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Japan

Grain and Feed Annual

2018 Grain and Feed Annual

Approved By:

Christopher Riker

Prepared By:

Keiko Fujibayashi

Report Highlights:

High prices for Japanese table rice led to Japan's full utilization of the simultaneous buy and sell quota (100,000 MT), and are expected to lead to continued opportunities in the coming year. Moreover, Japanese production of wheat is forecast to remain unchanged (860,000 metric tons (MT)) in marketing year (MY) 2018/19, leading to similar prospects for foreign wheat in MY2018/19 (5.8 million MT). Given competitive prices for corn, FAS/Tokyo forecasts Japan will import 15.3 million MT in MY 2018/19. This increased demand, however, is likely to come at the expense of sorghum where demand is forecast to fall to 500,000 MT in MY2017/18 and remain at that level in MY 2018/19. Lastly, strong demand continues for high beta glucan barley leading to continued import growth in MY2018/19 (increasing total barley imports to 1.3 million MT).

Commodities:

Rice

| Rice, Milled Market Begin Year | 2016/2017 | | 2017/2018 | | 2018/2019 | |
|-----------------------------------|---------------|----------|---------------|----------|---------------|----------|
| | Nov 2016 | | Nov 2017 | | Nov 2018 | |
| Japan | USDA Official | New Post | USDA Official | New Post | USDA Official | New Post |
| Area Harvested | 1570 | 1570 | 1560 | 1557 | 0 | 1560 |
| Beginning Stocks | 2552 | 2552 | 2462 | 2491 | 0 | 2267 |
| Milled Production | 7780 | 7780 | 7600 | 7586 | 0 | 7580 |
| Rough Production | 10687 | 10687 | 10440 | 10420 | 0 | 10412 |
| Milling Rate (.9999) | 7280 | 7280 | 7280 | 7280 | 0 | 7280 |
| MY Imports | 685 | 709 | 685 | 700 | 0 | 700 |
| TY Imports | 685 | 650 | 685 | 680 | 0 | 680 |
| TY Imp. from U.S. | 303 | 0 | 0 | 0 | 0 | 0 |
| Total Supply | 11017 | 11041 | 10747 | 10777 | 0 | 10547 |
| MY Exports | 55 | 50 | 60 | 60 | 0 | 80 |
| TY Exports | 55 | 50 | 60 | 60 | 0 | 80 |
| Consumption and Residual | 8500 | 8500 | 8450 | 8450 | 0 | 8400 |
| Ending Stocks | 2462 | 2491 | 2237 | 2267 | 0 | 2067 |
| Total Distribution | 11017 | 11041 | 10747 | 10777 | 0 | 10547 |
| Yield (Rough) | 6.807 | 6.807 | 6.6923 | 6.6924 | 0 | 6.6744 |
| (1000 HA) ,(1000 MT) ,(MT/HA) | | | | | | |

Production

Based on the January 2018 reported planting intentions of Japanese Prefectures, Japan's MY2018/19 (November – October) rice planting area is forecast at 1.56 million hectare (ha) (unchanged from reduced MY2017/18 levels). Assuming normal weather conditions, and despite fluctuations in the types of rice produced, FAS/Tokyo forecasts MY2018/19 total rice production to match MY2017/18 volumes (7.58 million MT).

Following the sowing of seeds in March, seedlings are transplanted in Japan between May and June and harvested between August and October. Direct sowing has been increasing, but still only accounts for 2.2 percent of the total rice planted area in 2016. Rice is grown throughout Japan and almost all rice produced in Japan is Japonica short grain rice. However, the Government of Japan's (GOJ) support payments affect farmer planting decisions as the support payments vary depending on the rice's intended use (e.g., rice for processing, feed, flour, exports, etc. For additional information, see the Policy section below.

Japan's MY2017/18 rice planted area fell 13,000 ha to 1.56 million ha as reductions in the planted area for table rice were not fully offset by increased plantings of rice for other uses¹ and feed. While the MY2017/18 yield was equal to the average yield of the last five years (4.9 MT/ha), total milled production decreased two percent to 7.6 million MT due to the reduction in planted area. The decline in

¹ The planted area increased 968 ha for rice for processing, 1,879 ha for rice for flour, 28 ha for rice for *sake*, but the area decreased 109 ha for rice for exports and 5,000 ha for rice for the GOJ's reserve.

production also put pressure on private stocks which fell for a second consecutive year and pushed table rice prices higher (also for the third consecutive year).

Despite the GOJ's efforts to increase feed rice production, the planted area for feed rice only marginally increased (341 ha) in MY2017/18 as high prices for table rice in Japan discouraged growth in feed rice production. The GOJ has set a 1.1 million MT (brown) target for Japanese feed rice production by Japanese Fiscal Year² (JFY) 2025 (double the current production level). Achieving this target, however, requires an annual production increase of 90,000 MT (or approximately 16,000 ha in planting area) from now until 2025. This type of expansion in feed rice planting area is expected to prove difficult if the current high prices for table rice in Japan continue.

The majority of Japanese Prefectures intend to maintain current levels of production in MY2018/19. Based on reported planting intentions, however, FAS/Tokyo forecasts a decrease in feed rice production, a slight increase in the production of rice for processing and exports, and unchanged production levels for table rice. The current high price for table rice would normally be expected to encourage producers to increase table rice production, but discontinuation of the GOJ's support payments tied to the acreage reduction program (see the Policy section below), coupled with the continuation of conversion support payments, is expected to encourage farmers to continue diversifying production, whether it be rice for other uses or other government supported crops.

To encourage utilization of rice paddies and to improve feed self-sufficiency, production of whole crop silage (WCS) rice has been increasing. As WCS rice are fed to livestock without taking out grains, the planted area and production of WCS rice is not included in this report's total planted area or production. As a beneficiary of GOJ support payments (see Policy section), the planted area of WCS rice has expanded from 9,089 ha in MY2008/09 to 42,893 ha in MY2017/18. Production is particularly increasing in southern Japan (Kyushu) where WCS crops are delivered to neighboring livestock farms.

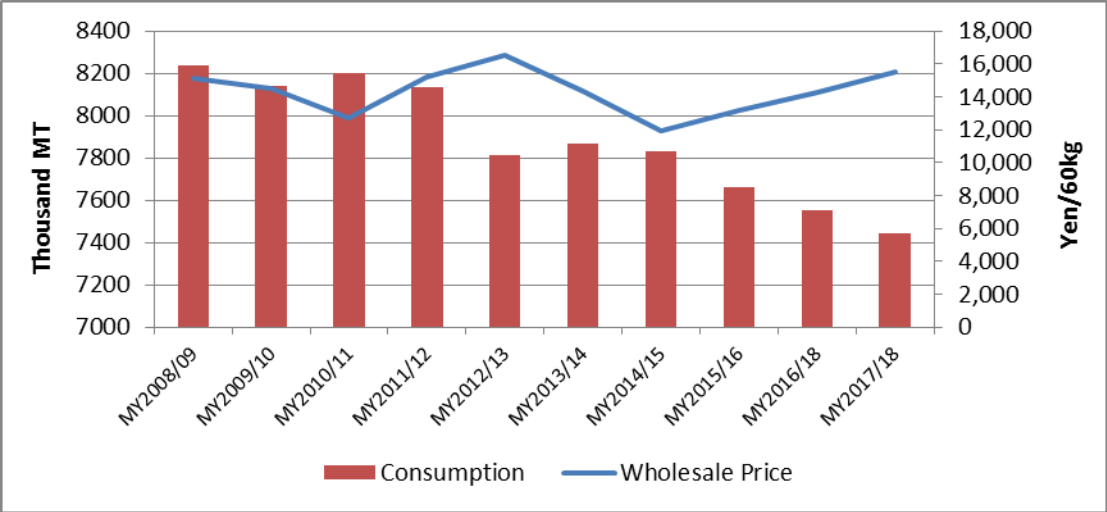
Consumption

MY2017/18 total milled rice consumption is expected to fall 0.5 percent to 8.45 million MT based on declines in per-capita table rice consumption and the Japan's overall population. The wholesale price of domestic table rice in Japan rose 8.6 percent in MY2016/17, and another 8.6 percent in MY2017/18. Three years of consecutive price increases are expected to accelerate the decline in table rice consumption. The purchase volume of table rice per two-person-households decreased two percent to 67.7 kilograms in calendar year 2017, marking the ninth consecutive year of this decline, while the per-kilogram price for table rice increased four percent. Additionally, the foodservice and home meal replacement (HMR) sectors reportedly have started to reduce serving portions in their products rather

² The Japanese Fiscal Year runs from April through March.

than raise consumer prices. As a result, MY2018/19 total milled rice consumption is forecast to decrease further to 8.4 million MT; assuming prices remain at current levels.³

Chart 1 – Japanese Table Rice Consumption and Wholesale Prices



Source: MAFF

With regard to feed, Japanese feed mills have noted if feed rice prices and imported corn prices were relatively equal, they could use as much as three million MT (brown) of rice in their compound feed recipes -- roughly 12 percent of the compound feed formula. However, MY2016/17 feed rice consumption actually decreased more than 100,000 MT (brown) due to tighter supplies of ordinary market access⁴ (OMA) rice (given increased demand from processed product manufacturers) and the availability of other competitively priced grains. As insufficient OMA rice supplies are anticipated to continue (along with competitive prices for other grains), feed rice consumption is expected to decrease in MY2017/18 and MY2018/19.

While the consumption of rice products in Japan is expected to continue to decline in the coming years, exports of processed rice-based products such as rice crackers, *miso*, and Japanese refined *sake* have been expanding, albeit slowly (see Chart 4).

Trade

Imports

As of mid-March, 678,846 MT (actual tonnage) of minimum access rice was successfully bid for JFY2017 – 100,000 MT of Simultaneous Buy and Sell (SBS) rice and 578,846 MT of OMA rice (see Table 2).

³ While total consumption is trending down, production of sterilized, packaged, cooked rice and frozen rice products (e.g., fried rice and rice balls) has been increasing as Japanese consumers continue to seek out convenience foods.

