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Report Highlights:

In MY 2021/22, profit margins of Japanese soybean crushing surpassed those of canola crushing. Meanwhile, as hotel, restaurant, and institutional service industries (HRI) began to recover from the effects of the COVID pandemic, demand for soybean oil spiked as canola oil demand dropped with less home cooking than during the peak crisis period. The price of palm oil also spiked which made palm stearin oil for power generation unprofitable. FAS/Tokyo expects Japan will increase soybean imports but decrease rapeseed and palm oil imports. Japan has suffered from a general deflation since the mid-1990s, but global commodities are a notable exception which will be felt by Japanese households. As a hedge against future price hikes, vegetable oil users already have stockpiled vegetable oil products. Of course, this hoarding will result in softer consumption at some time.

Oilseeds

Commodities:
Oilseeds, Soybean
Oilseeds, Rapeseed
Oilseeds, Cottonseed

Production, Supply, and Distribution of Soybean (Oilseed)

Oilseed, Soybean	2020/2021		2021/2022		2022/2023	
Market Year Begins	Oct 2020		Oct 2021		Oct 2022	
Japan	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested (1000 HA)	142	142	145	146	0	150
Beginning Stocks (1000 MT)	289	254	174	171	0	200
Production (1000 MT)	235	219	241	238	0	232
MY Imports (1000 MT)	3085	3085	3275	3371	0	3268
Total Supply (1000 MT)	3609	3558	3690	3780	0	3700
MY Exports (1000 MT)	0	0	0	0	0	0
Crush (1000 MT)	2355	2364	2450	2540	0	2450
Food Use Dom. Cons. (1000 MT)	930	870	930	880	0	890
Feed Waste Dom. Cons. (1000 MT)	150	153	150	160	0	160
Total Dom. Cons. (1000 MT)	3435	3387	3530	3580	0	3500
Ending Stocks (1000 MT)	174	171	160	200	0	200
Total Distribution (1000 MT)	3609	3558	3690	3780	0	3700
Yield (MT/HA)	1.655	1.542	1.662	1.630	0	1.547
(1000 HA) ,(1000 MT) ,(MT/HA)						

Production, Supply, and Distribution of Rapeseed (Oilseed)

Oilseed, Rapeseed	2020/2021		2021/2022		2022/2023	
Market Year Begins	Oct 2020		Oct 2021		Oct 2022	
Japan	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested (1000 HA)	2	2	2	2	0	2
Beginning Stocks (1000 MT)	98	146	148	211	0	180
Production (1000 MT)	4	3	4	4	0	4
MY Imports (1000 MT)	2421	2421	2270	2170	0	2171
Total Supply (1000 MT)	2523	2570	2422	2385	0	2355
MY Exports (1000 MT)	0	0	0	0	0	0
Crush (1000 MT)	2370	2357	2280	2200	0	2170
Food Use Dom. Cons. (1000 MT)	0	0	0	0	0	0
Feed Waste Dom. Cons. (1000 MT)	5	2	5	5	0	5
Total Dom. Cons. (1000 MT)	2375	2359	2285	2205	0	2175
Ending Stocks (1000 MT)	148	211	137	180	0	180
Total Distribution (1000 MT)	2523	2570	2422	2385	0	2355
Yield (MT/HA)	2	1.5	2	2	0	2
(1000 HA) ,(1000 MT) ,(MT/HA)						

Production, Supply, and Distribution of Cottonseed (Oilseed)

Oilseed, Cottonseed	2020/2021		2021/2022		2022/2023	
Market Year Begins	Oct 2020		Oct 2021		Oct 2022	
Japan	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested (Cotton) (1000 HA)	0	0	0	0	0	0
Seed to Lint Ratio (RATIO)	0	0	0	0	0	0
Beginning Stocks (1000 MT)	5	5	4	4	0	5
Production (1000 MT)	0	0	0	0	0	0
MY Imports (1000 MT)	94	94	100	101	0	100
Total Supply (1000 MT)	99	99	104	105	0	105
MY Exports (1000 MT)	0	0	0	0	0	0
Crush (1000 MT)	25	25	25	25	0	25
Food Use Dom. Cons. (1000 MT)	0	0	0	0	0	0
Feed Waste Dom. Cons. (1000 MT)	70	70	75	75	0	75
Total Dom. Cons. (1000 MT)	95	95	100	100	0	100
Ending Stocks (1000 MT)	4	4	4	5	0	5
Total Distribution (1000 MT)	99	99	104	105	0	105
Yield (MT/HA)	0	0	0	0	0	0
(1000 HA) ,(RATIO) ,(1000 MT) ,(MT/HA)						

Production

Soybean

Japan's soybean production is focused on food-grade soybeans, of which approximately 80 percent are distributed via the Japan Agricultural Cooperatives (JA) to food manufacturers (see Utilization of Food-Grade Soybeans in Japan). The remainder is consumed locally or used for planting. Domestic production does not contribute to crush[1].

Japan's Ministry of Agriculture, Forestry and Fisheries (MAFF) reported that the 2021/22 marketing year (MY, October to September) soybean harvested area[2] will be 146,200 hectares (ha), a 3 percent increase from 141,700 ha in MY 2020/21. FAS/Tokyo forecasts Japan's soybean planted area will increase by 3 percent to 150,000 ha for MY 2022/23 soybeans due to the rise in global soybean prices.

FAS/Tokyo estimates[3] Japan's MY 2021/22 soybean production at 238,400 metric tons (MT) based on the November 2020 production and sales estimation by JA's National Federation of Agricultural Co-operative Associations (Zen-noh) with a 1.63 MT/ha yield. Figure 1 shows the map of production of soybeans (green columns) by region. Hokkaido dominates Japan's soybean production, and its yield is higher than other regions' because they plant soybeans on dry fields, not on rice paddy. Hokkaido experienced dry conditions in early summer in 2021, which resulted in slightly smaller soybean kernels than usual, but the total yield improved from the previous year. Weather conditions were good for

[1] 316 MT of domestic soybeans were used for crushing in MY 2020/21.

[2] In Japan, area harvested is typically nearly identical to area planted. MAFF's figures do not distinguish between area planted and area harvested.

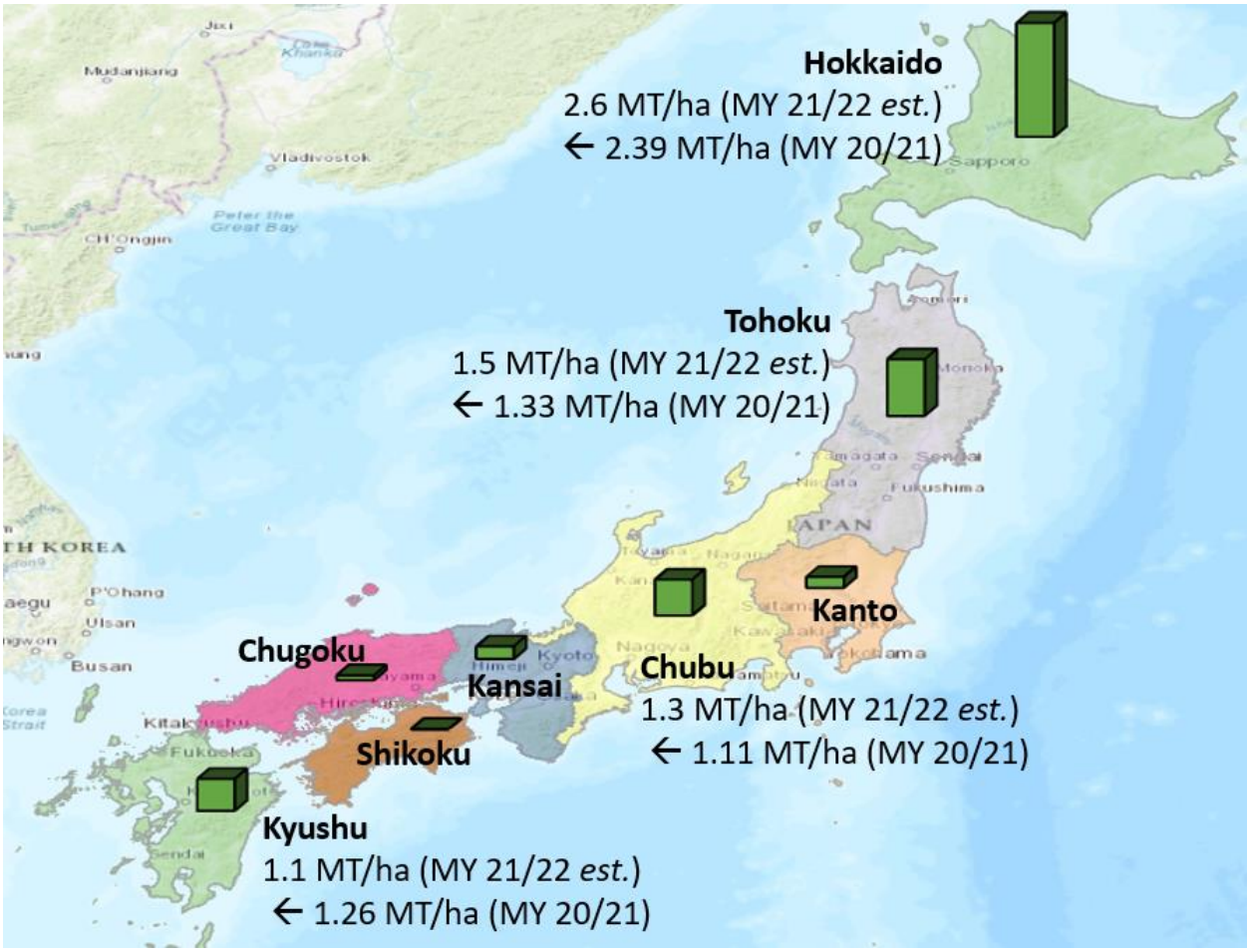
[3] MAFF changed its reporting schedule and official production of MY 2021/22 will not be published until April 2022.

soybean production in northeast, eastern and central Japan, which contributed to overall yield improvement for the MY 2021/22 crop. The Kyushu area, by contrast, experienced heavy rain damage in August, which dropped yields for the MY 2021/22 crop.

Assuming Japan's average ten-year yield of 1.55 MT/ha, FAS/Tokyo forecasts Japan's MY 2022/23 soybean production at 232,000 MT.

MAFF's final MY 2020/21 soybean production number was 218,900 MT with a 1.54 MT/ha yield, a slight recovery from the MY 2019/20 yield.

Figure 1. Map of Soybean Production by Region



Source: ESRI ArcGIS, MAFF, JA Zen-noh

Note: The height of column represents the volume of soybean production in each region. Yield (MT/ha) in MY 2020/21 is the actual numbers reported by MAFF. FAS/Tokyo estimated yield in MY 2021/22 based on the report published by JA Zen-noh.

