of food soybean meal. FAS/Tokyo estimates that Japan used 110,000 MT of soybean meal to produce soy sauce in MY 2017/18. Approximately 80 percent of soy sauce manufactured in Japan is made from soybean meal and 20 percent from soybeans (i.e., maru-daizu soy sauce discussed in Oilseeds section). Food manufacturers procure IP soybean meal from the United States to avoid GE labeling requirements.

According to the Japan Plant Protein Food Association, the annual production of soybean-based plant protein among their members has increased from 26,124 MT in 2013 to 31,371 MT in 2018, a 20 percent increase over five years. Soy protein is extracted from soybean meal for use in nutrition supplements (e.g., protein powder, baby formula) and is mixed with other ingredients to produce snacks, bread, processed meat products, dumplings, and surimi. Also, some large beer makers, such as Kirin, brew a beer-like alcoholic beverage from soy protein (e.g., Kirin Nodogoshi Nama). These beer-alternatives have low liquor tax, so retailers can sell them at lower prices, making them popular among price conscious consumers.

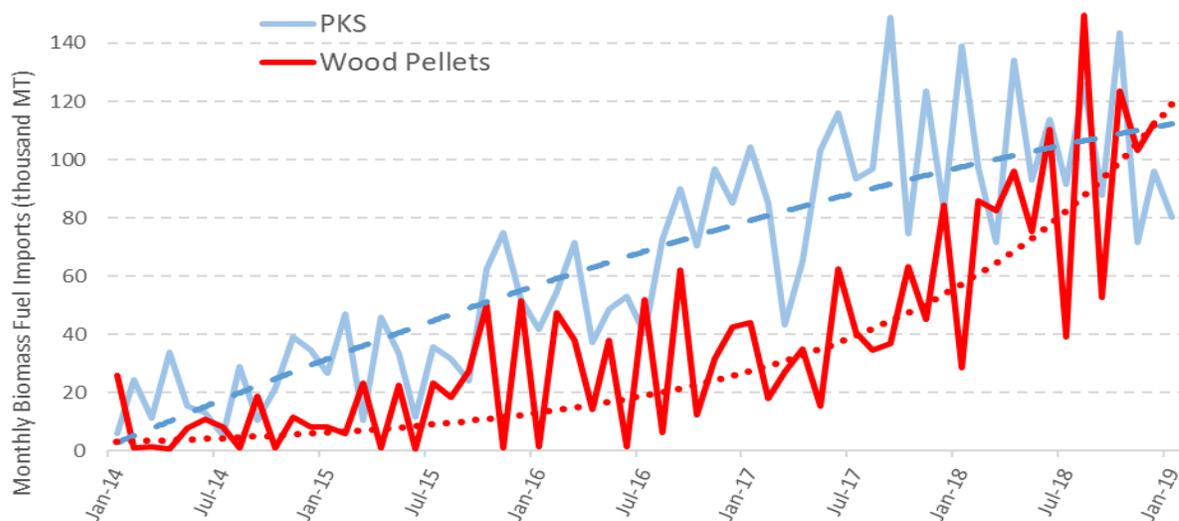
FAS/Tokyo estimates the food-use demand for soybean meal was 180,000 MT in MY 2017/18. Soybean meal demand in the soy sauce sector is slightly down, but strong demand in the soy protein sector is expected to make up the difference. FAS/Tokyo forecasts demand for soybean meal for food to remain at 180,000 MT over the next two market years.

Industrial Consumption

Japan imported 1.24 MMT of palm kernel shell (PKS) in MY 2017/18 (71.4 percent from Indonesia and 28.6 percent from Malaysia), which was an increase of 11.4 percent from the previous market year. PKS imports grew quickly after the introduction of the Feed-in Tariff (FIT) program (see [Japan Biofuels Annual 2018 \[JA8093\]](#)). However, large biomass power plants began seeking wood pellets, which they say are more reliable than PKS. Japanese biomass power plants imported 912,808 MT of wood pellets in MY 2017/18, more than double from the previous market year. As the import of wood pellets grows, PKS imports are likely to flatten out. Figure 11 depicts the monthly import of PKS and wood pellets. Accordingly, FAS/Tokyo forecasts imports of PKS to be remain at 1.25 MMT in MY 2018/19 and MY 2019/20. Very little palm kernel meal is used as a feed ingredient in Japan.