⁴ For additional detail on the OMA and Simultaneous Buy and Sell tendering systems in Japan, see the USDA/ERS March 2003 report on "[Rice Sector Policies in Japan.](#)"

Reflecting strong demand from the foodservice and HMR sectors for reasonably priced rice, the 100,000 MT import quota for SBS rice (rice which is consumed as table rice) was fully utilized via five tenders in JFY2017, the first time since JFY2012. High demand increased the number of bids and raised successful bid prices. In fact, the Ministry of Agriculture, Forestry and Fisheries' (MAFF) sales price for U.S. medium grain milled rice (which accounted for 53 percent of the total SBS whole grain import volume) rose to 206 yen/kg in the November 2017 tender – eliminating the price advantage for imported rice. (NOTE: Industry sources report that imported rice loses its price competitiveness against domestic rice if MAFF's sales price exceeds 200 yen/kg). Consequently, demand eased and drove MAFF's sales price for U.S. medium grain milled rice down below 200 yen/kg in the December tender and to 185 yen/kg in the fifth (and final) tender.

Australia increased its SBS rice market share from 9.4 percent in JFY2016 to 30.7 percent in JFY2017 due to its price competitiveness and because the majority of Australia's SBS rice exports were short grain (which Japan's foodservice and HMR sectors are familiar with given its reported ease of use). Short grain rice was also imported from China and Taiwan in JFY2017, and SBS imports of short grain rice increased from 10,351 MT in JFY2016 to 30,037 MT in JFY2017. If domestic table rice prices stay at their current level in MY2018/19, Japanese demand for reasonably priced imported rice is expected to remain strong.

Exports

In addition to Japan's food aid exports, Japan exported table rice (increasing exports by 35 percent -- to 11,685 MT -- in MY2016/17). Japanese commercial table rice exports, while still limited in volume, are expected to increase gradually in MY2017/18 and MY2018/19 as the GOJ extends support.

Stocks

As a result of three years of declining production (MY2015/16 – MY2017/18), private stocks have gradually decreased. Together with MAFF's 828,100 MT rice in reserve and OMA rice stocks, aggregate ending stocks are projected at 2.27 million MT in MY2017/18, and two million MT in MY2018/19.

Policy

To reduce chronic oversupplies of rice, the GOJ has operated a rice production adjustment program since 1971, and has incentivized the production of other crops, such as wheat, barley, soybeans, vegetables, and feed crops on rice paddies. The payments are intended to supplement the income of conversion crops to ensure they are equivalent to the income of table rice. The GOJ considers it essential to maintain rice paddy area for Japanese food security, but, seeks to prevent over production of rice. Currently the GOJ provides the following income support payments to encourage a production shift from table rice to other crops:

1. Direct Payments for Strategic Crops

Support payments are provided to farmers who produce “strategic crops” (i.e., wheat, barley, soybeans, feed crops (including corn), whole crop silage rice, rice for processing, rice for flour, and feed rice) produced in rice paddies. The support is based on the area of production, and all farmers who produce the strategic crops in rice paddies for commercial sale are eligible for this payment.

| Eligible Crops | Support Payment (per 0.1 hectare) |
|-------------------------------------|---|
| Wheat, Barley, Soybeans, Feed crops | 35,000 yen (\$331 ⁵) |
| Whole Crop Silage Rice | 80,000 yen (\$757) |
| Rice for Processing | 20,000 yen (\$189) |
| Feed Rice, Rice for Flour | The payment increases according to the yield: from a minimum of 55,000 yen (\$520) to a maximum of 105,000 yen (\$994) ⁶ |

Source: MAFF

2. Support Payments for the Creation of Production Regions⁷

Prefectural governments and Agricultural Regrowth Councils⁸ determine which local crops will receive these payments (as well as the level of payment) based on their Rice Paddy Full Utilization Vision -- an annual production plan for rice and other crops, including target production volumes in rice paddies on a prefectural or regional basis, that are based on discussions among producers, agricultural cooperatives, and municipal governments.

Additionally, the GOJ provides the following crop-specific payments to Prefectures:

| Crops | Requirement | Support Payment (per 0.1 hectare) |
|---|--|--|
| Feed Rice, Rice for Flour | Planting high yield varieties | 12,000 yen (\$114) |
| Rice for Processing | When three year sales contracts are made* (including the years of 2014, 2015, and 2016). | 12,000 yen (\$114) |
| Buckwheat, Rapeseed | Provided to primary crops ⁹ only | 20,000 yen (\$189) |
| Paid to prefectures whose planting areas of other crops increased while the planting areas of table rice was reduced (a new program in JFY2018) | | 10,000 yen (\$95) |
| Paid to prefectures when rice is planted and intended for developing a new market in Japan or overseas. (a new program in JFY2018) | | 20,000 yen (\$189) |
| Paid to prefectures when rice paddies have been converted to dry field (only paid in the first year) (a new program in JFY2018) | | 105,000 yen (\$994) |

⁵ This report uses an exchange rate of: USD \$1.00 = 105.68 Japanese yen.

⁶ The support payment increases 167 yen/kg once yields reach 381 kg/0.1 ha, and peaks when yields reach 681 kg/0.1 ha.

⁷ The support payment for production regions does not include any payments that might be additionally funded by each prefecture or municipality.

⁸ Agricultural Regrowth Councils consist of Prefectural or municipal governments, agricultural cooperatives, agricultural committees, community farming groups and producers that are established in the Prefecture or municipality.

⁹ Primary crops are the crop that a farmer produces during optimal growing conditions, and a farmer can only receive this support once per year.

Source: MAFF

*the support payment for rice for processing is only available to those with existing contracts.

3. Direct Payments for Field Crops

Direct payments for field crops are provided to wheat, barley (excludes beer barley), soybeans, sugar beets (produced in Hokkaido), starch potatoes (produced in Hokkaido), buckwheat and rapeseed which are produced in dry fields and rice paddies. This support payment intends to compensate for the difference between sales price and production costs. The eligible recipients of this payment are certified farmers,¹⁰ certified new farmers, and community farming groups¹¹ (without farm size requirement). A payment (yen/kg) is established for grade and quality of each crop and is revised every three years. The average unit payment is calculated as the average production cost per 0.1 ha over the last three years divided by the average yield of the last seven years (excluding the highest and the lowest years, thus looking at a recent five year period), minus the average sales price over the last five years excluding the highest and the lowest years.

4. Rice Acreage Reduction Program (Expiring)

In addition to the payments identified above, a 7,500 yen (\$71)/0.1 ha payment had been made to table rice producers who comply with a MAFF/Prefectural-established production quota. However, the GOJ will discontinue this payment program, and stop allocating production target volumes to Prefectures on April 1, 2018. Monies previously used for this program will be redirected to direct payments for strategic crops, income insurance, and farmland improvement. For additional information on MAFF's budget for JFY2018, see [JA7114](#).

¹⁰ Certified farmers are those whose plans to improve agricultural management are certified by their municipal governments.

¹¹ Community farming groups are those which set an organizational rule, and manage an account for joint sales. Additionally, their plans for incorporation and farmland consolidation in the community are approved by their municipal governments.

Wheat

Wheat Production, Supply and Demand

| Wheat Market Begin Year | 2016/2017 | | 2017/2018 | | 2018/2019 | |
|-------------------------------|---------------|----------|---------------|----------|---------------|----------|
| | Jul 2016 | | Jul 2017 | | Jul 2018 | |
| | USDA Official | New Post | USDA Official | New Post | USDA Official | New Post |
| Japan | | | | | | |
| Area Harvested | 214 | 214 | 212 | 213 | 0 | 213 |
| Beginning Stocks | 1288 | 1288 | 1210 | 1200 | 0 | 1235 |
| Production | 778 | 778 | 930 | 905 | 0 | 860 |
| MY Imports | 5911 | 5911 | 5800 | 5800 | 0 | 5800 |
| TY Imports | 5911 | 5911 | 5800 | 5800 | 0 | 5800 |
| TY Imp. from U.S. | 2858 | 2858 | 0 | 0 | 0 | 0 |
| Total Supply | 7977 | 7977 | 7940 | 7905 | 0 | 7895 |
| MY Exports | 277 | 277 | 270 | 270 | 0 | 270 |
| TY Exports | 277 | 277 | 270 | 270 | 0 | 270 |
| Feed and Residual | 690 | 700 | 600 | 600 | 0 | 600 |
| FSI Consumption | 5800 | 5800 | 5800 | 5800 | 0 | 5800 |
| Total Consumption | 6490 | 6500 | 6400 | 6400 | 0 | 6400 |
| Ending Stocks | 1210 | 1200 | 1270 | 1235 | 0 | 1225 |
| Total Distribution | 7977 | 7977 | 7940 | 7905 | 0 | 7895 |
| Yield | 3.6355 | 3.6355 | 4.3868 | 4.2488 | 0 | 4.0376 |
| | | | | | | |
| (1000 HA) ,(1000 MT) ,(MT/HA) | | | | | | |

Production

FAS/Tokyo forecasts Japan's MY2018/19 (July – June) wheat planting area to remain unchanged from MY2017/18 at 213,000 ha (based on pre-planting contract information). However, MY2018/19 production is forecast to total 860,000 MT, three percent lower than MY2017/18 production levels (assuming normal weather).

In response to increasing demand for domestically produced wheat, Japan's wheat planted area has gradually increased year-on-year since MY2013/14. However, this trend ended when the planted area decreased one percent in MY2017/18 (by 2,100 ha -- 1,300 ha in Hokkaido and 800 ha in the remaining Prefectures) to 212,300 ha. Following the 2016 outbreak of *Tilletia caries*, which spread to 1,130 ha in Hokkaido (one percent of the total planted area in Hokkaido), affected producers shifted production to other crops to avoid damage from repeated cultivation. As these affected farms were recommended not to plant wheat for three consecutive years, the planted area in Hokkaido is forecast to remain unchanged in MY2018/19. Despite decreases in the planted area, MY2017/18 production increased 16 percent due to increased yields (0.7 MT more per ha) due to favorable weather and no major pest or disease outbreaks.