Rapeseed

Japan has limited rapeseed production that is concentrated in the north. MAFF announced that the rapeseed area harvested for MY 2021/22 crop was 1,640 ha[4], a decline from the 1,830 ha for MY 2020/21 as farmers chose to plant other rotation crops. MAFF reported MY 2021/22 rapeseed production at 3,260 MT, a 9 percent decline from MY 2020/21. FAS/Tokyo forecasts Japan's MY 2021/22 rapeseed area harvested and production to return to long-term average levels at 2,000 ha and 4,000 MT, respectively.

Cottonseed

Japan does not produce cottonseed.

Consumption

Japan's oilseed consumption is primarily driven by vegetable oil domestic consumption since the great majority of imported oilseeds are used by oil crushers. The change in oil consumption brought on by the COVID-19 pandemic has directly and indirectly impacted oilseed consumption in Japan since MY 2020/21.

Crush

Three large oil crushers (Nisshin Oillio, J-Oil Mills, and Showa Sangyo) produce over 80 percent of Japan's vegetable oil volume, principally produced from imported soybeans and rapeseeds. Although the overall oilseeds and oil market in Japan is generally stable, Japanese crushers adjust the production of soybean oil, canola oil, and palm oil based on oil demand and relative costs of procurement. Three related factors caused by the COVID-19 pandemic have heavily influenced Japanese oilseeds demand: business and travel restrictions; fluctuation in crush margins; and rising import prices of oilseeds.

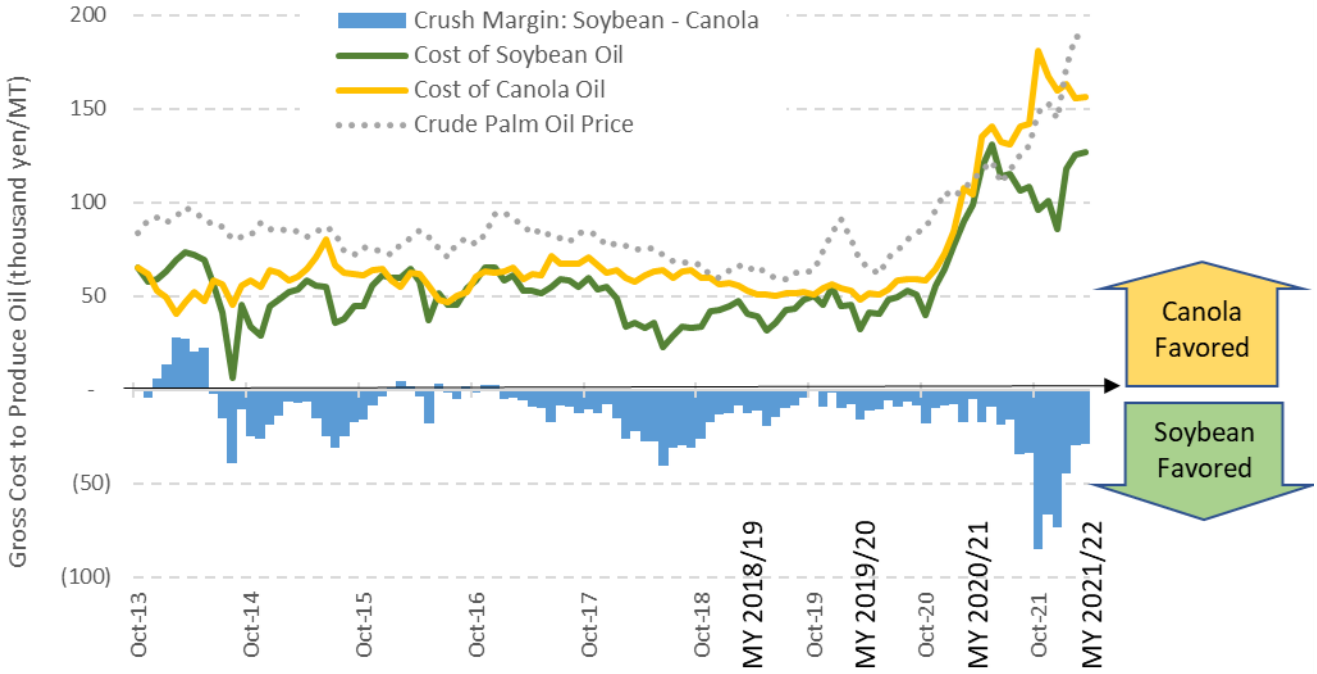
Soybean and Rapeseed

In MY 2020/21, the COVID-19 pandemic and state of emergency declared by the Government of Japan shifted consumption patterns: at-home food consumption largely replaced food consumption at hotels, restaurants, and institutions (HRI, see JA2021-0134); and demand for rapeseed oil (canola) increased, while demand for soybean oil declined.

Since summer 2020, global commodity prices have soared (Figure 2), which has gradually depressed overall demand for oil products in Japan. Importantly, since the end of MY 2020/21, crush margins for soybeans have significantly improved relative to margins for rapeseed, which was caused by tight supply of canola seeds from Canada. In addition, crushers believe the oil content in the MY 2021/22 canola crop is quite low. At the same time, global crude palm oil prices have risen sharply, which makes soybean oil in Japan even more price competitive. Beginning with MY 2021/22, Japanese crushers increased the soybean crush relative to rapeseed. More details about Japanese oil production and consumption are in Oils section below.

[4] It does not include ornamental planting areas.

Figure 2. Crush Margin of Soybean Oil and Canola Oil for Japanese Crushers



Source: Chicago Board of Trade, the Intercontinental Exchange, Malaysian Palm Oil Board
Note: Gross costs to produce crude soybean oil and crude canola oil ignore operation costs of Japanese crushers. Japanese companies do not crush copra but procure crude palm oil directly.

According to MAFF, Japanese millers crushed 2,363,838 MT of soybeans and 2,356,866 MT of rapeseed in MY 2020/21. Due to much better crush margins beginning with MY 2021/22, FAS/Tokyo estimates Japanese crushers will use 2.54 million MT (MMT) of soybeans in MY 2021/22, a 7.4 percent increase from MY 2020/21. By contrast, owing to poor seed quality and low crush margins, rapeseed crush will be 2.20 MMT, down 6.7 percent from MY 2020/21. This trend likely reflects a new post-COVID normality, in which many people resume eating out again.

With rising prices softening consumption, in MY 2022/23, FAS/Tokyo forecasts crush use of soybeans will drop to 2.45 MMT; of rapeseed, to 2.17 MMT.

Cottonseed

FAS/Tokyo projects cottonseed crush to remain stable at 25,000 MT in MY 2021/22 and MY 2022/23. MAFF reports that in MY 2020/21, Japan crushed 24,763 MT of cottonseed to produce 4,426 MT of cottonseed oil, with an oil extraction rate of 0.179. Cottonseed oil is principally used as a high-end cooking oil, professional tempura oil, and high-end oil for canned fish. The resulting 11,859 MT of cottonseed meal largely went to feed. Okamura Oil Mill in Osaka is the only cottonseed crusher in Japan.

Food Use Consumption

Processed soy food manufacturers (e.g., tofu, natto, miso, soymilk, simmered soybeans, etc.) consume most food-grade soybeans in Japan. Japanese people view processed soy food as an inexpensive and healthy staple food. Please see Utilization of Food Grade Soybeans in Japan for details about Japanese food soybean.

Over the past decade, Japan's food soybean consumption has been stable at approximately 0.9 MMT, but food soybean consumption dropped slightly in MY 2020/21, likely due to high soybean prices and the shortage of containers for soybean imports. According to Japan Soymilk Association, food-grade soybean consumption by Japanese soymilk manufacturers dropped 2 percent to 67,756 MT in 2021. Food Marketing Research and Information Center (FMRIC) estimates miso production in 2021 was 462,083 MT, down 2.6 percent from 2020. According to Household Expenditure Survey by Statistics Bureau of Japan, the average expenditure for processed soybean food in 2021 was 10,500 yen per household, down 4.8 percent from 2020, although the retail price of some soybean food slightly increased in 2021. FAS/Tokyo estimates the consumption of food-grade soybeans was 870,000 MT in MY 2020/21, down 4 percent from MY 2019/20.

FAS/Tokyo forecasts food soybean consumption increased only slightly to 880,000 MT in MY 2021/22 as domestic production increased. Food consumption of soybeans will return to 890,000 MT in MY 2022/23 as the HRI sector recovers and the soybean market stabilizes.

Feed, Seed, and Waste (FSW) Consumption

According to feed statistics of MAFF, soybean consumption by feed manufacturers decreased slightly to 81,852 MT in MY 2020/21. Year-to-date numbers suggest soybean consumption by feed millers will stay around 81,000 MT in MY 2021/22. Including seeds, local feed consumption not captured by MAFF statistics[5], and waste, FAS/Tokyo projects soybean FSW consumption staying at 160,000 MT in MY 2021/22 and MY 2022/23. Rapeseed FSW consumption is small residuals only.

Feed manufacturers use cottonseed as a minor ingredient, primarily in compound feed of dairy cows to boost milk fat. FAS/Tokyo estimates Japan's cottonseed FSW consumption was lower than normal at 70,000 MT in MY 2021/22 due to supply chain disruptions. FAS/Tokyo projects cottonseed FSW consumption will increase to 75,000 MT in MY 2021/22 and MY 2022/23, reflecting an increase in the domestic dairy cow population (see 2021 Japan Dairy and Products Annual).

Trade

Japan relies heavily on oilseed imports and has no tariffs on soybeans, rapeseed, and cottonseed.

In MY 2020/21, Japan imported 3.045 MMT of soybeans, of which about 80 percent was feed-grade and 20 percent food-grade. Major suppliers included the United States (75.9 percent, including both feed-grade and food-grade); Brazil (14.4 percent, feed-grade); Canada (14.4 percent, food-grade) and China (9.0 percent, food-grade). Japan's requirement of 47.5 percent crude protein[6] in soybean meal for high-

[5] FSW consumption represents residual consumption and includes off-grade domestic soybeans.
[6] Domestic soybean meal production is usually low-protein soybean meal, which requires 44 percent of crude protein content.

protein feed (Hi-Pro) preserves Brazil's market share due to higher crude protein content in Brazilian soybeans. Japan imported 2.421 MMT of rapeseed in MY 2020/21, with 92 percent from Canada and the rest from Australia.

FAS/Tokyo projects soybean imports will rise to 3.37 MMT in MY 2021/22 (a 9.3 percent increase from the previous year), but rapeseed imports will decrease to 2.17 MMT in MY 2021/22 (a 10.4 percent decline from the previous year) reflecting the low crush margin for rapeseed. In MY 2022/23, FAS/Tokyo projects that rising vegetable oil prices depress Japan's soybean imports to 3.27 MMT; rapeseed imports will stay at 2.17 MMT.