Figure 11. Monthly import volume of PKS and wood pellets

¹⁴ The share of domestic soybean meal in feed is smaller than 50-60 percent since some soybean meals are used for food and other purposes.



(Source: Ministry of Finance)

Trade

According to Japan's Ministry of Finance, Japan imported 6,531 MT of rapeseed meal in MY2017/18. The great majority of this was high erucic acid rapeseed meal¹⁵ from China and India, which is for fertilizer. Japan is expected to import a similar amount of fertilizer rapeseed meal in the coming market years.

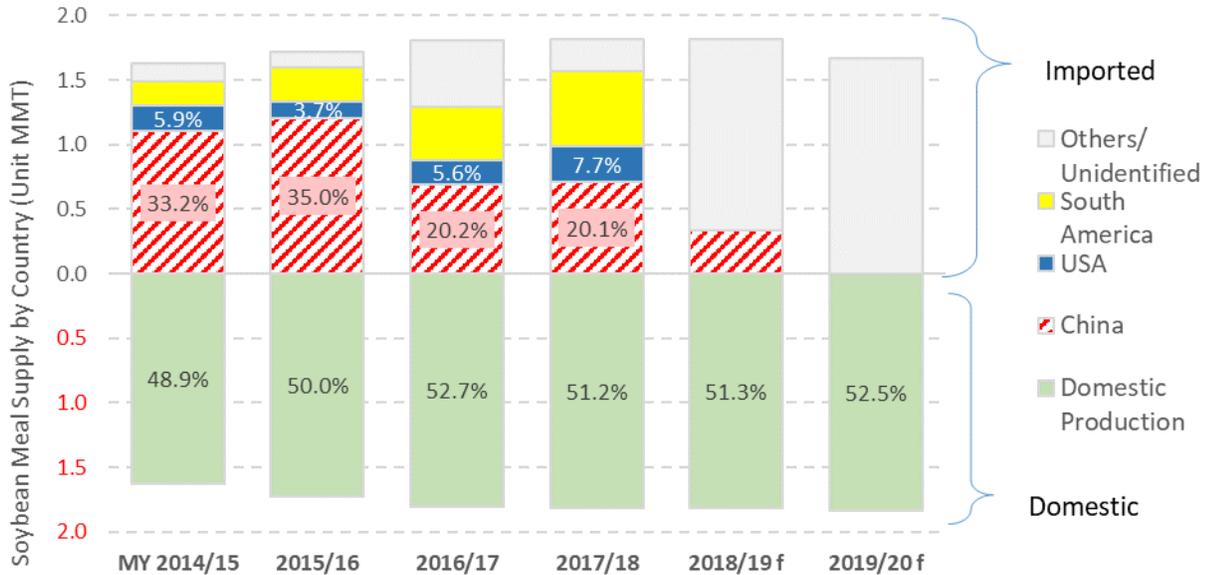
According to Japan's Ministry of Finance, Japan imported 1,727,518 MT of soybean meal in MY 2017/18., accounting for 48.8 percent of Japan's total soybean meal supply. To fulfil the feed, food, and industrial consumption discussed above, Japan will import 1.722 MMT in MY 2018/19, essentially maintaining the same level as the previous market year. As the production of soybean meal grows and feed demand slows, FAS/Tokyo forecasts soybean meal imports to decrease 3.4 percent to 1.664 MMT in MY 2019/20, accounting for 47.5 percent of total soybean meal supply. Japanese feed manufacturers purchase soybean meal from neighboring countries, such as China, to adjust the amount of protein in feed.

Soybean meal prices soared in the beginning of 2018 due to a bad crop in Argentina. However, the price sharply dropped due to the trade disputes between the United States and China. Since then, the largest question for feed manufacturers and traders is if Japan can buy soybean meal from China. Japanese feed manufacturers prefer to import soybean meal in containers from China that reduces the lead-time, moving smaller volumes to ports with smaller capacities, and reducing inventory. As shown in Figure 12, imported soybean meal from China accounted for 20.1 percent of total soybean meal supply in MY 2017/18. Soybean meal imports from China dropped sharply at the end of 2018 as feed manufacturers secured soybean meal from South America, the United States, and India in order to avoid operating risk. However, Japanese traders and feed millers were optimistic about securing soybean meal

¹⁵ Meals made from traditional rapeseeds (i.e., high erucic acid rapeseed) are suitable for fertilizer, but not for animal feed because they contain high glucosinolate. The high levels of glucosinolate in rapeseed meal is toxic for animals. Canola varieties successfully lower both erucic acid and glucosinolate.

from China by the spring of 2019 due to reduced demand following an outbreak of African swine fever (ASF) in China.