Wheat is produced throughout Japan as a conversion crop from rice in rice paddies and as a rotational crop with beans, sugar beets and potatoes in dry fields in Hokkaido. Nearly all wheat produced in Japan is winter wheat which is planted between September and December and harvested between May and

August. Spring wheat, planted in March/April and harvested in August/September, is largely produced in Hokkaido (and only accounts for eight percent of Japanese wheat plantings).

While 87 percent of wheat produced in Japan is semi-soft wheat (used mainly for making Japanese noodles), efforts have been made to increase the production of higher protein varieties in the last decade. For example, in JFY2011, the GOJ began offering higher support payments to farmers who grew wheat varieties suitable for making bread and Chinese noodles (ramen). As a result, the planting area and production of semi-hard and hard wheat has gradually increased. In fact, Japan has doubled the planted area of these varieties over the last five years (to account for 13 percent of the total wheat produced in MY2016/17). Despite the growth in new wheat varieties in Japan, the total planted area (and production) has remained relatively flat. As a result, Japan continues to import high quality wheat to satisfy its needs.

Despite the GOJ's discontinuation of support payments under the rice acreage reduction program in MY2018/19, the current high price for rice in Japan is expected to discourage a major shift in production from rice to other crops (like wheat). Domestically produced wheat currently trades at a similar price to MAFF's sales price for imported wheat. However, in the spring of 2018, MAFF announced its intention to raise the price of imported wheat from April – September 2018 (see the Trade section below). This, in turn, increased the price of domestic wheat nearly four percent to 53,624 yen/MT (\$507/MT) which should help encourage Japanese wheat farmers to keep producing wheat (as opposed to something else). Accordingly, FAS/Tokyo's wheat planting area is forecast to remain unchanged in MY2018/19.

Consumption

Roughly 4.9 million MT of wheat flour per year is produced in Japan -- 40 percent is used to make bread and 30 percent is used for making noodles. Japan's food wheat consumption has been strong. Over the last decade, per-capita consumption of wheat increased 1.9 percent to 32.9 kilograms (as of JFY2016), despite a six percent decrease in per-capita total grain consumption during the same period (to 88.9 kilogram - due mainly to an 11 percent decrease in per-capita rice consumption (see Chart 3). With new uses being developed, as well as its ease of use, demand for food wheat is expected to remain strong and outpace demand for table rice.

MY2017/18 feed and residual consumption is projected at 600,000 MT, down 14 percent from MY2016/17. Consumption is expected to fall in MY2017/18 due to an expected increase in the use of other competitively priced ingredients in the production of feed (such as corn) as well as the reduced availability of domestic feed-grade wheat.

Given an expectation that these market conditions will continue, FAS/Tokyo forecasts feed and residual wheat consumption in MY2018/19 to remain largely unchanged.

Trade

Imports

MY2017/18 total wheat imports are expected to decrease 100,000 MT to 5.8 million MT due to increased Japanese production coupled with a decrease in feed wheat demand. FAS/Tokyo forecasts MY2018/19 total wheat imports to remain flat as ending stocks are forecast slightly lower.

Roughly 90 percent of the food wheat Japan consumes is imported (with the United States accounting for nearly 50 percent of Japan's imports). Wheat is a state traded item, and imported by MAFF thorough tenders. MAFF imports wheat duty-free and sells wheat to flour millers at the imported price, plus a markup (and the markup is used to promote domestic wheat production (see Table 5). As a state importer, MAFF sets the sales price for the five major classes of food wheat¹² and revises them twice a year (April-September and October-March) to reflect changes in international prices. In March, MAFF announced its intention to raise its sales price for April – September 2018 by an average of 3.5 percent to 54,370 yen/MT (roughly \$515/MT) (the average price of DNS, 1CW and HRW is up 3.4 percent to 55,440 yen/MT (approximately \$525/MT), and the average price for ASW and WW is up 3.5 percent to 51,980 yen/MT (nearly \$490/MT)). The price increase accounts for an increase in freight costs, a weaker Japanese Yen, production concerns about high protein wheat in North America, and price increases for Australian noodle wheat (sub-classes of ASW). This is the third consecutive price increase for imported wheat since October 2016 – March 2017 when the average price was 48,470 yen/MT (approximately \$460).

While MY2018/19 total wheat imports are forecast to remain unchanged, Japanese wheat product¹³ imports are forecast to increase if recently concluded Japanese trade agreements are effectuated. MY2016/17 wheat product imports increased 8.8 percent to 261,000 MT (wheat equivalent) due, in large part, to a relatively weak Japanese Yen. Imports of pasta have been trending upwards over the last decade (see Chart 5) with Italy, Turkey and the United States dominating the imported pasta market. Additionally, imports from Turkey have grown significantly due to Turkey's price competitiveness and a production shift by a major Japanese pasta factory from Japan to Turkey in 2015. Because pasta imports are forecast to increase from the EU after implementation of the Japan-EU Economic Partnership Agreement, the markup for imported Durum wheat (nearly all of which comes from Canada), and imported wheat for confectionary production will reportedly be lowered or abolished to bolster the competitive position of the Japanese industry (for additional information, see [JA7153](#)).

Exports

¹² U.S. Western White (WW), U.S. Hard Red Winter (HRW), U.S. Dark Northern Spring (DNS), Canada Western Red Spring #1 (1CW) and Australia Standard White (ASW)

¹³ A list of the products which comprise the term "wheat products" used in this report can be found in Table 6.

MY2018/19 total wheat exports are forecast to total 270,000MT (wheat equivalent), unchanged from MY2017/18 levels, as demand for wheat flour from Asian countries is projected to remain flat. Wheat flour accounts for more than 80 percent of Japan's total wheat exports, and is exported to Asian markets, such as Hong Kong, Singapore and Vietnam. Wheat imported for the manufacture of wheat flour, macaroni and spaghetti, and biscuits enters Japan duty-free in order to facilitate Japanese exports. With advancements in milling technologies in Asian countries, Japanese wheat flour exports have decreased 40 percent over the last decade. However, the decline in exports has slowed and demand for Japanese wheat flour is expected to remain relatively constant in MY2017/18 and MY2018/19.

Stocks

As a contingency plan, the private sector holds a total of 930,000 MT of imported wheat, equivalent to 2.3 months of demand, in reserve, of which the GOJ subsidizes the storage costs for an amount equivalent to 1.8 months demand (millers cover the difference). Together with operating stocks held by flour mills and feed mills, approximately 1.2 million MT of wheat is believed to be held in stocks in Japan.

Corn

Corn Production, Supply, and Distribution

| Corn Market Begin Year | 2016/2017 | | 2017/2018 | | 2018/2019 | |
|---------------------------|---------------|----------|---------------|----------|---------------|----------|
| | Oct 2016 | | Oct 2017 | | Oct 2018 | |
| | USDA Official | New Post | USDA Official | New Post | USDA Official | New Post |
| Japan | | | | | | |
| Area Harvested | 1 | 1 | 1 | 1 | 0 | 1 |
| Beginning Stocks | 1350 | 1350 | 1320 | 1318 | 0 | 1270 |
| Production | 1 | 1 | 1 | 2 | 0 | 2 |
| MY Imports | 15169 | 15167 | 15000 | 15300 | 0 | 15300 |
| TY Imports | 15169 | 15167 | 15000 | 15300 | 0 | 15300 |
| TY Imp. from U.S. | 12519 | 13487 | 0 | 0 | 0 | 0 |
| Total Supply | 16520 | 16518 | 16321 | 16620 | 0 | 16572 |
| MY Exports | 0 | 0 | 0 | 0 | 0 | 0 |
| TY Exports | 0 | 0 | 0 | 0 | 0 | 0 |
| Feed and Residual | 11600 | 11550 | 11500 | 11650 | 0 | 11650 |
| FSI Consumption | 3600 | 3650 | 3600 | 3700 | 0 | 3700 |
| Total Consumption | 15200 | 15200 | 15100 | 15350 | 0 | 15350 |
| Ending Stocks | 1320 | 1318 | 1221 | 1270 | 0 | 1222 |
| Total Distribution | 16520 | 16518 | 16321 | 16620 | 0 | 16572 |
| Yield | 1 | 1 | 1 | 2 | 0 | 2 |
| | | | | | | |

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

Production

Although corn farmers are eligible to receive support payments under the “Direct Payment for Strategic Crops” program, when corn is grown in rice paddies (see the Rice Policy Section of this report), Japanese corn production remains negligible. There have been some efforts made to pursue corn production in Hokkaido, but this production remains quite limited.

Consumption

Assuming continued competitive corn prices and stable demand for feed in Japan, MY2018/19 (October – September) total corn consumption is forecast at 15.35 million MT. As an energy source, grains account for more than 60 percent of the Japanese compound feed formula. While the composition ratio for grains in compound feed is largely affected by the price of each grain, corn is the principal component, accounting for 77 percent of grains and 46.3 percent of the total compound feed formula in MY2016/17. Increased use of rice and distillers dried grains with solubles (DDGS) in compound feed in Japan has only led to a minor decline (2-3 percent) in corn use over the past ten years. Additionally, competitive corn prices encouraged feed millers to use slightly more corn in Japanese feed production at the expense of sorghum and rice in MY2015/16 and MY2016/17.

FAS/Tokyo has revised Japanese MY2017/18 feed and residual consumption up nearly one percent to 11.65 million MT as demand for feed corn exceeded previous forecasts. This demand is forecast to continue in MY2018/19. NOTE: MY2016/17 feed and residual consumption has been reduced to 11.55 million MT as food, seeds and industrial (FSI) use was slightly higher than previously forecast on the heels of increased demand from the Japanese beverage sector (see below).