Cottonseed

FAS/Tokyo projects Japanese cottonseed imports to stay at 0.1 MMT in MY 2022/23 and MY 2022/23, due to the very stable niche feed demand by the dairy industry. In MY 2020/21, Japan imported 93,637 MT of cottonseed, of which 47.8 percent came from the United States (for feed and crush), 25.3 percent from Australia (primarily for feed) and 14.3 percent from Brazil (primarily for crush).

Stocks

MAFF reports that MY 2020/21 soybean beginning stocks were 243,880 MT, of which oil crushers held 239,003 MT and feed manufacturers held an additional 4,877 MT. As soybean oil consumption was better than expected, MY 2021/22 beginning stocks decreased to 170,184 MT, of which oil crushers held 165,727 MT and feed manufacturers held an additional 4,457 MT. FAS/Tokyo forecasts soybean ending stocks will stay at 200,000 MT in MY 2021/22 and MY 2022/23.

MAFF statistics show that crushers held 145,792 MT of rapeseed at the beginning of MY 2020/21, lower than normal level. As people adjusted to the COVID pandemic, canola oil demand cooled, and MY 2021/22 rapeseed beginning stocks increased to 211,024 MT. Since oil crushers will adjust their procurement, FAS/Tokyo forecasts rapeseed ending stocks return to a more normal 180,000 MT in MY 2021/22 and MY 2022/23.

MAFF reported MY 2020/21 beginning cottonseed stocks for crush at 1,685 MT and ending cottonseed stocks at 1,130 MT. There are no official figures of cottonseed stocks for feed, and FAS/Tokyo estimates feed cottonseed stocks at about 3,000 MT. FAS/Tokyo forecasts total cottonseed stocks will hover around 4,000-5,000 MT in MY 2021/22 and MY 2022/23.

Meals

Commodities:
Meal, Soybean
Meal, Rapeseed
Meal, Fish
Meal, Palm Kernel

Production, Supply, and Distribution of Soybean Meal

Meal, Soybean	2020/2021		2021/2022		2022/2023	
Market Year Begins	Oct 2020		Oct 2021		Oct 2022	
Japan	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Crush (1000 MT)	2355	2364	2450	2540	0	2450
Extr. Rate, 999.9999 (PERCENT)	0.755	0.754	0.755	0.752	0	0.755
Beginning Stocks (1000 MT)	226	98	231	95	0	100
Production (1000 MT)	1777	1783	1849	1910	0	1850
MY Imports (1000 MT)	1839	1839	1800	1698	0	1755
Total Supply (1000 MT)	3842	3720	3880	3703	0	3705
MY Exports (1000 MT)	1	1	1	1	0	1
Industrial Dom. Cons. (1000 MT)	280	224	280	220	0	220
Food Use Dom. Cons. (1000 MT)	120	200	120	202	0	204
Feed Waste Dom. Cons. (1000 MT)	3210	3200	3249	3180	0	3180
Total Dom. Cons. (1000 MT)	3610	3624	3649	3602	0	3604
Ending Stocks (1000 MT)	231	95	230	100	0	100
Total Distribution (1000 MT)	3842	3720	3880	3703	0	3705
(1000 MT) ,(PERCENT)						

Production, Supply, and Distribution of Rapeseed Meal

Meal, Rapeseed	2020/2021		2021/2022		2022/2023	
Market Year Begins	Oct 2020		Oct 2021		Oct 2022	
Japan	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Crush (1000 MT)	2370	2357	2280	2200	0	2170
Extr. Rate, 999.9999 (PERCENT)	0.557	0.561	0.557	0.564	0	0.553
Beginning Stocks (1000 MT)	71	58	80	76	0	70
Production (1000 MT)	1319	1322	1270	1240	0	1200
MY Imports (1000 MT)	5	5	5	6	0	6
Total Supply (1000 MT)	1395	1385	1355	1322	0	1276
MY Exports (1000 MT)	0	0	0	0	0	0
Industrial Dom. Cons. (1000 MT)	250	109	250	102	0	100
Food Use Dom. Cons. (1000 MT)	0	0	0	0	0	0
Feed Waste Dom. Cons. (1000 MT)	1065	1200	1047	1150	0	1106
Total Dom. Cons. (1000 MT)	1315	1309	1297	1252	0	1206
Ending Stocks (1000 MT)	80	76	58	70	0	70
Total Distribution (1000 MT)	1395	1385	1355	1322	0	1276
(1000 MT) ,(PERCENT)						

Production, Supply, and Distribution of Fishmeal

Meal, Fish	2020/2021		2021/2022		2022/2023	
Market Year Begins	Jan 2021		Jan 2022		Jan 2023	
Japan	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Catch For Reduction (1000 MT)	840	952	840	950	0	950
Extr. Rate, 999.9999 (PERCENT)	0.214	0.215	0.214	0.222	0	0.222
Beginning Stocks (1000 MT)	20	20	14	20	0	20
Production (1000 MT)	180	205	180	200	0	200
MY Imports (1000 MT)	151	146	185	165	0	165
Total Supply (1000 MT)	351	371	379	385	0	385
MY Exports (1000 MT)	10	6	6	5	0	5
Industrial Dom. Cons. (1000 MT)	50	60	50	70	0	70
Food Use Dom. Cons. (1000 MT)	0	5	0	0	0	0
Feed Waste Dom. Cons. (1000 MT)	277	280	305	290	0	290
Total Dom. Cons. (1000 MT)	327	345	355	360	0	360
Ending Stocks (1000 MT)	14	20	18	20	0	20
Total Distribution (1000 MT)	351	371	379	385	0	385
(1000 MT) ,(PERCENT)						

Production, Supply, and Distribution of Palm Kernel Residues (HS Code: 2306.60)

Meal, Palm Kernel	2020/2021		2021/2022		2022/2023	
Market Year Begins	Oct 2020		Oct 2021		Oct 2022	
Japan	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Crush (1000 MT)	0	0	0	0	0	0
Extr. Rate, 999.9999 (PERCENT)	0	0	0	0	0	0
Beginning Stocks (1000 MT)	0	0	0	0	0	0
Production (1000 MT)	0	0	0	0	0	0
MY Imports (1000 MT)	190	190	190	200	0	200
Total Supply (1000 MT)	190	190	190	200	0	200
MY Exports (1000 MT)	0	0	0	0	0	0
Industrial Dom. Cons. (1000 MT)	186	186	186	196	0	196
Food Use Dom. Cons. (1000 MT)	0	0	0	0	0	0
Feed Waste Dom. Cons. (1000 MT)	4	4	4	4	0	4
Total Dom. Cons. (1000 MT)	190	190	190	200	0	200
Ending Stocks (1000 MT)	0	0	0	0	0	0
Total Distribution (1000 MT)	190	190	190	200	0	200
(1000 MT) ,(PERCENT)						

Note: Due to the difference in the application of HS codes used by Japan and its palm kernel residue suppliers (Malaysia and Indonesia), Malaysia's and Indonesia's export data notably differs from Japan's import data (see JA2020-0110 for explanation). FAS/Tokyo relies on suppliers' export data to capture Japanese palm kernel residue imports, which are primarily utilized as biomass by Japanese powerplants.

Production

Soybean Meal

According to MAFF, Japanese crushers produced 1.783 MMT of soybean meal in MY 2020/21 from 2.364 MMT of soybeans. In MY 2021/22, FAS/Tokyo estimates Japanese crushers will produce 1.91 MMT of soybean meal from 2.54 MMT of soybeans, a 7.7 percent increase. In MY 2022/23, FAS/Tokyo projects Japanese crushers will produce 1.85 MMT of soybean meal from 2.45 MMT of soybeans, a 3.5 percent decrease from the previous marketing year. FAS/Tokyo assumes a soybean meal extraction rate of 0.75, the five-year average. Japanese crushers usually meet half of domestic soybean meal demand.

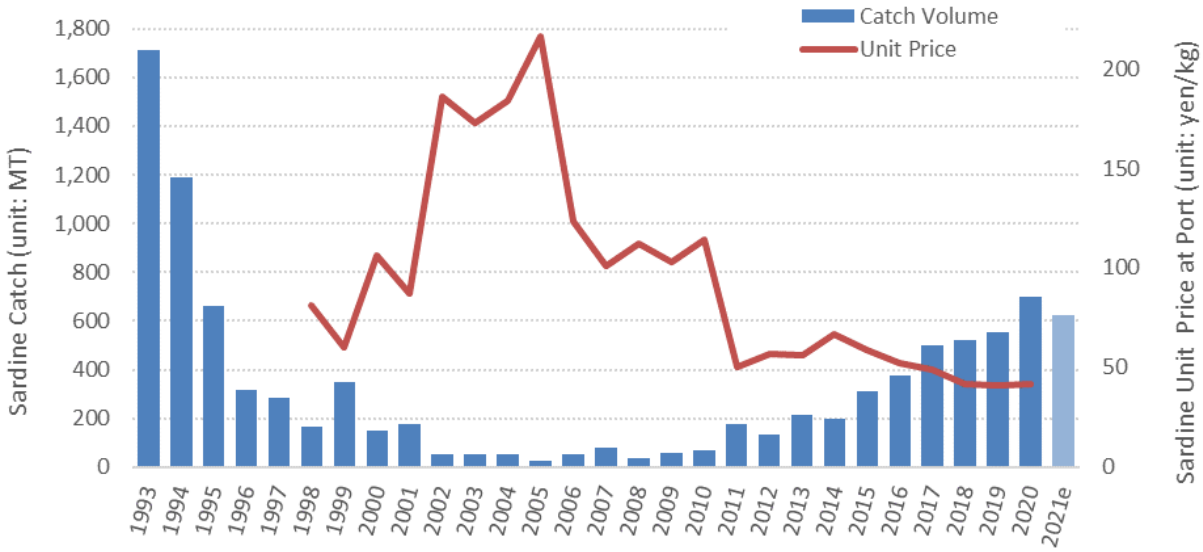
Rapeseed Meal

According to MAFF, Japanese crushers produced 1.322 MMT of rapeseed meal as byproducts in MY 2020/21 from 2.357 MMT of rapeseed. The extraction rate of rapeseed meal was high at 0.561 because oil extraction rate was low in the MY 2020/21 rapeseed crop. FAS/Tokyo expects the extraction rate of rapeseed meal will be even higher at 0.564 in MY 2021/22 based on year-to-date numbers. From 2.20 MMT of rapeseed, FAS/Tokyo estimates Japanese crushers will produce 1.24 MMT of rapeseed meal in MY 2021/22. Assuming the rapeseed meal extraction rate returns to the five-year average rate of 0.55, in MY 2022/23, FAS/Tokyo projects Japanese crushers to produce 1.20 MMT of rapeseed meal as byproduct from 2.17 MMT of rapeseed.

Fishmeal

Japan utilizes fish trimmings and small whole fish (e.g., sardines) as inputs in the production of fish oil and fishmeal. As shown in Figure 3, Japanese sardine resources have been depleted for more than a decade (beginning from the mid-1990s), but beginning around 2011, the sardine catch in Japan has gradually recovered, especially on the eastern coast of Hokkaido.