Figure 12. Japan’s annual soybean meal imports by origin



(Source: Ministry of Finance)

Japan imported 189,207 MT of fishmeal in 2018, an increase of 8.7 percent from 174,087 MT in 2017 (Table 9). However, the average CIF import price of fishmeal increased 5.9 percent from \$1,362/MT in 2017 to \$1,443/MT in 2018. As fishmeal demand in compound feed is expected to decline, FAS/Tokyo forecasts the import of fishmeal to decline to 180,000 MT in 2019.

Stocks

MAFF official data show that soybean meal stocks held by oil crushers were 63,092 MT and that feed manufacturers held an additional 51,595 MT at the beginning of MY2017/18 (October 1, 2018). FAS/Tokyo forecasts soybean meal stocks to remain unchanged.

MAFF official data show that rapeseed meal stocks held by oil crushers were 44,976 MT and that feed manufacturers held an additional 18,872 MT at the beginning of MY2017/18 (October 1, 2018). FAS/Tokyo also forecasts rapeseed meal stocks to remain unchanged.

MAFF official data show that feed manufacturers held 16,442 MT in fishmeal at the beginning of MY2017/18 (October 1, 2018). FAS/Tokyo forecasts fishmeal stocks to remain unchanged.

Oils Section

Commodities:

Oil, Soybean
 Oil, Rapeseed
 Oil, Palm
 Oil, Sunflowerseed

Table 10: Production, supply and distribution of soybean oil

Oil, Soybean Market Begin Year Japan	2017/2018		2018/2019		2019/2020	
	Oct 2017		Oct 2018		Oct 2019	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Crush	2350	2400	2350	2400	0	2430
Extr. Rate, 999.9999	0.1949	0.195	0.1949	0.195	0	0.1951
Beginning Stocks	16	16	16	17	0	17
Production	458	468	458	468	0	474
MY Imports	7	7	9	10	0	10
Total Supply	481	491	483	495	0	501
MY Exports	0	0	0	0	0	0
Industrial Dom. Cons.	40	30	40	35	0	35
Food Use Dom. Cons.	425	444	430	443	0	449
Feed Waste Dom. Cons.	0	0	0	0	0	0
Total Dom. Cons.	465	474	470	478	0	484
Ending Stocks	16	17	13	17	0	17
Total Distribution	481	491	483	495	0	501

(1000 MT) ,(PERCENT)

Table 11: Production, supply and distribution of rapeseed oil

Oil, Rapeseed Market Begin Year Japan	2017/2018		2018/2019		2019/2020	
	Oct 2017		Oct 2018		Oct 2019	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Crush	2350	2342	2450	2353	0	2345
Extr. Rate, 999.9999	0.4353	0.4389	0.4355	0.4373	0	0.4367
Beginning Stocks	27	27	28	22	0	22
Production	1023	1028	1067	1029	0	1024
MY Imports	19	19	20	20	0	22
Total Supply	1069	1074	1115	1071	0	1068
MY Exports	1	1	1	1	0	1
Industrial Dom. Cons.	60	60	60	60	0	60
Food Use Dom. Cons.	980	991	1025	988	0	985
Feed Waste Dom. Cons.	0	0	0	0	0	0
Total Dom. Cons.	1040	1051	1085	1048	0	1045
Ending Stocks	28	22	29	22	0	22
Total Distribution	1069	1074	1115	1071	0	1068

(1000 MT) ,(PERCENT)

Table 12: Production, supply and distribution of palm oil

Oil, Palm Market Begin Year Japan	2017/2018		2018/2019		2019/2020	
	Oct 2017		Oct 2018		Oct 2019	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Planted	0	0	0	0	0	0
Area Harvested	0	0	0	0	0	0
Trees	0	0	0	0	0	0
Beginning Stocks	62	62	81	58	0	58
Production	0	0	0	0	0	0
MY Imports	739	739	760	755	0	775
Total Supply	801	801	841	813	0	833
MY Exports	0	0	0	0	0	0
Industrial Dom. Cons.	70	193	75	200	0	220
Food Use Dom. Cons.	650	550	700	555	0	555
Feed Waste Dom. Cons.	0	0	0	0	0	0
Total Dom. Cons.	720	743	775	755	0	775
Ending Stocks	81	58	66	58	0	58
Total Distribution	801	801	841	813	0	833
Yield	0	0	0	0	0	0