MY2018/19 FSI consumption is forecast at 3.7 million MT, with the Japanese beverage sector serving as the driving force for demand. Japan's corn starch production decreased over the last decade due to decreased Japanese *sake* production, the increasing popularity of reduced or carbohydrate-free beverages, and reductions in paper use. However, MAFF estimates a slight increase in corn starch production in MY2015/16 and further in MY2016/17 reflecting improved demand from the beverage sector. MAFF estimates MY2017/18 starch production to remain strong and unchanged from MY2016/17 levels.

Additionally, as a result of its growing popularity, Japanese whisky production has been increasing year-on-year since CY2007. However, due to shortages of unblended malt whisky, distillers have increased their production of grain whisky in recent years. Based on these considerations, FAS/Tokyo revised MY2016/17 FSI consumption upward to 3.65 million MT. MY2017/18 FSI consumption is expected to increase to 3.7 million MT based on additional demand from the beverage sector – levels which are expected to remain stable in MY2018/19.

Trade

Given the absence of significant production in Japan, MY2018/19 aggregate corn imports are forecast to total 15.3 million MT, unchanged from FAS/Tokyo's revised MY2017/18 forecast, as demand is projected to remain strong.

Reflecting abundant world corn supplies, Japanese corn import prices in MY2016/17 hit their lowest level since MY2005/06, encouraging increased feed demand. Japanese traders imported corn from several suppliers, enabling them to procure corn at competitive prices from the United States, Brazil, South Africa and Russia in recent months. Given the bullish demand for corn in Japan, FAS/Tokyo increased its previous MY2017/18 forecast for corn imports to 15.3 million MT (up two percent), and expects this demand to continue in MY 2018/19.

Stocks

As Japan heavily relies on imported feed ingredients, the GOJ operates a contingency program to maintain 1.2 million MT of feed ingredient reserves: 850,000 MT for corn, sorghum, wheat, barley, bran and soybean meal with another 350,000 MT of OMA rice. The GOJ subsidizes the storage costs for the reserve that the private sector holds for this purpose. Corn is believed to account for 90 percent of the 850,000MT reserve, and together with regularly maintained stocks at feed mills, roughly 1.2 million MT of corn is estimated to be held at the end of each MY.

Due to severe winter weather in 2016/17, corn imports from U.S. Pacific Northwest (PNW) were delayed, and roughly 340,000 MT of corn was reportedly released from the GOJ's corn reserves to support feed producers. However, industry sources report the GOJ's corn reserves were quickly replenished after weather improved and PNW trade normalized.

DDGS

Use of DDGS in compound feed increased 0.4 percent in MY2016/17 due to its competitive price. DDGS are mainly used as a protein source, partially substituting soymeal and rapeseed meal, but also as an energy source, partially replacing grains. As DDGS production is expected to increase in the United States, a dominant supplier of DDGS to Japan, use of DDGS in Japanese compound feed production is expected to increase in the coming years.

Barley

Barley Production, Supply and Distribution

| Barley Market Begin Year Japan | 2016/2017 | | 2017/2018 | | 2018/2019 | |
|--------------------------------------|---------------|----------|---------------|----------|---------------|----------|
| | Oct 2016 | | Oct 2017 | | Oct 2018 | |
| | USDA Official | New Post | USDA Official | New Post | USDA Official | New Post |
| Area Harvested | 61 | 0 | 61 | 61 | 0 | 62 |
| Beginning Stocks | 352 | 352 | 311 | 318 | 0 | 300 |
| Production | 172 | 170 | 183 | 182 | 0 | 182 |
| MY Imports | 1197 | 1196 | 1100 | 1250 | 0 | 1280 |
| TY Imports | 1197 | 1196 | 1100 | 1250 | 0 | 1280 |
| TY Imp. from U.S. | 0 | 24 | 0 | 0 | 0 | 0 |
| Total Supply | 1721 | 1718 | 1594 | 1750 | 0 | 1762 |
| MY Exports | 0 | 0 | 0 | 0 | 0 | 0 |
| TY Exports | 0 | 0 | 0 | 0 | 0 | 0 |
| Feed and Residual | 1030 | 1000 | 961 | 1000 | 0 | 1000 |
| FSI Consumption | 380 | 400 | 380 | 450 | 0 | 480 |
| Total Consumption | 1410 | 1400 | 1341 | 1450 | 0 | 1480 |
| Ending Stocks | 311 | 318 | 253 | 300 | 0 | 282 |
| Total Distribution | 1721 | 1718 | 1594 | 1750 | 0 | 1762 |
| Yield | 2.8197 | 0 | 3 | 2.9836 | 0 | 2.9355 |
| | | | | | | |

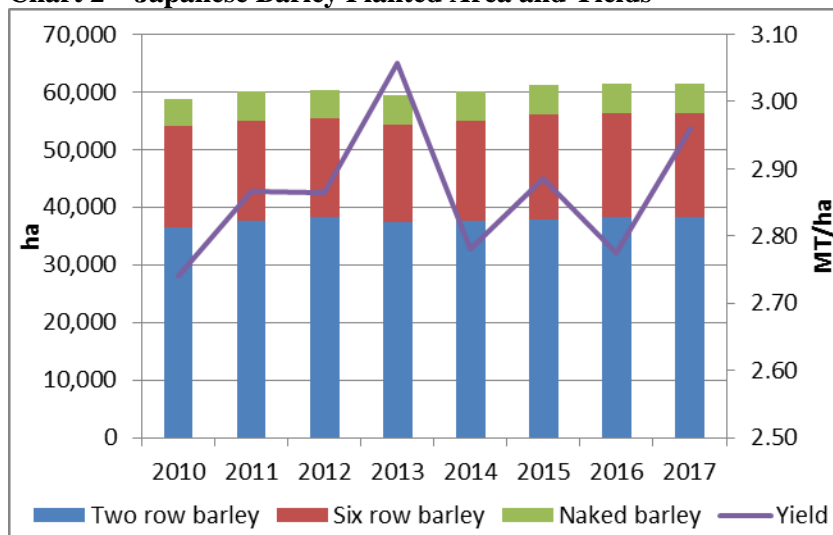
(1000 HA) ,(1000 MT) ,(MT/HA)

Production

Japan's MY2018/19 (October – September) barley planted area is forecast to increase marginally to 62,000 ha, reflecting growing demand for glutinous barley. However, assuming average weather conditions, production is forecast to remain unchanged from MY2017/18 levels (when favorable weather led to increased production).

Barley seeds are sown in October/November and barley is harvested in May/June in Japan. Over 90 percent of barley is produced in rice paddies as a conversion crop from rice or as a rotational crop with rice. Having been supported by the GOJ's income support program (see the Rice Policy Section), Japan's barley planted area has remained stable at roughly 61,000 ha since MY2014/15. However, because Japan's rainy season coincides with the harvest in major production regions nation-wide, Japanese yields have been inconsistent.

Chart 2 – Japanese Barley Planted Area and Yields



Source: MAFF

Despite strong demand for glutinous food barley, domestic production of beta glucan rich barley remains quite limited. As a result, Japan heavily relies on beta glucan imports (predominantly from the United States) to meet demand. However, Japanese research institutions have now developed their own beta glucan rich barley varieties which are expected to enter into commercial production in the coming years.

In MY2017/18, despite a nominal decrease in the harvested area, favorable weather resulted in barley yields increasing nearly seven percent from the previous year (three percent above the average yield of the most recent five years) to increase domestic production to 181,900 MT. Although the MY2018/19 barley planted area is forecast to increase slightly (in response to demand for beta glucan rich barley varieties), assuming normal weather, nation-wide barley production is forecast to remain unchanged.

Consumption

MY2018/19 total barley consumption is forecast at 1.48 million MT (up two percent from MY2017/18) as a result of stable feed demand and increasing demand for glutinous food barley.

Almost 95 percent of Japan's feed barley is consumed by cattle (86 percent by beef cattle) as it is considered an essential nutrient for finishing beef cattle to improve meat quality. Accordingly, demand for feed barley is tied directly to Japanese beef cattle inventories which demonstrated marginal growth in MY2016/17 after year-on-year decline. As a nominal increase in Japanese cattle inventories is forecast for CY2018 (see [JA8010](#)), FAS/Tokyo forecasts barley feed consumption to remain flat in MY2017/18 and MY2018/19. NOTE: MY2016/17 feed and residual consumption has been reduced slightly based on the publication of compound feed production data by MAFF.

Food barley is used to make beer, *Shochu* (distilled spirits), *miso* (bean paste), barley tea, and rolled barley (rice extender). Among these products, consumption of barley tea and rolled barley has increased

in recent years. As previously noted, demand for beta glucan rich glutinous barley has been growing since mid-2016 when the media began reporting on its health benefits (lowering cholesterol) which created a so-called boom for beta glucan rich glutinous barley in Japan. Glutinous barley is mainly consumed by cooking with rice (rice extender), but has also been incorporated into the production of rice crackers and noodles. Because the popularity of glutinous barley continues to grow in Japan, FAS/Tokyo has revised MY2017/18 food, seed and industrial (FSI) consumption up 18 percent to 450,000 MT. MY2018/19 FSI consumption is forecast to increase another seven percent to 480,000 MT based on even greater consumer demand. Accordingly, MY2018/19 total barley consumption is forecast at 1.48 million MT.

Trade

Barley is subject to the GOJ's state trading system, and imported through SBS tenders (except feed barley from Australia¹⁴). MY2018/19 total barley imports are forecast at 1.28 million MT. FAS/Tokyo revised MY2017/18 total barley imports up 13 percent (to 1.25 million MT), reflecting a projected increase in food demand. Australia has generally been a dominant supplier of feed barley to Japan, but Australian barley prices are increasing due to tight supplies (see Chart 8). Nevertheless, Japan is expected to seek out supplies from other countries (e.g., Russia and Canada) to meet the demand from its beef cattle sector. For food barley, reflecting strong demand for glutinous barley, food barley imports from the United States increased almost fourfold to 24,000 MT in MY2016/17. Due to the high value of beta glucan barley, the CIF price of U.S. food barley imports was 60 percent higher than that of Canadian and Australian food barley (see Chart 9). Accordingly, MY2018/19 total barley imports are forecast to increase slightly (nearly 2.5 percent) to reflect growing food barley demand.