Figure 3. Japan's Sardine Catch and Sardine Price



Source: Japan Fisheries Agency

Japan caught 698,359 MT of sardines in 2020. Based on Japan Fisheries Agency's monthly data, FAS/Tokyo estimates the sardine catch decreased to 622 thousand MT in 2021 since COVID-19 limited the operation of fishing boats. FAS/Tokyo assumes Japan will catch sardines at relatively high levels over the next two years. The smallest sardines in the catch will go toward fish oil and meal production, rather than food.

Fishmeal marketing year (FM-MY) 2020/21 is equivalent to calendar year (CY) 2021 (January-December 2021)[7]. According to Japan Marine Oil Association, Japan produced 205,000 MT of fishmeal as byproducts of fish oil from 280,000 MT of domestically caught whole fish (e.g., sardine) and 672,000 MT of trimmings in CY 2021 (or FM-MY 2020/21). Assuming steady sardine catch and a stable level of fish trimmings, FAS/Tokyo projects CY 2022 (or FM-MY 2021/22) and CY 2023 (or FM-MY 2022/23) fishmeal production at 200,000 MT (Table 1).

Table 1. Japan's Fishmeal Production and Imports (Thousand MT)

	CY	2017	2018	2019	2020	2021	2022f
	FM-MY	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22f
Domestic Input	Trimmings	681	662	665	664	672	660
	Whole Fish	156	177	225	239	280	290
	Total	**837**	**840**	**890**	**903**	**952**	950
Domestic Production	Fish Oil	78	74	74	78	79	80
	Fishmeal	**181**	**182**	**189**	**195**	**205**	**200**
	Extr. Rate	21.7%	21.6%	21.2%	21.5%	21.5%	21.1%
Fishmeal Imports	Peru	42	44	76	51	45	NA
	Chile	24	23	21	39	22	NA
	US	12	12	15	17	14	NA
	US (%)	6.6%	6.3%	6.8%	8.6%	9.3%	NA
	Total	**174**	**189**	**213**	**203**	**146**	160
Total Fishmeal Supply		**356**	**371**	**402**	**398**	**351**	360

Sources: Fishmeal Association, Japan Marine Oil Association, Japan Customs

Palm Kernel Meal

Japan does not produce palm kernel meal.

[7] USDA uses marketing year of fishmeal (FM-MY) from January to December. For example, FM-MY 2021/22 means January-December 2022, or CY 2022. It is different from all other commodities in this report, which uses marketing year from October to September.

Consumption

Feed and Waste Consumption

Based on MAFF's feed data, FAS/Tokyo estimates Japanese feed millers consumed 8.7 MMT soybean meal equivalent (SME[8]) protein in MY 2020/21, of which 36 percent was from soybean meal, 9 percent rapeseed meal, 8 percent corn-derived protein by-products (i.e., distillers' dried grains with solubles (DDGS) and corn gluten feed and meal (CGF&M). Other inputs include slaughterhouse waste (e.g., meat and bone meal[9], feather meal) 5 percent; and fishmeal, 3 percent (Table 2). Total SME protein use by Japanese feed millers is by and large very stable, with a marginal increase in recent years. Year-to-date estimates in MY 2021/22 also shows quite stable proportions.

Table 2. Trends in Protein Sources in Feed (thousand MT SME)

	2017/18	2018/19	2019/20	2020/21	2021/22e
Total	**8,461**	**8,527**	**8,600**	**8,690**	**8,660**
of DDGS & CGF&M	775	771	704	704	710
Animal-based protein subtotal	**664**	**676**	**697**	**770**	**770**
of fishmeal	236	263	264	266	250
of slaughterhouse waste	316	313	334	393	420
High-protein oil meals subtotal	**3,925**	**3,984**	**4,067**	**4,083**	**4,090**
of rapeseed meal	801	796	807	818	840
of soybean meal	2,957	3,020	3,096	3,097	3,080
of palm kernel meal	0	0	0	0	0
of other meal (sesame...)	167	168	164	168	170

Source: MAFF
Note: MY is October to September.

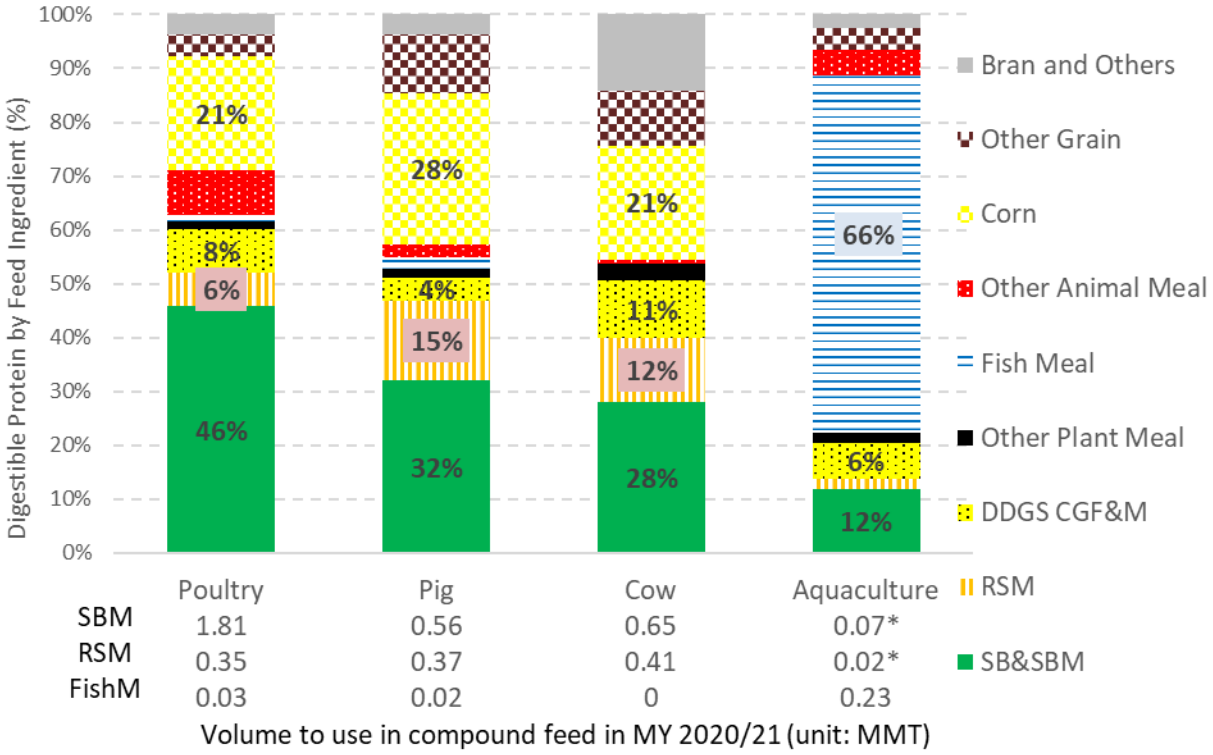
According to MAFF, poultry (broilers, layers, quail, etc.) was the largest consumer of protein, accounting for about 46 percent of protein in Japanese feed in MY 2020/21. For poultry, 46 percent of protein derives from soybean meal, 6 percent from rapeseed meal, and 1 percent from fishmeal (Figure 4). The second largest protein consumer was cattle (beef cattle and milk cattle), accounting for about 28 percent of feed proteins. For cattle, 28 percent of protein derives from soybean meal, and 12 percent from rapeseed meal. Cattle do not eat fishmeal. Hog protein consumption constitutes about 20 percent of Japanese feed protein. For hogs, 32 percent of protein derives from soybean meal, 15 percent from rapeseed meal, and 1.9 percent from fishmeal. Aquaculture consumed roughly 4 percent of protein in Japan's total feed consumption. About 66 percent of protein in compound feed for farm-raised fish was from fishmeal, 12 percent from soybean meal, and 2 percent from rapeseed meal. Marine carnivorous fish are popular aquaculture fish in Japan. Such fish have difficulty absorbing protein from soybean

[8] To facilitate the comparison of crude protein levels across different feeds, they are expressed in soybean meal equivalent (SME): 1 MT of rapeseed meal equals 0.7115 MT of SME; 1 MT of fishmeal is 1.445 MT of SME, 1 MT of soybeans is 0.8 MT of SME; and 1 MT of DDGs equals 0.5833 MT of SME.

[9] Since 2001, MAFF allows meat and bone meal derived from chicken and pork for feed of poultry and swine. Please see JA2021-0091 for more information.

meal due to a trypsin inhibitor. However, since fishmeal is more expensive and supply is less reliable than plant-based protein, many feed manufacturers have invested in research to develop a compound feed formula for fish which contains a higher proportion of plant-based proteins to replace some of the fishmeal.

Figure 4. Proportion of Digestible Protein in Compound Feed by Animal in MY 2020/21



Source: MAFF
Note: * denotes FAS/Tokyo estimates of aquaculture meal consumption during oilseed MY (October-September).

Although input prices for compound feed increased for the first quarter of 2021, FAS/Tokyo anticipates stable feed consumption in the next two marketing years due to a compound feed price stabilization system (2022 Japan Grain and Feed Annual).

Soybean Meal and Rapeseed Meal

FAS/Tokyo projects stable plant protein meal demand, in line with livestock (2022 Japan Livestock and Products Semi-annual) and feed (2022 Japan Grain and Feed Annual) forecasts.

In MY 2020/21, MAFF feed statistics show that Japanese feed manufacturers consumed 3.097 MMT of soybean meal and 1.149 MMT of rapeseed meal. In MY 2020/21, adding waste and other feed consumption, which MAFF statistics did not cover, FAS/Tokyo estimates feed and waste consumption for soybean meal at 3.2 MMT; for rapeseed meal, 1.2 MMT.
As domestic rapeseed meal production decreases, FAS/Tokyo projects rapeseed meal consumption to decrease to 1.15 MMT and 1.11 MMT in MY 2021/22 and MY 2022/23, respectively. Given the stable

feed market supported by the feed price stabilization system, FAS/Tokyo projects soybean meal feed consumption to be 3.18 MMT in MY 2021/22 and MY 2022/23.

Fishmeal

According to MAFF, Japanese livestock consumed 55,000 MT of fishmeal in FM-MY 2020/21 (CY 2021). Livestock consumption of fishmeal has declined and been replaced by slaughterhouse residues and other plant meals. MAFF's feed statistics on fishmeal consumption underreports fishmeal consumption of the aquaculture sector. FAS/Tokyo estimates aquaculture consumed about 225,000 MT of fishmeal, so the total MY 2020/21 fishmeal consumption for feed and waste was 280,000 MT, about 10 percent reduction from CY 2020. Early on during the second year of the COVID-pandemic, aquaculture farmers anticipated weak HRI sector demand for farm-raised fish (e.g., sea bream, yellowtail, pufferfish, flounder, bluefin tuna, *etc*.) and reduced quantities of fish in fish farm pens, accordingly.