(1000 HA) ,(1000 TREES) ,(1000 MT) ,(MT/HA)

Table 13: Production, supply and distribution of sunflowerseed oil

Oil, Sunflowerseed Market Begin Year Japan	2017/2018		2018/2019		2019/2020	
	Oct 2017		Oct 2018		Oct 2019	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Crush	0	0	0	0	0	0
Extr. Rate, 999.9999	0	0	0	0	0	0
Beginning Stocks	5	5	4	3	0	4
Production	0	0	0	0	0	0
MY Imports	29	25	30	27	0	27
Total Supply	34	30	34	30	0	31
MY Exports	0	0	0	0	0	0
Industrial Dom. Cons.	0	3	0	2	0	2
Food Use Dom. Cons.	30	24	30	24	0	25
Feed Waste Dom. Cons.	0	0	0	0	0	0
Total Dom. Cons.	30	27	30	26	0	27
Ending Stocks	4	3	4	4	0	4
Total Distribution	34	30	34	30	0	31

(1000 MT) ,(PERCENT)

Production

See the Oilseeds section and Table 3 for an explanation of vegetable oil production in Japan. Japan produced 468,000 MT of soybean oil, 1,028,049 MT of rapeseed oil, and 203,664 MT of other edible vegetable oil in MY 2017/18. FAS/Tokyo forecasts Japanese production of 468,000 MT of soybean oil, 1,029,000 MT of rapeseed oil, and 203,000 MT of other edible vegetable oil in MY2018/19, and 474,000 MT of soybean oil, 1,024,000 MT of rapeseed oil, and 205,000 MT of other oil in MY 2019/20.

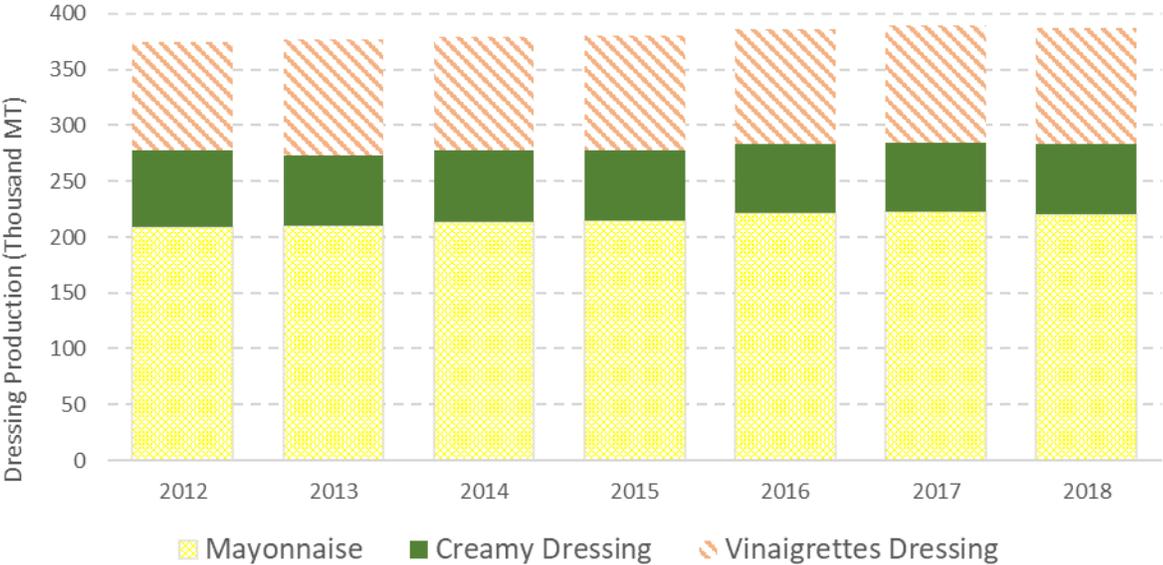
Due to higher profitability in crushing soybeans compared to rapeseed crush, Japan’s soybean oil production is expected to increase modestly. Although soybean and rapeseed prices fell in 2018, labor and distribution costs continue to rise in Japan. Oil crushers have sensed that the long-persistent deflationary environment is over and began raising the sales price of vegetable oil in 2017. J-Oil Mills announced a 12 percent increase in canola and soybean oil prices effective in June 2019. Nisshin Oillio announced that they will raise the retail price of cooking oil by at least 20 yen per kg at the end of May 2019. The average price of Nisshin Canola Oil [1,000g], the bestseller cooking oil in 2018, was 192 yen (Daily Soybean & Oil Seeds, 2019/2/5), and thus this price hike means an increase of 10.4 percent. Showa Sangyo also announced a 20 yen per kg raise to the retail price of general cooking oil in June 2019.