Stocks

Barley is part of the GOJ's regular contingency reserve program. Corn accounts for 90 percent of grain in this program, while barley and sorghum account for the majority of the remaining grain. When combined with operating stocks, barley stocks are estimated to total approximately 300,000 MT at the end of MY.

¹⁴ Feed barley from Australia is traded via the private sector as established in the Japan-Australia Economic Partnership Agreement.

Sorghum

Sorghum Production, Supply and Distribution

| Sorghum Market Begin Year | 2016/2017 | | 2017/2018 | | 2018/2019 | |
|-------------------------------|---------------|----------|---------------|----------|---------------|----------|
| | Oct 2016 | | Oct 2017 | | Oct 2018 | |
| | USDA Official | New Post | USDA Official | New Post | USDA Official | New Post |
| Japan | | | | | | |
| Area Harvested | 0 | 0 | 0 | 0 | 0 | 0 |
| Beginning Stocks | 52 | 52 | 52 | 52 | 0 | 51 |
| Production | 0 | 0 | 0 | 0 | 0 | 0 |
| MY Imports | 561 | 561 | 550 | 500 | 0 | 500 |
| TY Imports | 561 | 561 | 550 | 500 | 0 | 500 |
| TY Imp. from U.S. | 233 | 0 | 0 | 0 | 0 | 0 |
| Total Supply | 613 | 613 | 602 | 552 | 0 | 551 |
| MY Exports | 0 | 0 | 0 | 0 | 0 | 0 |
| TY Exports | 0 | 0 | 0 | 0 | 0 | 0 |
| Feed and Residual | 561 | 560 | 550 | 500 | 0 | 500 |
| FSI Consumption | 0 | 1 | 0 | 1 | 0 | 1 |
| Total Consumption | 561 | 561 | 550 | 501 | 0 | 501 |
| Ending Stocks | 52 | 52 | 52 | 51 | 0 | 50 |
| Total Distribution | 613 | 613 | 602 | 552 | 0 | 551 |
| Yield | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | |
| (1000 HA) ,(1000 MT) ,(MT/HA) | | | | | | |

Production

Production of sorghum remains negligible in Japan.

Consumption

MY2018/19 (October – September) sorghum consumption is forecast at 500,000 MT reflecting sustained feed demand. Nearly all sorghum is consumed as feed in Japan, and sorghum for feed consumption has been declining year-on-year since MY2013/14 (predominantly as a result of corn's price competitiveness and the increased use of rice in compound feed in Japan). As feed demand for corn is expected to remain strong, and because sorghum imports have declined precipitously in recent years, FAS/Tokyo revised its MY2017/18 feed consumption forecast down roughly ten percent to 500,000 MT. However, with industry sources noting that sorghum is still preferred by some in the swine industry (as they believe it improves the quality of the pork) and the broiler industry (as sorghum helps to prevent chicken fat from turning the yellowish color it does with corn), MY2018/19 feed consumption is forecast to remain flat at 500,000 MT.

As previously reported, with the growing popularity of super foods and multigrain foods (*Zakkoku*), food consumption of sorghum, although still quite limited, has seen growth in Japan in recent years. Industry sources believe that approximately 800 MT of sorghum was consumed in MY2016/17, and food sorghum consumption is expected to increase marginally to 1,000 MT in MY2017/18, and further to 1,200 MT in MY2018/19.

Trade

Japanese sorghum imports have significantly declined in the last few years. Japanese sorghum imports totaled 900,000 MT in MY 2014/15, but fell to 650,000 MT in MY 2015/16 (down nearly 30 percent) and to 561,005 MT in MY 2016/17 (down another 14 percent). Given the competitive price for corn, FAS/Tokyo expects this trend to continue. Therefore, FAS/Tokyo's MY2017/18 sorghum import volume has been reduced by ten percent to 500,000 MT. However, as noted above, given the preference for sorghum among some in the Japanese swine and broiler industries, FAS/Tokyo forecasts a leveling off in the decline of imports in MY2018/19 (500,000 MT)

Stocks

Sorghum is included in the GOJ's regular contingency reserve program. The stocks for this program, combined with operating stocks at feed mills, are estimated at approximately 50,000 MT in MY2016/17, and similar levels are forecast for MY2017/18 and MY2018/19.

General Tariff Information

Japan's Tariff Schedule (as of January 1, 2018) can be accessed (in English) online at: <http://www.customs.go.jp/english/tariff/index.htm>. This information is for reference purposes only, not for official use. Please refer to the relevant statutory publications in Japanese for confirmation.

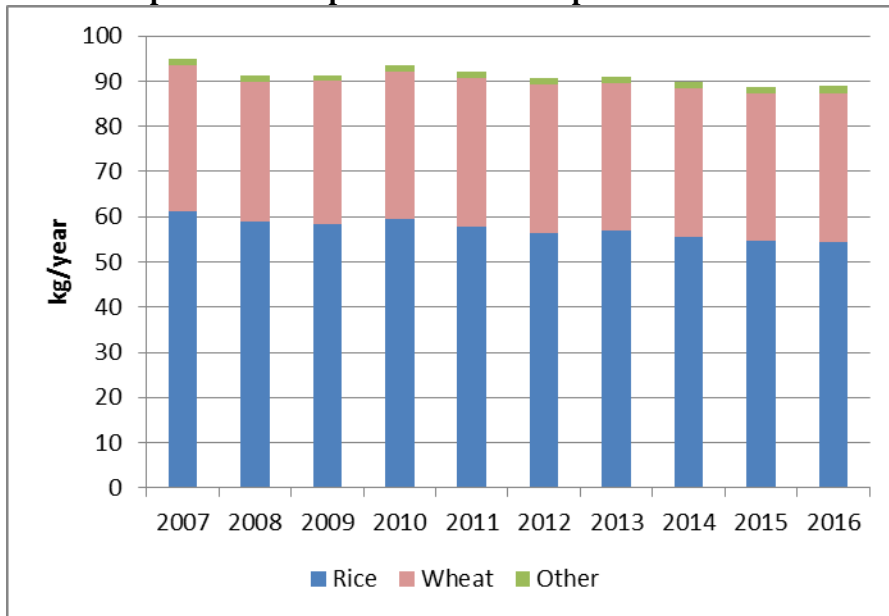
Additional Production and Trade Data

Table 1 - Total Rice Planted Area, Yield and Production

| | Planted Area | Production | | Yield (MT/ha) | |
|------|--------------|------------|-----------|---------------|--------|
| | (ha) | Rough | Milled | Rough | Milled |
| 2010 | 1,642,883 | 10,688,764 | 7,781,420 | 6.5 | 4.7 |
| 2011 | 1,609,955 | 10,703,625 | 7,792,239 | 6.6 | 4.8 |
| 2012 | 1,615,525 | 10,861,921 | 7,907,479 | 6.7 | 4.9 |
| 2013 | 1,620,802 | 10,894,470 | 7,931,174 | 6.7 | 4.9 |
| 2014 | 1,608,881 | 10,781,955 | 7,849,263 | 6.7 | 4.9 |
| 2015 | 1,585,766 | 10,536,374 | 7,670,480 | 6.6 | 4.8 |
| 2016 | 1,570,169 | 10,687,500 | 7,780,500 | 6.8 | 5.0 |
| 2017 | 1,557,510 | 10,420,570 | 7,586,175 | 6.7 | 4.9 |