HRI consumption of farm-raised fish should recover somewhat in CY 2022 and CY 2023, but concerns remain in the Japanese aquaculture sector. The most popular aquaculture fish in Japan is yellowtail (*buri* or *hamachi*). Aquafarmers catch wild juvenile yellowtails (about 5-10 cm, called *mojako*) in spring and feed them for 1.5-3 years before shipping. Because the catch of juvenile yellowtails in CY 2021 season was extremely poor, it is expected that the supply for fishmeal feed will remain lower than normal in the next two marketing years. FAS/Tokyo projects total fishmeal feed consumption at 290,000 MT in MY 2021/22 (CY 2022) and in MY 2022/23 (CY 2023).

Palm Kernel Meal

According to feed industry experts, palm kernel meal is a feed ingredient for ruminants that is rarely used in Japan. In the absence of MAFF data, FAS/Tokyo estimates palm kernel meal feed consumption at 4,000 MT in every marketing year.

Food Use Consumption

Unlike typical feed-grade soybean meal, food-grade soybean meal is produced from identity-preserved (IP) soybeans, and not heat-treated. Manufacturers of soy sauce, isolated plant protein products (e.g., alternative meat), hydrolyzed vegetable protein (HVP) and beer-like alcoholic drink are the principal users of food-grade soybean meal in Japan (see Utilization of Food-Grade Soybeans in Japan). According to FMRIC, soy sauce production in 2021 was 703.7 million liters, almost unchanged from 2020. The annual consumption of soybean meal by soy sauce manufacturers hovers around 110,000-130,000 MT. According to the Japan Plant Protein Food Association, Japan's annual production of soy-based proteins, which are the main ingredient for plant-based meat products in Japan, is on the rise, reaching 44,725 MT in 2021. On November 2021, MAFF proposed newly developed Japan Agricultural Standards (JAS) for soy meat products (see JA2021-0149). Based on these facts, FAS/Tokyo estimates food use consumption of soybean meal was 200,000 MT in MY 2020/21. The food use consumption of soybean meal will slowly but surely increase in near future as Japanese consumers will consume more alternative meat products made from soybean meal.

Food manufacturers occasionally use fishmeal as an inexpensive substitute for bonito and other fish flakes in *dashi* broth packets and other seasoning ingredients.

Industrial Consumption

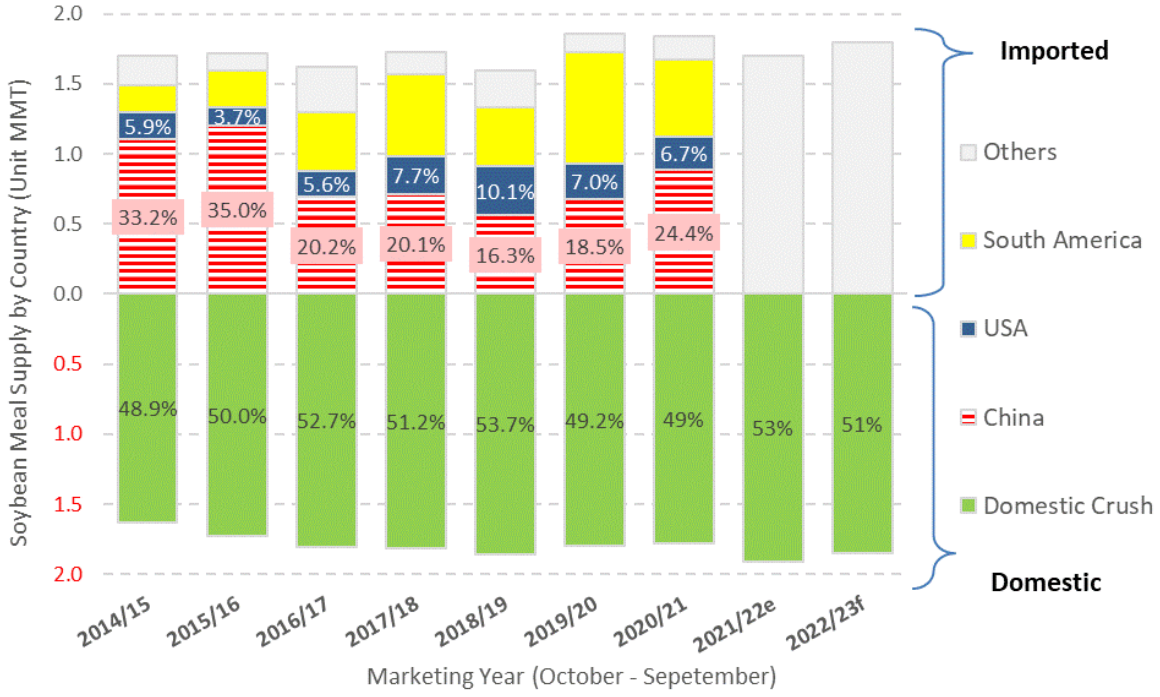
The primary industrial use of soybean meal, rapeseed meal, and fishmeal is for organic fertilizer production, which is preferred by growers of some specialty crops, such as tea and tobacco. Japan does not publish reliable fertilizer input data, but industry experts believe the demand remains low because inexpensive chemical fertilizers have dominated the market. FAS/Tokyo projects a steady annual consumption of rapeseed meal and fishmeal in MY 2020/21, MY 2021/22, and MY 2022/23.

Palm kernel meal (PKM) does not have industrial use in Japan, but Japan does utilize a large volume of palm kernel shells (PKS) as biomass for power generation (see 2021 Japan Biofuels Annual). Occasionally the same HS codes are used to report trade of PKM and PKS (see JA2020-0110 for clarification of the trade discrepancies between PKS exporters and Japan), which creates an erroneous impression of substantial PKM consumption by Japan. Since 2012, Japan's PKS imports have grown exponentially as Japan incorporated biomass power generation into its feed-in tariff (FIT) program. Medium-sized biomass power plants use PKS as a stable and inexpensive biomass fuel. Japan was planning to require stricter certification on FIT-eligible PKS from April 2023, one year delayed from original plans. PKS consumption in Japan is predominantly of imports from Malaysia and Indonesia.

Trade

Japan has no tariff on meal products.

Figure 5. Japan's Annual Soybean Meal Supply



Source: MAFF, Japan Customs

Imported soybean meal primarily fills the gap left by domestic crush in meeting protein requirements for feed (Figure 5). Japan imported 1.839 MMT of soybean meal in MY 2020/21, of which 48 percent was from China and 30 percent was from South America. To meet Japan's protein requirement of 47.5

percent in high-protein plant-based feed, China[10], Brazil and Paraguay supply high-protein (Hi-Pro) soybean meal[11]. Chinese Hi-Pro soybean meals are containerized and directly delivered to local feed manufacturers. The United States exports feed-grade low-protein soybean meal and food-grade IP soybean meal to Japan.

As Japan produces more soybean meal, FAS/Tokyo estimates soybean meal imports will decline to 1.7 MMT in MY 2021/22. FAS/Tokyo projects a marginal increase of soybean meal imports in MY 2022/23 as Japan's soybean crush softens.

Japanese feed manufacturers do not import any rapeseed meal for feed. According to Japan Customs, in MY 2020/21, Japan imported just 4,534 MT of rapeseed meal, which consisted of fertilizer-grade high erucic acid rapeseed meal from India and China. FAS/Tokyo forecasts fertilizer-grade rapeseed meal imports to remain flat in the coming market years.

According to Japan Customs, Japan imported 146,095 MT of fishmeal in MY 2020/21 (CY 2021), a 28 percent decline from CY 2020 (Table 1). Domestic fishmeal production was strong but feed demand for aquaculture was weak in CY 2021. Also, ocean freight for international container shipments was very expensive and unreliable, so users preferred domestic fishmeal. FAS/Tokyo forecasts fishmeal imports to marginally increase to 165 thousand MT in MY 2021/22 (CY 2022) and MY 2022/23 (CY 2023) as international shipping normalizes.

Japan relies on imports to meet its demand for PKM and PKS. The import figures primarily reflect trade in PKS for power generation (see JA2020-0110). Due to the expected introduction of stricter sustainability certification requirements in April 2023, FAS/Tokyo forecasts a decline in PKS imports in MY 2022/23.

Stocks

At the start of MY 2020/21, MAFF reported soybean meal stocks at 97,613 MT, of which 45,421 MT was held by oil crushers and 52,192 MT by feed manufacturers. At the beginning of MY 2021/22, soybean meal stocks decreased slightly to 94,915 MT, of which 42,753 MT was held by oil crushers and 52,162 MT by feed manufacturers. FAS/Tokyo forecasts soybean meal stocks at 100,000 MT in MY 2022/23.

MAFF data show that MY 2020/21 beginning rapeseed meal stocks were 58,244 MT, of which crushers held 38,316 MT and feed manufacturers held 19,928 MT. By the start of MY 2021/22, MAFF reported rapeseed meal stocks increased to 76,326 MT, of which crushers held 56,188 MT and feed manufacturers held 20,138 MT. FAS/Tokyo forecasts rapeseed meal stocks to return to 70,000 MT in MY 2022/23.

According to MAFF, feed manufacturers held 21,313 MT in fishmeal stocks at the beginning of MY 2020/21 (January 1, 2021) and 20,317 MT at the beginning of MY 2021/22 (January 1, 2022). FAS/Tokyo forecasts fishmeal stocks to remain around 20,000 MT.

[10] Chinese Hi-Pro soybean meals are made mainly from Brazilian soybeans.

[11] The majority of domestic soybean meal production is low-protein soybean meal (44 percent crude protein contents).