Consumption

Japanese consumption of vegetable oil has flattened out since 2017. See [JA8085](#) for more information on consumption volumes and market share by supplier.

The consumption of soybean and canola oil was relatively soft in MY 2017/18 for two reasons. First, dressing and mayonnaise consumption (the biggest industrial customer of vegetable oil) fell 0.7 percent in 2018 due to vegetable production losses during a summer heatwave in 2018 ([JA8047](#)).

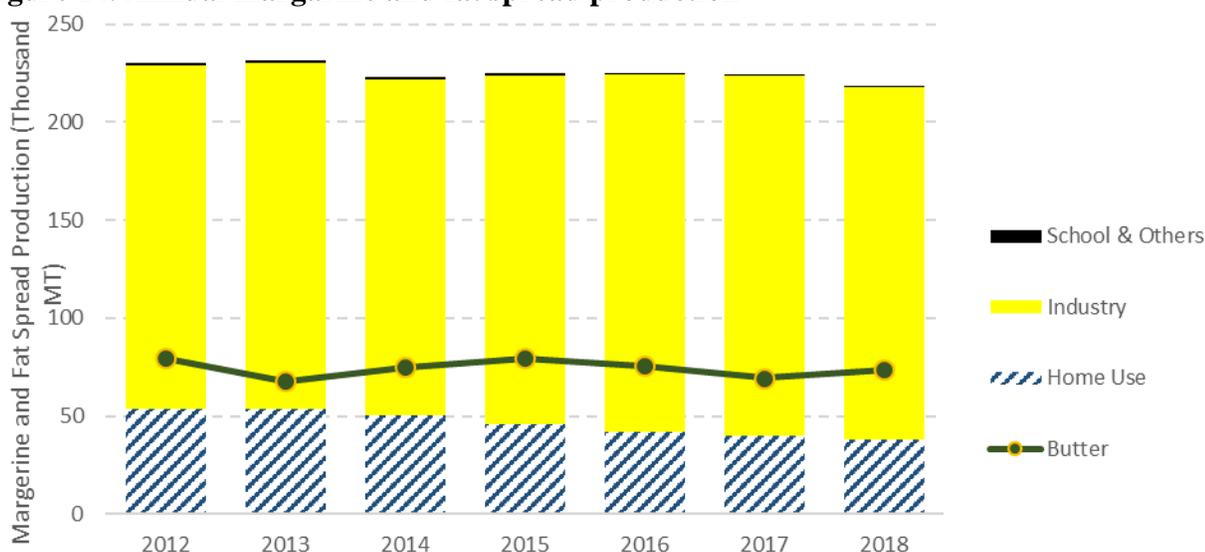
Figure 13. Annual mayonnaise and dressing production



(Source: Japan Association of Mayonnaise & Dressings)

Second, the production of margarine and fat spread (a margarine combined with a flavor such as chocolate) have been decreasing since 2013 (Figure 14). Production dropped 2.6 percent in 2018 to 218,448 MT with demand in home-use especially soft. Japanese media has recently reported on links between consuming trans-fats and increased risk of coronary disease. Additionally, Japan increased the production and import of butter (the substitute for margarine) by 6.2 percent in 2018 (see [2018 Dairy and Products Annual JA8083](#)).

Figure 14. Annual margarine and fat spread production



(Source: Japan Margarine Association and Agriculture, Livestock Industries Corporation)

Industrial Use

Edible vegetable oil is also has industrial uses. According to MAFF, non-food uses of soybean and canola oil account for approximately 6 percent of their consumption (see [2018 Oilseeds and Products Annual JA8019](#)). Popular industrial uses includes paint, printing ink, varnish, linoleum, transformer oil, surfactants, alkyd polyester, plasticizer, cosmetic products, and pharmaceutical products. Biodiesel from vegetable oil is not popular and has no incentive program in Japan. Biomass generators have increased the use of imported palm stearin oil for electric generation since 2017, which we discussed in the palm oil section.