Source: MAFF

Chart 3- Japanese Per Capita Grain Consumption



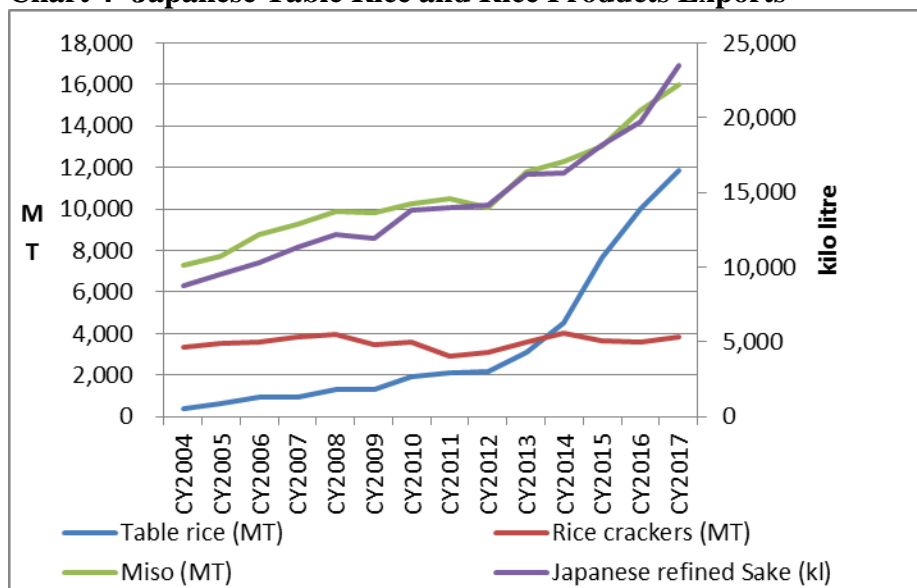
Source: MAFF

Table 2 - Japanese Rice Imports

| | | JFY2012 | JFY2013 | JFY2014 | JFY2015 | JFY2016 | JFY2017 |
|-----------|-------|---------|---------|---------|---------|---------|---------|
| USA | SBS | 40,974 | 20,046 | 3,804 | 19,909 | 56,438 | 58,783 |
| | OMA | 281,000 | 300,000 | 316,000 | 300,000 | 266,000 | 266,000 |
| | Total | 321,974 | 320,046 | 319,804 | 319,909 | 322,438 | 324,783 |
| | Share | 47.4% | 47.1% | 47.2% | 47.2% | 51.5% | 47.8% |
| Thailand | SBS | 4,870 | 11,173 | 5,596 | 6,276 | 6,283 | 5,968 |
| | OMA | 245,564 | 300,933 | 290,174 | 299,458 | 286,679 | 228,846 |
| | Total | 250,434 | 312,106 | 295,770 | 305,734 | 292,962 | 234,814 |
| | Share | 36.9% | 45.9% | 43.6% | 45.1% | 46.8% | 34.6% |
| Australia | SBS | 23,873 | 26,244 | 559 | 1,285 | 6,861 | 30,702 |
| | OMA | 35,000 | 12,000 | 12,000 | - | - | 36,000 |
| | Total | 58,873 | 38,244 | 12,559 | 1,285 | 6,861 | 66,702 |
| | Share | 8.7% | 5.6% | 1.9% | 0.2% | 1.1% | 9.8% |
| China | SBS | 28,164 | 714 | 780 | 736 | 2,396 | 2,240 |
| | OMA | 13,000 | - | 48,000 | 49,000 | - | 48,000 |
| | Total | 41,164 | 714 | 48,780 | 49,736 | 2,396 | 50,240 |
| | Share | 6.1% | 0.1% | 7.2% | 7.3% | 0.4% | 7.4% |
| Other | SBS | 2,119 | 2,662 | 867 | 1,109 | 1,336 | 2,307 |
| | OMA | 5,000 | 6,000 | - | - | - | - |
| | Total | 7,119 | 8,662 | 867 | 1,109 | 1,336 | 2,307 |
| | Share | 1.0% | 1.3% | 0.1% | 0.2% | 0.2% | 0.3% |
| Total | SBS | 100,000 | 60,839 | 11,606 | 29,315 | 73,314 | 100,000 |
| | OMA | 579,564 | 618,933 | 666,174 | 648,458 | 552,679 | 578,846 |
| | Total | 679,564 | 679,772 | 677,780 | 677,773 | 625,993 | 678,846 |

Source: MAFF

Chart 4- Japanese Table Rice and Rice Products Exports



Source: MAFF

Table 3 - Japanese Wheat Production

| | Total | | | Hokkaido | | | Prefectures | | |
|------|--------------|------------|---------|--------------|------------|---------|--------------|------------|---------|
| | Planted Area | Production | Yield | Planted Area | Production | Yield | Planted Area | Production | Yield |
| | (ha) | (MT) | (MT/ha) | (hectares) | (MT) | (MT/ha) | (ha) | (MT) | (MT/ha) |
| 2010 | 206,900 | 571,300 | 2.8 | 116,300 | 349,400 | 3.0 | 90,600 | 221,900 | 2.4 |
| 2011 | 211,500 | 746,300 | 3.5 | 119,200 | 499,900 | 4.2 | 92,300 | 246,400 | 2.7 |
| 2012 | 209,200 | 857,800 | 4.1 | 119,200 | 586,100 | 4.9 | 90,100 | 271,700 | 3.0 |
| 2013 | 210,200 | 811,700 | 3.9 | 122,000 | 531,900 | 4.4 | 88,100 | 279,800 | 3.2 |
| 2014 | 212,600 | 852,400 | 4.0 | 123,400 | 551,400 | 4.5 | 89,200 | 301,000 | 3.4 |
| 2015 | 213,100 | 1,004,000 | 4.7 | 122,600 | 731,000 | 6.0 | 90,500 | 273,200 | 3.0 |
| 2016 | 214,400 | 777,900 | 3.6 | 122,900 | 524,300 | 4.3 | 91,500 | 266,500 | 2.9 |
| 2017 | 212,300 | 904,900 | 4.3 | 121,600 | 608,000 | 5.0 | 90,700 | 296,900 | 3.3 |

Source: MAFF

Table 4 - Japanese Wheat Imports

| Japan Import Statistics | | | | | | | |
|---------------------------------------|------|----------|---------|---------|---------|---------|---------|
| Commodity: Wheat, (2017) | | | | | | | |
| Year Ending Series: June, 2012 - 2017 | | | | | | | |
| Partner Country | Unit | Quantity | | | | | |
| | | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| World | T | 6116179 | 6332312 | 5880535 | 5647675 | 5475059 | 5650128 |
| United States | T | 3545674 | 3420701 | 2935006 | 2990593 | 2504158 | 2829184 |
| Canada | T | 1350656 | 1664677 | 1692096 | 1660459 | 1812742 | 1678232 |
| Australia | T | 1197624 | 1241188 | 918917 | 909316 | 876109 | 945460 |
| Ukraine | T | 0 | 0 | 267740 | 0 | 156177 | 54101 |
| Romania | T | 0 | 0 | 46761 | 28520 | 8093 | 56938 |
| Other | T | 22225 | 5746 | 20015 | 58787 | 117780 | 86213 |

Source: Global Trade Atlas

Table 5 - MAFF Purchase and Sales Price of Food Wheat (Japanese Yen)

| | MAFF purchase price (1) | MAFF sales price (2) | MAFF costs (3) | Markup (4) = (2)-(1)-(3) | (4)/(2) % |
|---------|-------------------------|----------------------|----------------|--------------------------|-----------|
| JFY2010 | 32,382 | 47,339 | 1,580 | 13,377 | 28.3 |
| JFY2011 | 39,716 | 56,795 | 1,557 | 15,522 | 27.3 |
| JFY2012 | 34,412 | 49,635 | 1,633 | 13,590 | 27.4 |
| JFY2013 | 40,104 | 56,085 | 1,885 | 14,096 | 25.1 |
| JFY2014 | 42,362 | 59,013 | 2,207 | 14,444 | 24.5 |
| JFY2015 | 39,955 | 58,933 | 2,403 | 16,575 | 28.1 |

Source: MAFF

NOTE: JFY2015 is the latest available data

Table 6 - Wheat Products Group

| HS | Product | Temporary | WTO | |
|-------------------------|---|-----------|-----------------|----------------------|
| | | | In quota tariff | Outside quota tariff |
| 110100 | Wheat or meslin flour subject to the state trading | 25% | | |
| 110100011 | Wheat flour for manufacturing sodium glutamate subject to state trading | | 12.5% + markup | |
| 110100091, 110100200 | Other wheat flour subject to state trading | | 25%+ markup | 90 yen/kg |
| 190219010 | Biefun | | 27.2 yen/kg | |
| 190219093 | Spaghetti | | 30 yen/kg | |
| 190219094 | Macaroni | | 30 yen/kg | |
| 190219099 | Other Pasta | | 34 yen/kg | |

Source: Japan Customs

Table 7 – Japanese Wheat Products Imports

| Japan Import Statistics | | | | | | | |
|--|------|----------|--------|--------|--------|--------|--------|
| Commodity: Grain: Wheat product group, | | | | | | | |
| Year Ending Series: June, 2012 - 2017 | | | | | | | |
| Partner Country | Unit | Quantity | | | | | |
| | | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| World | T | 173896 | 185943 | 176920 | 168160 | 175353 | 190718 |
| Italy | T | 82955 | 92540 | 82461 | 74667 | 69628 | 76779 |
| Turkey | T | 19587 | 27305 | 27888 | 30510 | 43590 | 50199 |
| United States | T | 22504 | 21873 | 23550 | 21516 | 19816 | 20968 |
| China | T | 18943 | 18297 | 17591 | 17262 | 15884 | 16457 |
| Korea South | T | 10859 | 8687 | 7028 | 5666 | 5813 | 6778 |
| Thailand | T | 6986 | 6137 | 5855 | 6324 | 6681 | 5973 |
| Greece | T | 3082 | 3124 | 3481 | 2686 | 3450 | 3597 |
| Other | T | 8979 | 7980 | 9065 | 9526 | 10489 | 9968 |

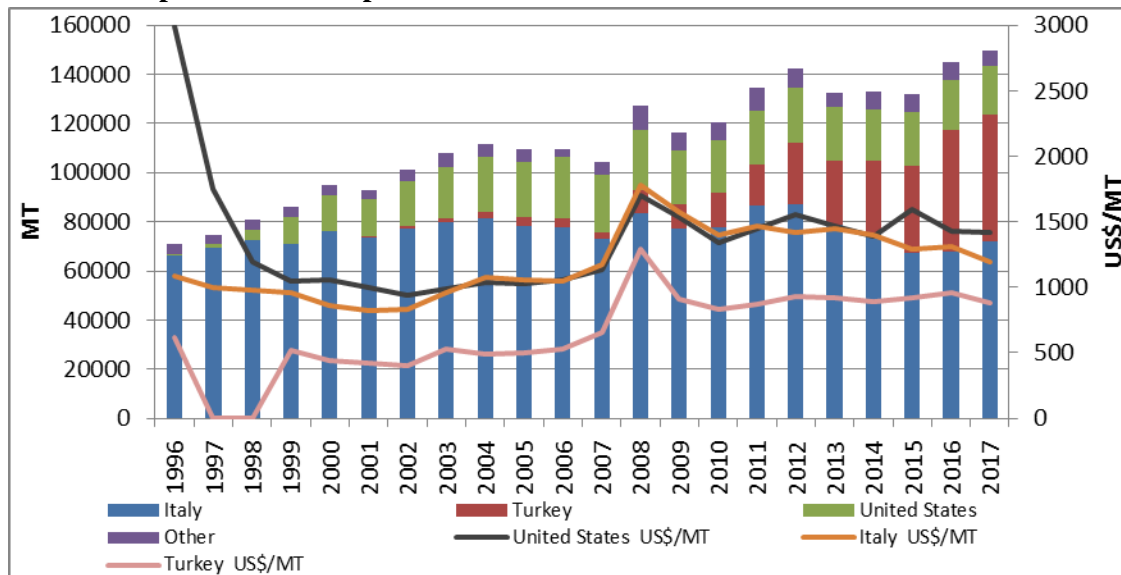
Source: Global Trade Atlas

Table 8 - Japanese Wheat Products Exports

| Japan Export Statistics | | | | | | | |
|--|------|----------|--------|--------|--------|--------|--------|
| Commodity: Grain: Wheat product group, | | | | | | | |
| Year Ending Series: June, 2012 - 2017 | | | | | | | |
| Partner Country | Unit | Quantity | | | | | |
| | | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| World | T | 216492 | 201360 | 196276 | 191712 | 188712 | 202447 |
| Hong Kong | T | 128787 | 119250 | 109138 | 99694 | 101656 | 107996 |
| Singapore | T | 33476 | 30228 | 27081 | 33631 | 26769 | 23292 |
| Vietnam | T | 18372 | 15236 | 19936 | 15986 | 14819 | 19029 |
| Taiwan | T | 9590 | 9894 | 11298 | 11585 | 13539 | 12058 |
| Thailand | T | 10490 | 10052 | 10197 | 9105 | 8755 | 11597 |
| United States | T | 8162 | 8530 | 8832 | 9613 | 9818 | 10538 |
| Other | | 7615 | 8169 | 9794 | 12097 | 13352 | 17932 |