Oils

Commodities:
Oil, Soybean
Oil, Rapeseed
Oil, Palm
Oil, Sunflower seed

Production, Supply, and Distribution of Soybean Oil

Oil, Soybean	2020/2021		2021/2022		2022/2023	
Market Year Begins	Oct 2020		Oct 2021		Oct 2022	
Japan	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Crush (1000 MT)	2355	2364	2450	2540	0	2450
Extr. Rate, 999.9999 (PERCENT)	0.195	0.195	0.195	0.197	0	0.196
Beginning Stocks (1000 MT)	16	22	12	23	0	20
Production (1000 MT)	460	462	478	500	0	480
MY Imports (1000 MT)	3	3	4	3	0	3
Total Supply (1000 MT)	479	487	494	526	0	503
MY Exports (1000 MT)	0	1	0	1	0	1
Industrial Dom. Cons. (1000 MT)	40	40	40	40	0	40
Food Use Dom. Cons. (1000 MT)	427	423	442	465	0	442
Feed Waste Dom. Cons. (1000 MT)	0	0	0	0	0	0
Total Dom. Cons. (1000 MT)	467	463	482	505	0	482
Ending Stocks (1000 MT)	12	23	12	20	0	20
Total Distribution (1000 MT)	479	487	494	526	0	503
(1000 MT) ,(PERCENT)						

Production, Supply, and Distribution of Rapeseed Oil

Oil, Rapeseed	2020/2021		2021/2022		2022/2023	
Market Year Begins	Oct 2020		Oct 2021		Oct 2022	
Japan	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Crush (1000 MT)	2370	2357	2280	2200	0	2170
Extr. Rate, 999.9999 (PERCENT)	0.435	0.427	0.439	0.421	0	0.433
Beginning Stocks (1000 MT)	32	32	23	33	0	30
Production (1000 MT)	1030	1007	1000	925	0	940
MY Imports (1000 MT)	16	16	20	20	0	20
Total Supply (1000 MT)	1078	1055	1043	978	0	990
MY Exports (1000 MT)	5	5	2	3	0	2
Industrial Dom. Cons. (1000 MT)	60	50	60	45	0	45
Food Use Dom. Cons. (1000 MT)	990	967	965	900	0	913
Feed Waste Dom. Cons. (1000 MT)	0	0	0	0	0	0
Total Dom. Cons. (1000 MT)	1050	1017	1025	945	0	958
Ending Stocks (1000 MT)	23	33	16	30	0	30
Total Distribution (1000 MT)	1078	1055	1043	978	0	990
(1000 MT) ,(PERCENT)						

Production, Supply, and Distribution of Palm Oil

Oil, Palm	2020/2021		2021/2022		2022/2023	
Market Year Begins	Oct 2020		Oct 2021		Oct 2022	
Japan	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested (1000 HA)	0	0	0	0	0	0
Trees (1000 TREES)	0	0	0	0	0	0
Beginning Stocks (1000 MT)	59	24	29	8	0	10
Production (1000 MT)	0	0	0	0	0	0
MY Imports (1000 MT)	660	660	650	610	0	620
Total Supply (1000 MT)	719	684	679	618	0	630
MY Exports (1000 MT)	0	0	0	0	0	0
Industrial Dom. Cons. (1000 MT)	100	100	70	53	0	60
Food Use Dom. Cons. (1000 MT)	590	576	590	550	0	550
Feed Waste Dom. Cons. (1000 MT)	0	0	0	5	0	5
Total Dom. Cons. (1000 MT)	690	676	660	608	0	615
Ending Stocks (1000 MT)	29	8	19	10	0	15
Total Distribution (1000 MT)	719	684	679	618	0	630
Yield (MT/HA)	0	0	0	0	0	0
(1000 HA) ,(1000 TREES) ,(1000 MT) ,(MT/HA)						

Production, Supply, and Distribution of Sunflowerseed Oil

Oil, Sunflowerseed	2020/2021		2021/2022		2022/2023	
Market Year Begins	Oct 2020		Oct 2021		Oct 2022	
Japan	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Crush (1000 MT)	0	0	0	0	0	0
Extr. Rate, 999.9999 (PERCENT)	0	0	0	0	0	0
Beginning Stocks (1000 MT)	3	3	3	1	0	1
Production (1000 MT)	0	0	0	0	0	0
MY Imports (1000 MT)	32	27	30	20	0	24
Total Supply (1000 MT)	35	30	33	21	0	25
MY Exports (1000 MT)	0	0	0	0	0	0
Industrial Dom. Cons. (1000 MT)	0	2	0	1	0	1
Food Use Dom. Cons. (1000 MT)	32	27	30	19	0	22
Feed Waste Dom. Cons. (1000 MT)	0	0	0	0	0	0
Total Dom. Cons. (1000 MT)	32	29	30	20	0	23
Ending Stocks (1000 MT)	3	1	3	1	0	2
Total Distribution (1000 MT)	35	30	33	21	0	25
(1000 MT) ,(PERCENT)						

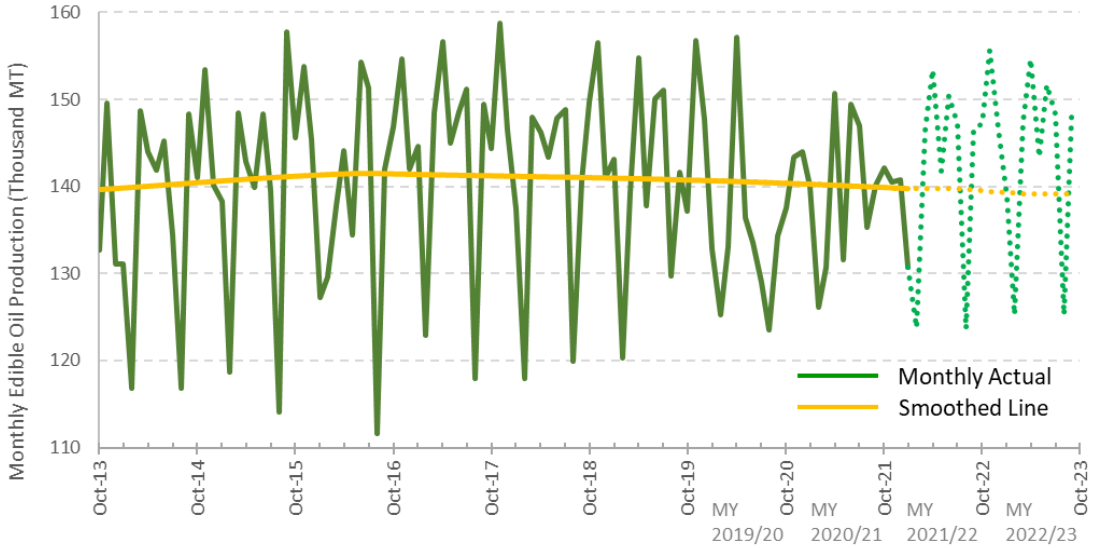
Note: “New Post” sunflower seed oil PS&D figures do not include safflower oil.

Production

MAFF reports that in MY 2020/21, Japanese crushers produced 1.676 MMT of vegetable oil, of which 60.1 percent was rapeseed (canola) oil, 27.6 percent was soybean oil, 4.4 percent was corn oil, 4.2 percent was rice bran oil, 3.4 percent was sesame oil, and 0.3 percent was cottonseed oil. Since oilseeds are exempt from the duties assessed on soybean and canola oils, Japan produces soybean and canola oil from imported oilseeds instead of directly importing oil[12].

Several large Japanese oil crushers adjust soybean and canola oil production as they carefully monitor Japan's quite stable oil demand. Although oil production shows seasonality, crushers produce on average 140-141 thousand MT of vegetable oil monthly (equivalent to 1.68-1.69 MMT annually) (Figure 6). The COVID pandemic resulted in unusual production patterns in MY 2020/21 and MY 2021/22, but crushers kept the overall production constant. After spring 2022, it is expected that the pandemic-induced restrictions will ease, and Japanese may begin a period of so-called "revenge spending" to take advantage of excess savings during the pandemic. Vegetable oil demand may shift from that used for home-cooking consumption (canola oil) to what hotel, restaurant, and institutional service industries (HRI) use (soybean oil). But overall demand will remain soft since it will take some time for the number of international visitors to Japan to return to the 30 million-level recorded in 2018 and 2019. It is unlikely that vegetable oil production expands in the next two marketing years

Figure 6. Trends and Forecasts of Monthly Vegetable Oil Production in Japan



Source: MAFF

Meanwhile, inflation is starting to have an impact: in 2021, oil crushers have announced four hikes to wholesale prices of their oil products to curb the impact of soaring raw material costs. In anticipation of future price hikes, general households, wholesalers, retail stores, restaurants, and food manufacturers all stockpiled vegetable oil products in MY 2021/22[13]. Since hoarding dampens future demand, the total production of oil products in Japan will become somewhat soft in MY 2022/23.

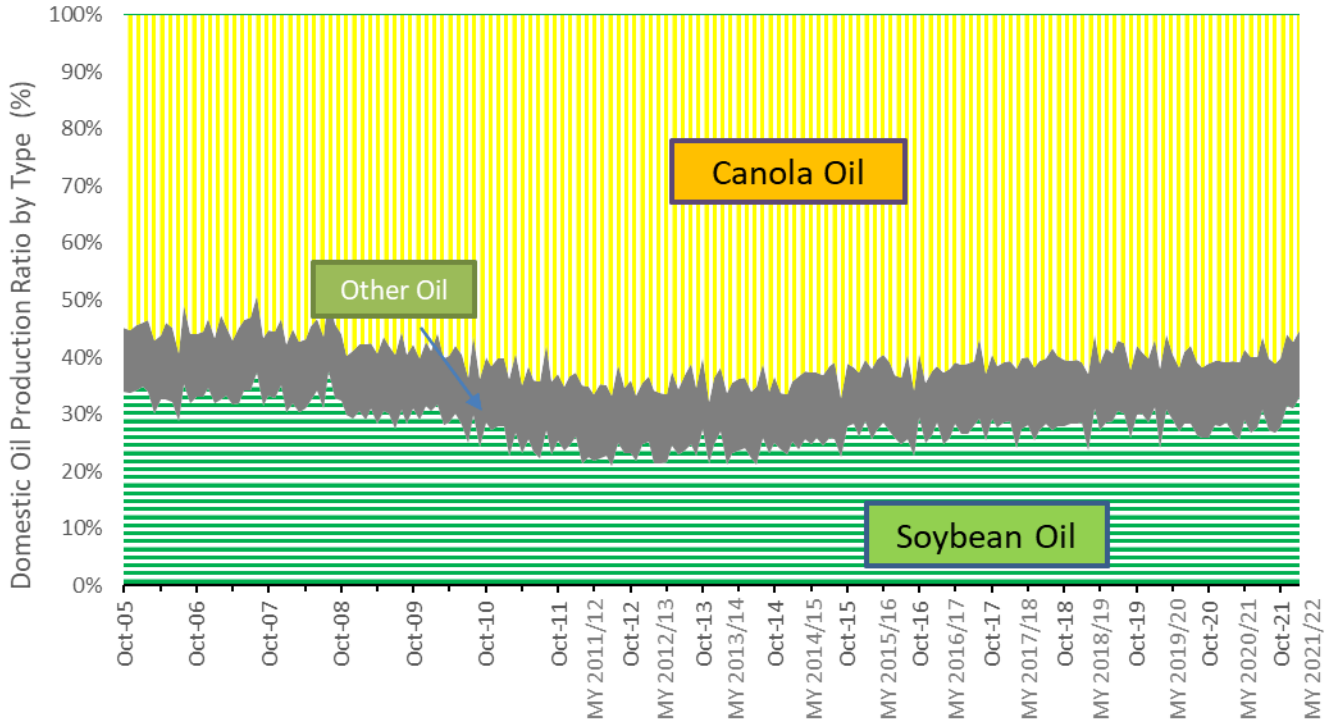
[12] Bilateral and multilateral free trade agreements eliminated or have reducing tariffs on oil products from certain countries.