Trade

Soybean and Rapeseed Oil

Since Japan imposes import tariffs on soybean oil and rapeseed oil, domestic crushing supplies domestic demand. However, Japan is scheduled to eliminate these tariffs incrementally over six years from the effectuation of the Japan-EU Economic Partnership Agreement (EU EPA) and the Comprehensive and Progressive Trans-Pacific Partnership (CPTPP) in early 2019. FAS/Tokyo does not forecast an immediate effect in coming two market years. Please read "[CPTPP and EU Agreements May Reduce Demand for U.S. Oilseeds \(JA8085\)](#)" for more information on oilseed competition.

Sunflowerseed oil

Japanese consumption and import of sunflowerseed oil has increased gradually. Japan imported 19,359 MT of sunflowerseed oil in 2014/15, of which 7,922 MT (40.9 percent) was from the EU and 6,001 MT (31.0 percent) was from the United States. Imports increased 27 percent to 24,526 MT in 2017/18, of which the EU had the largest share (17,616 MT or 71.8 percent). Japan traditionally imports sunflowerseed oil from France, Spain, and Italy. However, Japan increased imports from Hungary to 2,463 MT in MY 2018/19.

Sunflowerseed oil is subject to a specific tariff of 8.5 yen for high acid oil, or 10.4 yen per kg for low acid oil. The EU EPA entered into effect in February 2019, and will be eventually remove the tariff in April 2023. As a result, EU members will likely increase exports of sunflowerseed oil to Japan at the expense of U.S. sunflowerseed oil market share. See [JA8085](#) for more information on oilseed product competition.

Japanese consumers appreciate sunflowerseed oil for its light odor, high-oleic content, and lack of genetically engineered (GE) varieties. Japan used about 3,000 MT of sunflowerseed oil for cooking (home and industry), 12,000 MT for food processing (e.g., chocolate snacks, margarine, etc.), and 2,000 MT for cosmetic products. Approximately 80 percent of sunflowerseed oil is high oleic oil, which Showa Sangyo sells as “Olein-Rich Sunflower Oil”, a popular cooking oil in grocery stores.

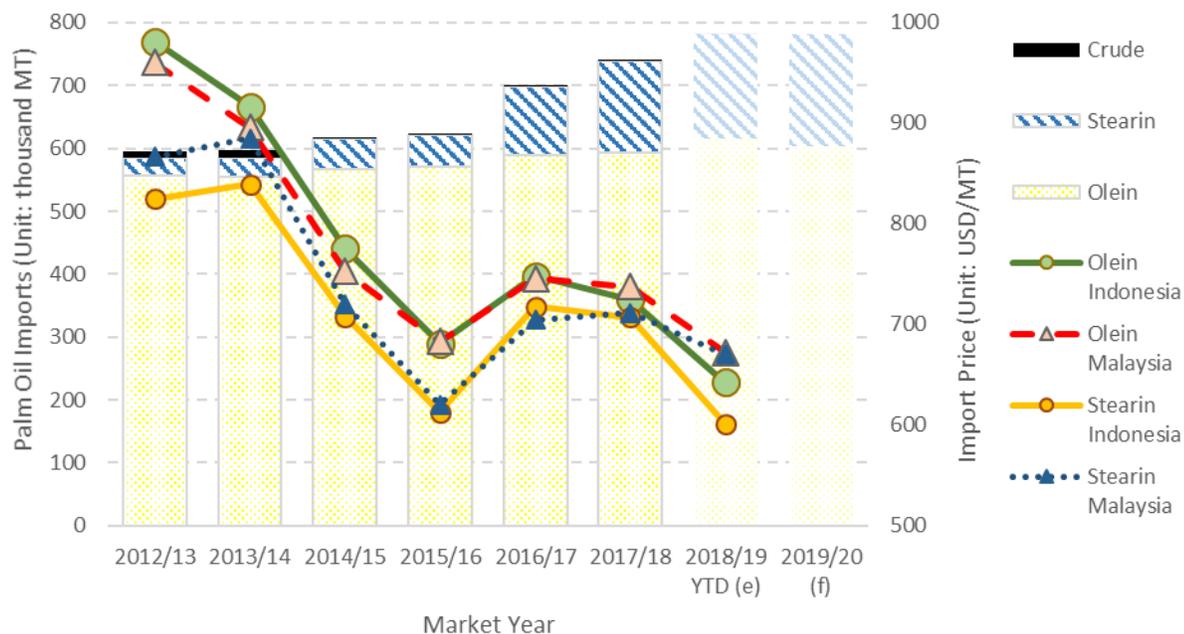
FAS/Tokyo forecasts that Japan will increase sunflowerseed oil imports 5 percent annually, to 257,000 MT in MY 2018/19, and to 270,000 in MY 2019/20.