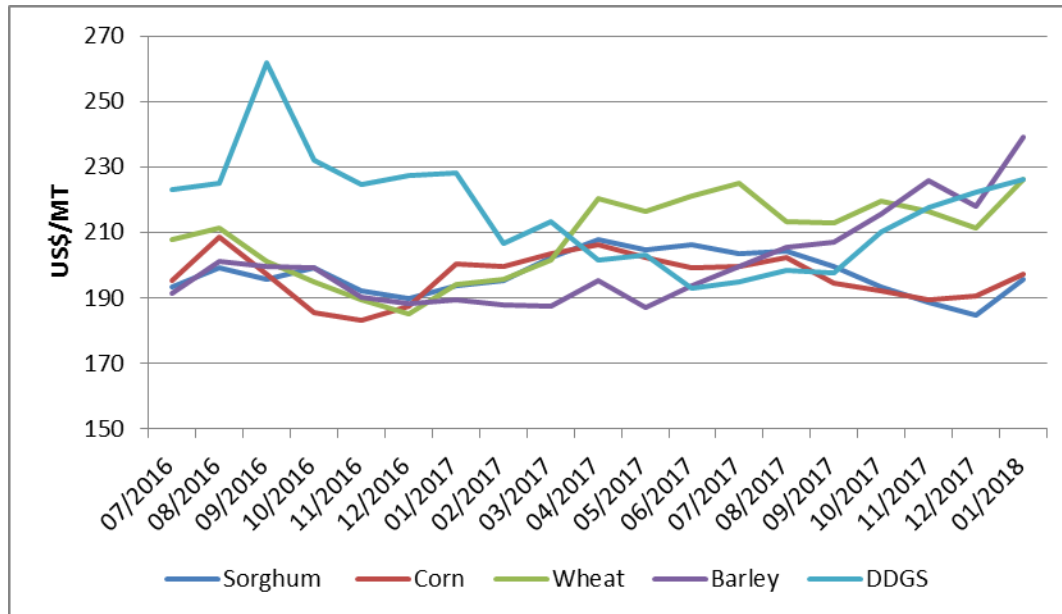
Source: Global Trade Atlas

Chart 5 - Japanese Pasta Imports and CIF Prices



Source: Global Trade Atlas (calendar year)

Chart 6 - CIF Prices of Feed Grains and DDGS



Source: Global Trade Atlas

Table 9 - Japanese DDGS Imports

| Japan Import Statistics | | | | | | | | |
|---|------|----------|--------|--------|---------|--------|--------|-----------------------|
| Commodity: 230330, Brewing Or Distilling Dregs And Waste, Whether Or Not In The Form Of Pellets | | | | | | | | |
| Year Ending: September | | | | | | | | |
| Partner Country | Unit | Quantity | | | % Share | | | % Change 2017/2016 |
| | | 2015 | 2016 | 2017 | 2015 | 2016 | 2017 | |
| World | T | 463407 | 442381 | 520371 | 100.00 | 100.00 | 100.00 | 17.63 |
| United States | T | 440542 | 425865 | 504203 | 95.07 | 96.27 | 96.89 | 18.40 |
| China | T | 12434 | 7769 | 8055 | 2.68 | 1.76 | 1.55 | 3.68 |
| Canada | T | 7477 | 6720 | 5544 | 1.61 | 1.52 | 1.07 | - 17.50 |
| Vietnam | T | 1597 | 1238 | 1388 | 0.34 | 0.28 | 0.27 | 12.12 |
| Cambodia | T | 0 | 142 | 636 | 0.00 | 0.03 | 0.12 | 347.89 |
| Australia | T | 649 | 631 | 545 | 0.14 | 0.14 | 0.10 | - 13.63 |
| Germany | T | 0 | 4 | 0 | 0.00 | 0.00 | 0.00 | - 100.00 |
| India | T | 640 | 0 | 0 | 0.14 | 0.00 | 0.00 | 0.00 |
| Spain | T | 0 | 12 | 0 | 0.00 | 0.00 | 0.00 | - 100.00 |
| Thailand | T | 68 | 0 | 0 | 0.01 | 0.00 | 0.00 | 0.00 |

Source: Global Trade Atlas

Table 10 - DDGS CIF Price

| Japan Import Statistics | | | | | | | | |
|---|------|------------------------------------|---------|--------|---------|------|------|-----------------------|
| Commodity: 230330, Brewing Or Distilling Dregs And Waste, Whether Or Not In The Form Of Pellets | | | | | | | | |
| Year Ending: September | | | | | | | | |
| Partner Country | Unit | Unit Value (United States Dollars) | | | % Share | | | % Change 2017/2016 |
| | | 2015 | 2016 | 2017 | 2015 | 2016 | 2017 | |
| World | T | 274.74 | 237.78 | 208.62 | | | | - 12.26 |
| United States | T | 274.35 | 236.16 | 207.02 | | | | - 12.34 |
| China | T | 263.12 | 275.83 | 259.22 | | | | - 6.02 |
| Canada | T | 284.16 | 263.88 | 239.78 | | | | - 9.13 |
| Vietnam | T | 357.39 | 371.58 | 290.13 | | | | - 21.92 |
| Cambodia | T | 0 | 331.65 | 321.14 | | | | - 3.17 |
| Australia | T | 292.44 | 283.09 | 287.97 | | | | 1.73 |
| Germany | T | 0 | 2324.41 | 0 | | | | - 100.00 |
| India | T | 415.94 | 0 | 0 | | | | 0.00 |
| Spain | T | 0 | 342.3 | 0 | | | | - 100.00 |
| Thailand | T | 403.48 | 0 | 0 | | | | 0.00 |

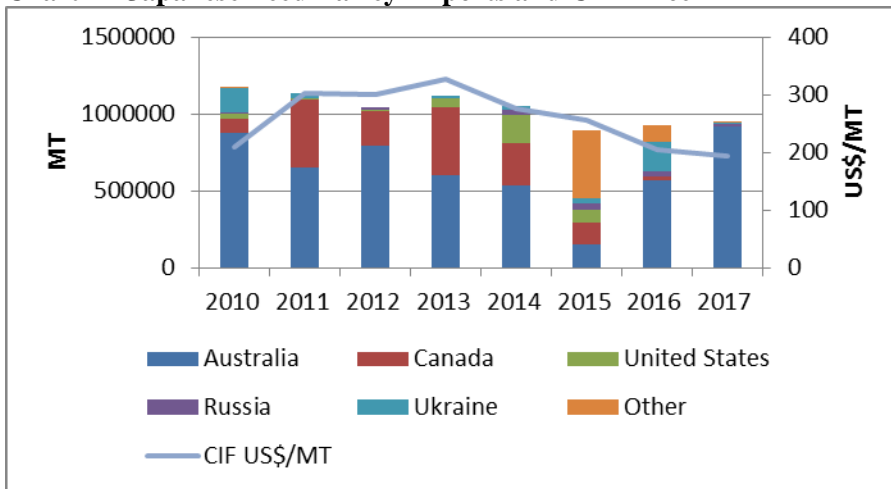
Source: Global Trade Atlas

Table 11 - Japanese Barley Production

| | Total | | |
|------|--------------|------------|---------|
| | Planted Area | Production | Yield |
| | (ha) | (MT) | (MT/ha) |
| 2010 | 58,720 | 160,900 | 2.74 |
| 2011 | 59,830 | 171,500 | 2.87 |
| 2012 | 60,170 | 172,400 | 2.87 |
| 2013 | 59,810 | 182,800 | 3.06 |
| 2014 | 61,050 | 169,700 | 2.78 |
| 2015 | 61,300 | 176,900 | 2.89 |
| 2016 | 61,390 | 170,400 | 2.78 |
| 2017 | 61,370 | 181,900 | 2.96 |