[13] These stockpiles of vegetable oils at wholesalers, restaurants, retailers, and households are not directly observable. Thus,

Crushers also monitor crush margin and other external factors carefully to adjust the ratio of soybean oil and canola oil production. Since around MY 2011/12, Japanese oil crushers have slowly increased soybean oil ratio relative to canola oil (Figure 7). However, since early spring 2020, canola oil for at-home cooking increased while soybean oil demand sharply declined during HRI closures due to the COVID-19 pandemic. This trend persisted during MY 2020/21, when the production ratio of soybean oil was 27.6 percent compared to rapeseed oil at 60.1 percent.

MY 2021/22 saw the rapid spread of the omicron variant and renewed restrictions on restaurants. However, Japan likely will lift the restrictions in spring 2022, which should revive the HRI sector, which in turn will shift demand toward soybean oil and away from canola in MY 2021/22 and MY 2022/23. Meanwhile, as already discussed in the Oilseeds section, in MY 2021/22, the crush margins of soybean oil improved relative to the margins for either canola oil or imported crude palm oil. FAS/Tokyo expects the production ratio of soybean oil to increase to 31 percent while rapeseed oil's percentage of production will fall to 57 percent in MY 2021/22. Nevertheless, assuming a normal Canadian rapeseed crop in MY 2022/23, production of canola oil will slightly increase.

Figure 7. Actual and Forecasted Proportion of Canola and Soybean Oil Production



Source: MAFF

Soybean Oil

According to MAFF statistics, Japanese crushers produced 462,308 MT of soybean oil in MY 2020/21 from 2.364 MMT of soybeans. From 2.54 MMT of soybeans, FAS/Tokyo estimates Japanese crushers

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Post records them in food use domestic consumption, rather than ending/beginning oil stocks in PS&D table.

will produce 0.50 MMT of soybean oil in MY 2021/22, an 8.2 percent increase from the previous marketing year. FAS/Tokyo projects Japanese crushers will produce 0.48 MMT of soybean oil in MY 2022/23 from 2.45 MMT of soybeans, a 4 percent decrease from the previous marketing year. FAS/Tokyo assumes a soybean meal extraction rate of 0.196-0.197, the five-year average rate.

Rapeseed Oil

According to MAFF statistics, Japanese crushers produced 1.007 MMT of rapeseed oil in MY 2020/21 from 2.357 MMT of rapeseed. The oil content in the MY 2020/21 Canadian crop was low, so the extraction rate was just 0.427. Since industry experts state the oil contents in the MY 2021/22 rapeseed crop is even worse, FAS/Tokyo expects an extraction rate of 0.421 in MY 2021/22. From 2.20 MMT of rapeseed, FAS/Tokyo estimates Japanese crushers will produce 925 thousand MT of rapeseed oil in MY 2021/22. In MY 2022/23, assuming the rapeseed oil extraction rate returns to its five-year average rate of 0.433, FAS/Tokyo projects Japanese crushers to produce 940 thousand MT of rapeseed oil from 2.17 MMT of rapeseed.

Palm Oil and Sunflowerseed Oil

Japan does not produce palm oil or sunflower seed oil.

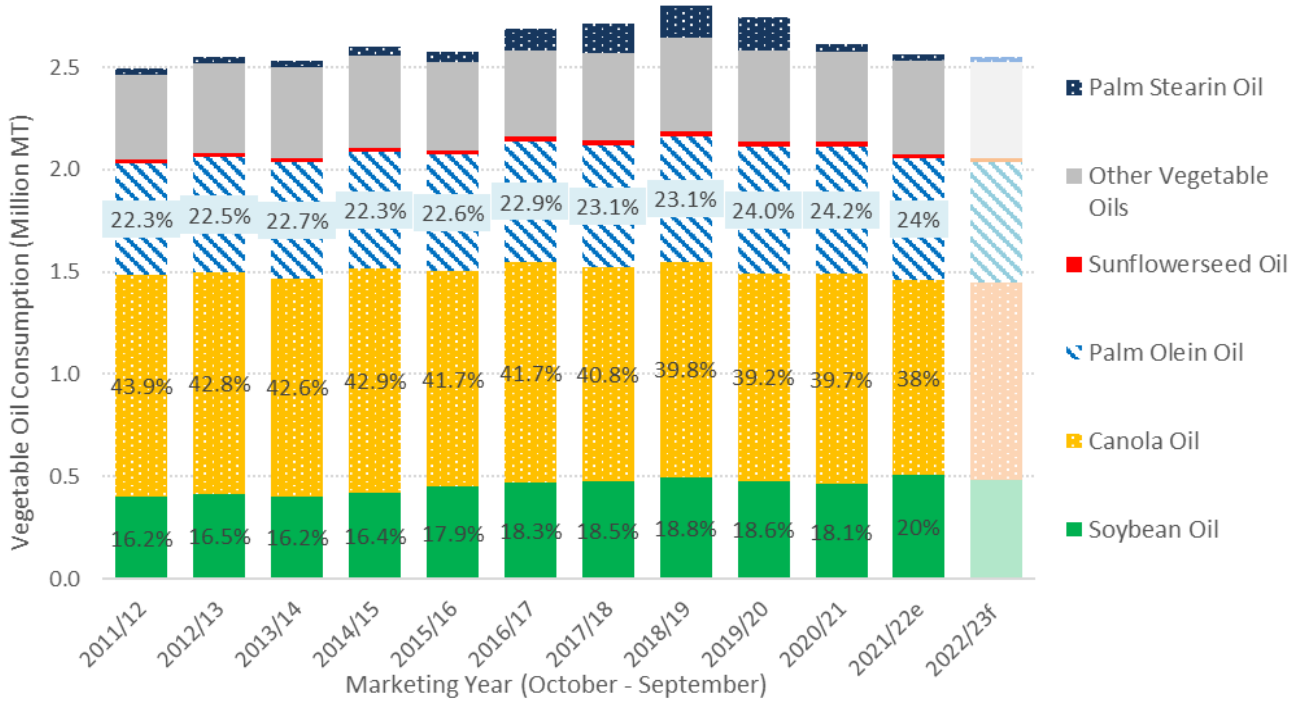
Consumption

Palm stearin oil imports, mainly used for power generation, confuse the conventional consumption pattern of vegetable oil. Excluding palm stearin oil, Japanese consumption of vegetable oil is very stable (Figure 8). Based on data from MAFF and Japan Customs, total vegetable oil consumption dropped 2.4 percent in MY 2019/20 because of a consumption tax hike and the effect of the COVID-19 pandemic. In MY 2020/21, Japan consumed 2.58 MMT of vegetable oil, virtually unchanged from the previous marketing year. The most consumed oils were canola (39.7 percent), palm olein (24.2 percent) and soybean (18.1 percent), followed by coconuts and palm kernel (4.6 percent), rice bran (4.1 percent), corn (2.8 percent), sesame (2.3 percent), olive (2.4 percent), and sunflower seed (1.0 percent).

Japan has suffered from deflation since the mid-1990s. Sluggish consumption and weak wage growth have discouraged food manufacturers from passing on higher costs to Japanese households. However, retail prices of oil products have increased beginning in early 2021. According to Ministry of Internal Affairs and Communications, the retail price for 1 kg of vegetable oil in Tokyo was 288 yen (≈$2.74) in October 2020; that had increased 19 percent to 343 yen (≈$3.03) by October 2021, and up to 370 yen (≈$3.22) by February 2022. FAS/Tokyo estimates the total MY 2021/22 vegetable oil consumption will fall slightly in the next two marketing years as vegetable oil prices continue to rise.

Canola oil dominates vegetable oil consumption (Figure 8), particularly for at-home cooking. Not surprisingly, canola demand rose sharply during the COVID pandemic. For the same reason, demand for palm oil and soybean oil, which are largely used in the HRI sector, dropped. Eventually, as canola prices rose and soy oil price relatively dropped, and with the HRI sector expected to revive soon, the consumption trend favoring canola over soy will partially reverse itself in MY 2021/22.

Figure 8. Japan's Annual Vegetable Oil Consumption



Source: MAFF and Japan Customs

Note: Power stations imported the vast majority of palm stearin oil between MY 2016/17 and MY 2019/20. To calculate the share of soybean, canola, and palm olein oil, palm stearin oil was omitted from the total vegetable oil consumption.

Food Use

For food use, in MY 2021/22, FAS/Tokyo estimates rapeseed oil consumption at 0.967 MMT, soybean oil at 0.423 MMT, palm oil at 0.576 MMT, and sunflower seed oil at 27,000 MT.

FAS/Tokyo forecasts food use consumption for soybean oil to increase to 0.465 MMT in MY 2021/22 as some customers, especially the HRI sector, switch to less expensive soybean oil from canola oil and palm oil. In MY 2022/23, however, FAS/Tokyo projects food use consumption of soybean oil to drop to 0.44 MMT as the price advantage dissipates.

FAS/Tokyo estimates food use consumption for canola oil will decrease to 0.9 MMT in MY 2021/22 as the price of canola is relatively expensive and home cooking demand will cool down. In MY 2022/23, FAS/Tokyo projects it will then increase to 0.91 MMT as the crush margin recovers.

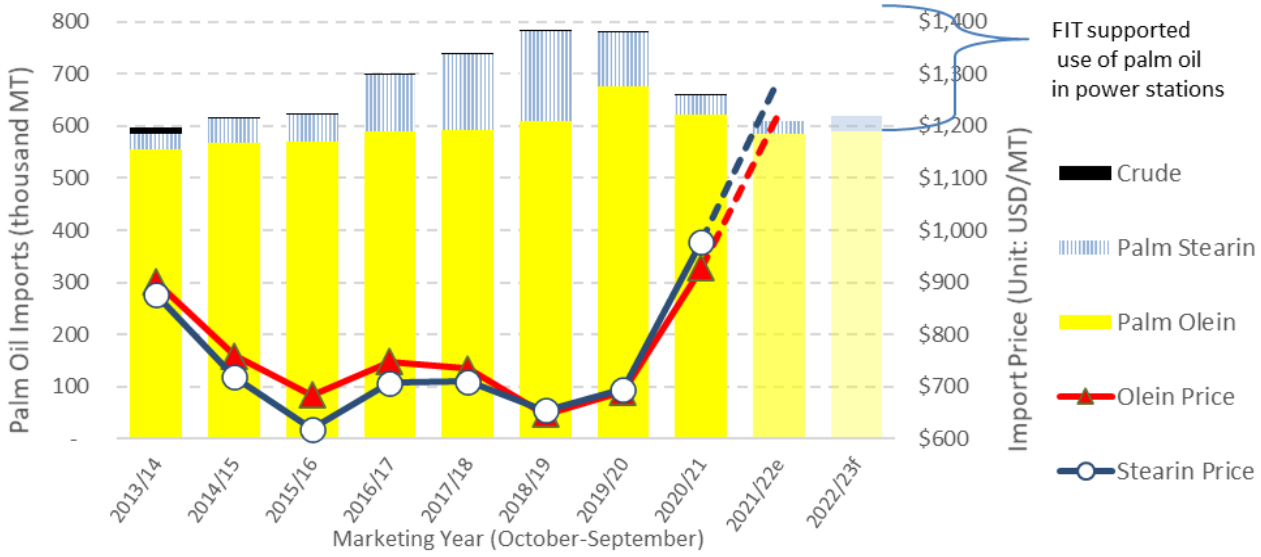
FAS/Tokyo estimates food use consumption for palm oil marginally decreases to 0.55 MMT in MY 2021/22 and MY 2022/23 as crude palm oil prices stay high.

