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# Japan

# **Dairy and Products Annual**

# 2016 Market Outlook and 2015 Situation Summary

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# **Report Highlights:**

Significant 'additional' imports of butter and non-fat dry milk should restore Japanese stocks to normal levels and prevent another high profile 'butter shortage' in 2015. Japanese dairy production continues to face considerable challenges going forward as farmers continue to exit the industry. Imports of EU natural cheeses skyrocketed in 2015, following liberalization of EU dairy production.

# **Executive Summary:**

Improved weather conditions in 2015 have eased the impact of the continuing decline of Japan's national dairy herd on total milk production. Despite the steady exit of dairy farmers from the industry, Japanese fluid milk production is forecast to increase modestly in 2015 as output per cow showed marked improvement in the milder summer weather of 2015. On higher negotiated fluid milk prices and in response to national sentiment following 2014's perceived butter shortage, Japanese dairy product producers have significantly expanded butter and non-fat dry milk (NFDM) production in 2015 alongside Japan's so-called 'additional' imports of both commodities, restoring stock levels to more customary levels. Expansion of butter and NFDM production, however, appears to have come at the cost of lower Japanese production and greater imports of natural cheeses. The market share for suppliers of imported cheeses in 2015 and beyond could be greatly affected by the emergence of greater competition from EU suppliers, following the abolishment of the EU production quota system that had been in place for more than 30 years.

The outlook for Japanese milk production in 2016 could be negatively impacted if continued high feeder calf prices restrict the supply of replacement heifers. While the Japanese supply for butter and NFDM could be more stable in 2016 if dairy manufacturers sustain 2015 levels of production, the possibility of 'additional' dairy importation for either commodity cannot be ruled out.

## **Commodities:**

Dairy, Milk, Fluid Dairy, Butter Dairy, Milk, Nonfat Dry Dairy, Cheese

# **Production, Supply and Demand Data Statistics:**

# Fluid Milk PS&D Table

Dairy, Milk, Fluid	2014	4	201	5	2016	3
Market Begin Year	Jan 20	14	Jan 20	15	Jan 20	16
Japan	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Cows In Milk	773	773	775	750	0	745
Cows Milk Production	7315	7334	7350	7375	0	7340
Other Milk Production	0	0	0	0	0	0
Total Production	7315	7334	7350	7375	0	7340
Other Imports	0	0	0	0	0	0
Total Imports	0	0	0	0	0	0
Total Supply	7315	7334	7350	7375	0	7340
Other Exports	0	0	0	0	0	0
Total Exports	0	0	0	0	0	0
Fluid Use Dom. Consum.	3915	3911	3890	3920	0	3900
Factory Use Consum.	3350	3364	3410	3400	0	3385
Feed Use Dom. Consum.	50	59	50	55	0	55
Total Dom. Consumption	7315	7334	7350	7375	0	7340
Total Distribution	7315	7334	7350	7375	0	7340
(1000 HEAD), (1000 MT)						

# Butter PS&D Table

Dairy, Butter	2014		201	5	2016	
Market Begin Year	Jan 201	4	Jan 20	15	Jan 201	6
Japan	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Beginning Stocks	18	18	16	15	0	20
Production	60	61	60	64	0	63
Other Imports	11	11	15	16	0	12
Total Imports	11	11	15	16	0	12
Total Supply	89	90	91	95	0	95
Other Exports	0	0	0	0	0	0
Total Exports	0	0	0	0	0	0
Domestic Consumption	73	75	76	75	0	75
Total Use	73	75	76	75	0	75
Ending Stocks	16	15	15	20	0	20
Total Distribution	89	90	91	95	0	95
(1000 MT)						