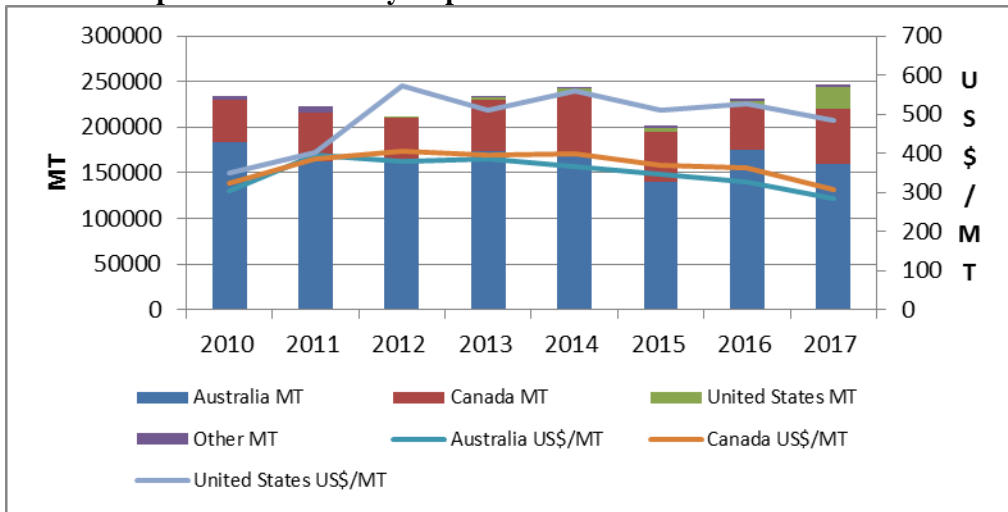
Source: MAFF

Chart 7 - Japanese Feed Barley Imports and CIF Price



Source: Global Trade Atlas

Chart 8 - Japanese Food Barley Imports and Price



Source: Global Trade Atlas

Table 12 - Japanese Sorghum Imports

| Japan Import Statistics | | | | | | | |
|--|------|----------|---------|---------|--------|--------|--------|
| Commodity: Sorghum Total, | | | | | | | |
| Year Ending Series: September, 2012 - 2017 | | | | | | | |
| Partner Country | Unit | Quantity | | | | | |
| | | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| World | T | 1479461 | 1896304 | 1003114 | 902138 | 649518 | 561005 |
| Argentina | T | 506336 | 1083819 | 643859 | 777424 | 575287 | 333714 |
| United States | T | 118045 | 177944 | 330362 | 112590 | 71793 | 218911 |
| Australia | T | 854712 | 633140 | 26876 | 593 | 741 | 7037 |
| India | T | 226 | 1025 | 1147 | 1191 | 1276 | 873 |
| Thailand | T | 0 | 286 | 792 | 242 | 0 | 192 |
| China | T | 136 | 88 | 68 | 86 | 62 | 85 |
| Belgium | T | 6 | 2 | 10 | 0 | 9 | 3 |
| Brazil | T | 0 | 0 | 0 | 9472 | 0 | 0 |
| France | T | 0 | 0 | 0 | 0 | 0 | 16 |
| Mexico | T | 0 | 0 | 0 | 276 | 0 | 0 |
| Ukraine | T | 0 | 0 | 0 | 264 | 350 | 174 |

Source: Global Trade Atlas

Table 13 - Japanese Sorghum Imports CIF Price

| Japan Import Statistics | | | | | | | |
|--|------|------------------------------------|--------|--------|--------|--------|--------|
| Commodity: Sorghum Total, | | | | | | | |
| Year Ending Series: September, 2012 - 2017 | | | | | | | |
| Partner Country | Unit | Unit Value (United States Dollars) | | | | | |
| | | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| World | T | 300.13 | 305.03 | 270.4 | 216.41 | 198.87 | 199.66 |
| Belgium | T | 955.12 | 1124.6 | 966.71 | 0 | 889.27 | 942.54 |
| China | T | 602.48 | 831.34 | 806.47 | 598.25 | 604.25 | 611.99 |
| France | T | 0 | 0 | 0 | 0 | 0 | 517.29 |
| India | T | 371.47 | 349.19 | 315.69 | 311.94 | 281.88 | 308.82 |
| Thailand | T | 0 | 429.76 | 392.78 | 403.2 | 0 | 271.6 |
| Ukraine | T | 0 | 0 | 0 | 271.2 | 253.22 | 234.11 |
| Australia | T | 307.67 | 328.77 | 335.68 | 413.05 | 341.7 | 226.65 |
| United States | T | 340.77 | 352.65 | 281.77 | 272.53 | 227.41 | 206 |
| Argentina | T | 277.79 | 283.22 | 261.54 | 207.67 | 194.85 | 194.46 |
| Brazil | T | 0 | 0 | 0 | 233.59 | 0 | 0 |
| Mexico | T | 0 | 0 | 0 | 184.4 | 0 | 0 |

Source: Global Trade Atlas

Table 14 - Compound Feed Production

| MY | Corn | Sorghum | Wheat | Wheat Flour | Barley | Rice | Other Grains | DDGS | Soybean Meal | Rapeseed Meal | Other Ingredients | TOTAL |
|----------|------------|-----------|---------|-------------|---------|-----------|--------------|---------|--------------|---------------|-------------------|------------|
| 2006/07 | 11,968,822 | 1,207,666 | 95,022 | 128,407 | 841,067 | 501,410 | 339,008 | - | 3,403,270 | 905,696 | 5,059,301 | 24,449,669 |
| | 49.0% | 4.9% | 0.4% | 0.5% | 3.4% | 2.1% | 1.4% | 0.0% | 13.9% | 3.7% | 20.7% | 100% |
| 2007/08 | 12,151,595 | 1,061,836 | 99,070 | 140,704 | 864,290 | 604,450 | 247,691 | - | 3,363,196 | 954,442 | 5,187,245 | 24,674,519 |
| | 49.2% | 4.3% | 0.4% | 0.6% | 3.5% | 2.4% | 1.0% | 0.0% | 13.6% | 3.9% | 21.0% | 100% |
| 2008/09 | 12,032,218 | 1,599,366 | 131,179 | 142,216 | 886,989 | 240,408 | 196,327 | - | 3,292,571 | 1,024,726 | 5,157,186 | 24,703,186 |
| | 48.7% | 6.5% | 0.5% | 0.6% | 3.6% | 2.0% | 0.8% | 0.0% | 13.3% | 4.1% | 20.9% | 100% |
| 2009/10 | 11,663,020 | 1,605,491 | 203,985 | 133,065 | 904,803 | 396,061 | 230,738 | 96,210 | 3,428,260 | 1,032,870 | 4,977,265 | 24,671,768 |
| | 47.3% | 6.5% | 0.8% | 0.5% | 3.7% | 1.6% | 0.9% | 0.4% | 13.9% | 4.2% | 20.2% | 100% |
| 2010/11 | 11,287,696 | 1,380,159 | 245,857 | 145,289 | 889,928 | 537,274 | 245,270 | 284,154 | 3,326,471 | 1,020,434 | 4,892,547 | 24,255,079 |
| | 46.5% | 5.7% | 1.0% | 0.6% | 3.7% | 2.2% | 1.0% | 1.2% | 13.7% | 4.2% | 20.2% | 100% |
| 2011/12 | 10,688,501 | 1,461,639 | 732,039 | 152,292 | 882,497 | 589,640 | 191,402 | 400,836 | 3,178,883 | 1,095,688 | 4,897,908 | 24,271,325 |
| | 44.0% | 6.0% | 3.0% | 0.6% | 3.6% | 2.4% | 0.8% | 1.7% | 13.1% | 4.5% | 20.2% | 100% |
| 2012/13 | 10,154,181 | 1,856,711 | 942,885 | 176,433 | 910,896 | 397,406 | 169,561 | 443,993 | 2,862,672 | 1,183,477 | 4,943,907 | 24,042,122 |
| | 42.2% | 7.7% | 3.9% | 0.7% | 3.8% | 1.7% | 0.7% | 1.8% | 11.9% | 4.9% | 20.6% | 100% |
| 2013/14 | 10,794,681 | 1,006,553 | 649,448 | 160,815 | 870,127 | 732,983 | 151,688 | 512,652 | 2,827,948 | 1,143,199 | 4,860,209 | 23,710,303 |
| | 45.5% | 4.2% | 2.7% | 0.7% | 3.7% | 3.1% | 0.6% | 2.2% | 11.9% | 4.8% | 20.5% | 100% |
| 2014/15 | 10,530,414 | 901,173 | 366,510 | 161,019 | 805,315 | 1,172,993 | 148,034 | 476,786 | 2,848,515 | 1,196,650 | 4,773,182 | 23,380,591 |
| | 45.0% | 3.9% | 1.6% | 0.7% | 3.4% | 5.0% | 0.6% | 2.0% | 12.2% | 5.1% | 20.4% | 100.0% |
| 2015/16 | 10,868,266 | 650,398 | 398,723 | 177,880 | 798,662 | 1,206,845 | 136,642 | 405,308 | 3,018,163 | 1,115,233 | 4,784,547 | 23,560,667 |
| | 46.1% | 2.8% | 1.7% | 0.8% | 3.4% | 5.1% | 0.6% | 1.7% | 12.8% | 4.7% | 20.3% | 100% |
| 2016/17 | 10,963,813 | 537,868 | 451,748 | 198,078 | 822,410 | 1,113,796 | 137,883 | 501,962 | 2,929,498 | 1,188,101 | 4,839,950 | 23,685,108 |
| | 46.3% | 2.3% | 1.9% | 0.8% | 3.5% | 4.7% | 0.6% | 2.1% | 12.4% | 5.0% | 20.4% | 100% |
| Oct | 961,655 | 44,153 | 38,570 | 17,761 | 70,524 | 84,911 | 12,301 | 46,792 | 254,831 | 95,869 | 415,005 | 2,042,372 |
| | 47.1% | 2.2% | 1.9% | 0.9% | 3.5% | 4.2% | 0.6% | 2.3% | 12.5% | 4.7% | 20.3% | 100% |
| Nov | 979,792 | 44,623 | 37,274 | 17,697 | 72,381 | 88,515 | 12,653 | 47,947 | 258,191 | 97,393 | 419,024 | 2,075,490 |
| | 47.2% | 2.1% | 1.8% | 0.9% | 3.5% | 4.3% | 0.6% | 2.3% | 12.4% | 4.7% | 20.2% | 100% |
| Dec | 1,061,286 | 46,583 | 38,269 | 19,199 | 77,699 | 90,808 | 13342 | 52,145 | 277,490 | 107,005 | 456,060 | 2,239,886 |
| | 47.4% | 2.1% | 1.7% | 0.9% | 3.5% | 4.1% | 0.6% | 2.3% | 12.4% | 4.8% | 20.4% | 100.0% |
| 2018 Jan | 926,621 | 40,442 | 32,898 | 15,879 | 65,331 | 78,561 | 10,771 | 46,298 | 238,898 | 91,465 | 386,909 | 1,934,073 |
| | 47.9% | 2.1% | 1.7% | 0.8% | 3.4% | 4.1% | 0.6% | 2.4% | 12.4% | 4.7% | 20.0% | 100.0% |

Source: MAFF