Sunflower seed oil consumption is projected to drop to 19,000 MT in MY 2021/22 due to supply disruptions, but to recover to 22,000 MT in MY 2022/23 as high-oleic sunflower seed oil secures a certain niche market.

Industrial Use

Industry sources indicate that approximately 5-10 percent of Japan's soybean oil and canola oil consumption goes toward industrial use for chemical manufacturing, paint, cosmetics, and pharmaceuticals. Epoxidized soybean oil is used as a plasticizer and stabilizer in polyvinyl chloride plastics and in food wraps; sunflower seed oil is sometimes used for cosmetic products. Industrial consumption of soybean oil, canola oil and sunflower seed oil will remain stable in MY 2021/22 and MY 2022/23.

Figure 9. Japan's Annual Palm Olein and Stearin Imports



Source: Japan Customs

Industrial uses of palm oil include power generation (palm stearin) and chemical and health care manufacturing (palm olein). Japan's utilization of palm stearin as feedstock for FIT-supported powerplants[14] depends on global stearin prices (Figure 9). Following an increase in palm stearin prices in MY 2020/21 and MY 2021/22, Japan's stearin consumption declined because the fixed FIT payment of 24 yen/kWh was not enough for power stations to be profitable.

FAS/Tokyo estimates MY 2020/21 palm oil industrial use was 0.1 MMT. Given the high palm oil price, it is not feasible to use palm oil for power generation in MY 2021/22 or in MY 2022/23. FAS/Tokyo projects industrial use for palm oil is limited to chemical and health care manufacturing purposes, which will be about 53,000 MT and 60,000 MT in MY 2021/22 and MY 2022/23, respectively.

Japan's production of biodiesel uses a very small amount of used cooking oil (UCO); sustainable aviation fuel (SAF) is not yet commercially available (Japan 2021 Biofuels Annual).

[14] The FIT program promotes the use of non-edible agricultural residues for power generation (JA2019-0183).

Feed Use

UCO became expensive in the beginning of MY 2021/22. Japan has increased exports of UCO, especially to Singapore where Neste produces SAF. As feed millers decreased the use of corn but increased the use of rice and wheat, a higher ratio of UCO has been needed in compound feed, but with UCO in short supply feed millers have used palm oil as a substitute, despite record high prices. FAS/Tokyo estimates Japanese feed manufacturers used a small portion (5,000 MT) of palm oil for feed in MY 2021/22 and will continue to do so in MY 2022/23.

Trade

In MY 2020/21, imported edible vegetable oil accounted for approximately 36 percent of Japan's vegetable oil supply. Japan's tariffs on soybean oil, rapeseed oil and sunflower seed oil gradually will be eliminated under the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) and the Japan-EU Economic Partnership Agreement (EPA). The U.S.-Japan Trade Agreement (USJTA) will eliminate import duties on crude vegetable oil products in line with CPTPP, but many refined vegetable oil products covered by CPTPP were excluded from the first phase of USJTA. Most of Japan's imports of palm oil, coconut oil, palm kernel oil, and olive oil enter tariff-free due to bilateral EPAs with exporting countries (see Japan: CPTPP and EU Agreements May Reduce Demand For U.S. Oilseeds). For tariff treatment for vegetable oils under USJTA, please see here.

Soybean Oil

In MY 2020/21, Japan imported 2,761 MT of soybean oil, mostly refined soybean oil. Due to the value of soybean meal relative to rapeseed meal and higher tariffs on soybean oil, relative to soybeans, most of soybean oil in Japan is crushed domestically. FAS/Tokyo expects Japan is unlikely to import crude soybean oil in the next two marketing years since Japan is planning to increase its soybean crush. FAS/Tokyo projects soybean oil imports to stay flat at 3,000 MT in MY 2020/21 and MY 2021/22.

Rapeseed Oil

According to industry sources, the long-term expectation is for imports to shift from rapeseed to crude rapeseed oil due to the low value of rapeseed meal coupled with the projected shrinking of the domestic livestock industry. To prepare for that shift anticipated to take place in the next decade, Japanese oil manufacturers began to import crude canola oil from Canada on a trial basis to take advantage of tariff reductions under CPTPP, which will eliminate tariffs on canola oil in April 2024. However, the COVID-pandemic brought business uncertainty, and Japanese crushers cannot afford to continue this pilot project for now.

In MY 2020/21, Japan imported 16,349 MT of rapeseed oil, of which 73.6 percent came from Canada. FAS/Tokyo forecasts that rapeseed oil imports will hold steady around 20 thousand MT in MY 2021/22 and MY 2022/23 as crushers prioritize import of rapeseed over rapeseed oil.

Palm Oil

In MY 2020/21, Japan imported 660,141 MT of palm olein and stearin oil, a sharp 15.5 percent decline from the previous year due to high prices. Malaysia supplied 61.2 percent and Indonesia 38.7 percent of

Japan's palm oil imports in MY 2020/21. No tariff is imposed on palm oil from those two countries, which are part of the ASEAN-Japan Comprehensive Economic Partnership Agreement.

High prices and falling demand in power station and food manufacturers lead FAS/Tokyo to project further decline in palm oil imports to 610,000 MT in MY 2021/22. FAS/Tokyo projects palm oil imports at 620,000 MT in MY 2022/23, a marginal increase from the previous year.

Sunflowerseed Oil

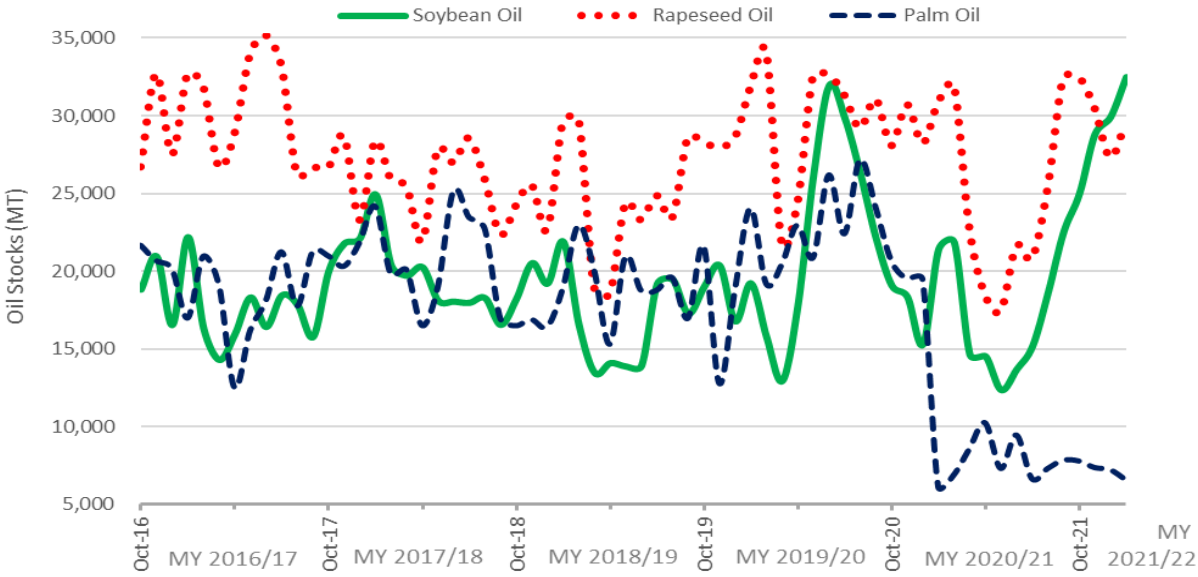
Japan's MY 2020/21 sunflower seed oil imports were 26,484 MT, of which about half came from the EU. In MY 2020/21, Japan imported 14.1 percent of its sunflower seed oil from Ukraine and 11.2 percent from Russia. Given the geopolitical turmoil, FAS/Tokyo expects Japanese imports of sunflower seed oil to drop to 20,000 MT in MY 2021/22. FAS/Tokyo projects the import to recover to 24,000 MT in MY 2022/23.

Safflower seed oil and sunflower seed oil share the 6-digit HS codes (1512.11 and 1512.99). Japan separately imported 5,148 MT of safflower seed oil in MY 2020/21. Mexico became the leading supplier of safflower seed oil with 64.5 percent market share in MY 2020/21. The United States had been the leading supplier of safflower seed oil to Japan, but the share dropped to 34.7 percent in MY 2020/21. Because of USJTA and CPTPP, the United States and Mexico have no tariffs on safflower crude oil of an acid value exceeding 0.6. High-oleic safflower seed oil is consumed as a high-end cooking oil; linoleic-type safflower seed drying oil is used as paint oil.

Stocks

Since the beginning of the COVID-19 pandemic, oil inventories fluctuated highly in response to abnormal consumption patterns and instability of supply chains (Figure 10).

Figure 10. Oil Stocks Held by Crushers on a Monthly Basis



Source: MAFF

MAFF reported soybean oil stocks were 22,108 MT at the beginning of MY 2020/21 and 22,536 MT at the beginning of MY 2021/22. Japan's soybean oil stocks hit 31,918 MT in June 2020 but then gradually declined. Since June of 2021, soybean oil stocks have risen again and, as of January 2021, were at 32,464 MT, a 10-year high.

MAFF reported canola oil stocks were 31,084 MT at the beginning of MY 2020/21, and 32,430 MT at the beginning of MY 2021/22. Canola oil stock has also increased since June 2021. Despite the recent high level of soybean and canola oil stocks, FAS/Tokyo projects soybean oil stock will hover around 25,000 MT in the next two marketing years; canola oil stock will stay around 27,000 MT in the next two marketing years because oil crushers will be able to adjust their stock level.

MAFF reported MY 2020/21 beginning stock for palm oil at 24,135 MT. Palm oil stocks have dropped steadily since then and MY 2021/22 beginning stock for palm oil was 7,882 MT (Figure 10). FAS/Tokyo projects the stock level for palm oil will remain around 10-15 thousand MT in the next two marketing years due to slow demand for palm oil.

According to MAFF, beginning stocks for sunflower seed oil stood at 3,102 MT for 2020/21, but declined to 780 MT by the beginning of MY 2021/22. Due to supply shortages, FAS/Tokyo projects sunflower seed oil stocks will remain at current low levels for the next two marketing years.

Attachments:

No Attachments