Japan imported 4,792 MT of safflower oil in MY 2017/18, of which 97 percent (4,650 MT) was from the United States. Safflower oil is marketed as high-end cooking oil in Japan. Safflower oil is not included in the PS&D (though, it shares the same HS code with sunflowerseed oil).

Palm Oil

Figure 15 depicts Japan’s palm oil imports by volume, which increased 5.6 percent from the previous market year to 738,538 MT in MY 2017/18. Of that volume, Japan imported 593,174 MT of palm olein, a marginal increase of 0.7 percent from previous MY, and 145,366 MT of palm stearin, which was a jump of 32.7 percent. As reported in the [2018 Japan Oilseed Annual](#), diesel engine generators that use certified non-food palm oil (i.e., palm stearin) qualify for a FIT of 24 yen/kilowatt hour (kWh) under the “general wood biomass” category. From 2018, however, METI created a new category known as “biomass liquid fuel” (i.e., palm oil) that operates under an auction system. Existing contracts under the FIT will continue for their established 20-year terms.

Figure 15. Annual palm olein and stearin oil imports



(Source: Ministry of Finance)

Japan does not maintain official statistics on how much palm oil is used for food, non-food, or fuel. Palm oil is used for non-food products such as soap, toothpaste, detergent, shampoo, and cosmetic. MAFF estimates that 15 percent of palm oil was used for non-food use in 2015¹⁶. The increase since 2016 appears to reflect in bump in palm stearin for fuel. As the capacity utilizing palm oil is increasing, FAS/Tokyo estimates an increase in the use of palm stearin fuel. FAS/Tokyo forecasts domestic industrial consumption (power, soap, etc.) at 200,000 MT in 2018/19 (55 percent of which is for fuel) and to 220,000 MT in 2019/20 (about 60 percent fuel).

Japan uses palm oil for industrial cooking, instant noodles, margarine, ice cream, pizza dough, packaged bread, snacks, and other processed foods. As many have already shifted from other vegetable oils to palm oil, FAS/Tokyo forecasts no significant change to the consumption of palm oil, which is currently at 555,000 MT.

Consequently, Japanese imports of palm oil (olein and stearin) are forecast to increase 2.2 percent to 755,000 MT in MY 2018/19, and to further increase 2.6 percent to 775,000 MT in MY 2019/20.

While the use of palm oil from tropical nations has long been a controversial issue in the West, the Tokyo 2020 Olympic Games introduced the issue to Japan. The Roundtable on Sustainable Palm Oil (RSPO), established in 2004, provides third-party certification, and members are obligated to buy RSPO-approved oil. About 40 Japanese companies joined RSPO in 2018. In the meantime, there are government led certification schemes, such as Indonesian Sustainable Palm Oil Standard (ISPO) and Malaysian Palm Oil Standard (MPOS). After a long discussion between environmental NGOs and industry, the Olympic Committee recognized RSPO, MPOS, and ISPO as valid certification schemes for palm oil procurement.

¹⁶ Japan began using palm oil for power generation in 2016.

Stocks

MAFF official data report that soybean oil stocks held by oil crushers were 16,557 MT at the beginning of MY2017/18 (October 1, 2018). FAS/Tokyo forecasts soybean oil stocks to remain unchanged.

MAFF official data report that rapeseed oil stocks held by oil crushers were 22,248 MT at the beginning of MY2017/18 (October 1, 2018). FAS/Tokyo forecasts rapeseed oil stocks to remain unchanged.

MAFF official data report that palm oil stocks held by oil companies were 16,982 MT at the beginning of MY2017/18 (October 1, 2018). FAS/Tokyo forecasts palm oil stocks to remain unchanged.

MAFF official data report that sunflowerseed oil stocks held by oil companies were 1,404 MT at the beginning of MY2017/18 (October 1, 2018). FAS/Tokyo forecasts sunflowerseed oil stocks to remain unchanged.