# Non Fat Dry Milk PS&D Table

Dairy, Milk, Nonfat Dry	2014	Į.	2015	5	2016	
Market Begin Year	Jan 20	14	Jan 20	15	Jan 201	6
Japan	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Beginning Stocks	40	40	32	35	0	50
Production	120	120	125	127	0	125
Other Imports	43	43	52	53	0	30
Total Imports	43	43	52	53	0	30
Total Supply	203	203	209	215	0	205
Other Exports	0	0	0	0	0	0
Total Exports	0	0	0	0	0	0
Human Dom. Consumption	146	144	150	140	0	140
Other Use, Losses	25	24	25	25	0	25
Total Dom. Consumption	171	168	175	165	0	165
Total Use	171	168	175	165	0	165
Ending Stocks	32	35	34	50	0	40
Total Distribution	203	203	209	215	0	205
(1000 MT)						

### Cheese PS&D Table

Dairy, Cheese	2014	•	2015	i	2016		
Market Begin Year	Jan 20°	14	Jan 20°	15	Jan 201	6	
Japan	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post	
Beginning Stocks	15	15	15	15	0	15	
Production	50	46	50	42	0	42	
Other Imports	232	232	245	245	0	250	
Total Imports	232	232	245	245	0	250	
Total Supply	297	293	310	302	0	307	
Other Exports	0	0	0	0	0	0	
Total Exports	0	0	0	0	0	0	
Human Dom. Consumption	282	278	295	287	0	292	
Other Use, Losses	0	0	0	0	0	0	
Total Dom. Consumption	282	278	295	287	0	292	
Total Use	282	278	295	287	0	292	
Ending Stocks	15	15	15	15	0	15	
Total Distribution	297	293	310	302	0	307	
(1000 MT)							

### **Author Defined:**

# 2015 Situation Summary and Outlook

#### Milk:

# Milk Production to Recover Slightly in 2015

Despite the continued gradual decline in the total number of milk cows at the beginning of 2015 (down three percent to 750,000 head), Japanese national milk production is expected to bounce back slightly after two years of consecutive declines (see Table 10). According to market sources, in response to tight domestic milk supplies in 2013 and 2014, dairy product manufacturers raised the contract price offered to dairy cooperatives both for fluid use and for factory use through 2015 (see Note 1). In conjunction with milder summer weather and the increased availability of local forage, continued financial support from the central government, local governments and dairy cooperatives has pushed 2015 milk production higher to 4.974 million metric tons (MMT) through August 2015, up 0.4 percent compared to 2014.

As of February 1, 2015, there were a total of 17,700 dairy farms (down five percent from 2014) raising a total of 1.371 million head of cows and heifers (nearly two percent lower from 2014; milk cows down three percent to 750,100 head, dry cows down one percent to 119,600 head, and replacement heifers unchanged at 501,600 head). In Hokkaido, the total number of milk cows was three percent lower at 389,800 head, while the number of replacement heifers (less than two-years old) was two percent higher at 332,700 head, some of which are expected to be bred in 2015 and placed for milking in the late 2015 / early 2016. In the rest of Japan, the total number of milk cows was also three percent lower at 360,300 head, however the number of replacement heifers was four percent lower than 2014 at 168,900 head. These numbers point toward a possible stabilization of the Hokkaido dairy herd, even as the dairy industry continues to contract across the rest of Japan.

While the national dairy industry continues to struggle with the continued exit of older farmers leaving the industry without successors, financial incentives to modernize production facilities and equipment appear to be effectively expanding the average dairy farm size, as the number of head per farm since 2012 has grown by eight percent in Hokkaido and by thirteen percent in the rest of Japan. Dairy farmers looking to expand the scale of their operations often receive enough government financial support to cover half the cost of improvements, like the construction of new cow sheds or the purchase of modern equipment. As the number of dairy farms has dropped by more than 15 percent over the last four years (from 21,000 to 17,700), the trend towards fewer farms with more cattle per farm appears likely to continue into the foreseeable future.

Through August 2015, milk production in Hokkaido is up 1.2 percent to 2.593 MMT, while production in the rest of Japan is down 0.5 percent to 2.382 MMT. Since the majority of Hokkaido milk production is for factory use (a small portion of Hokkaido's total production is fluid use milk that is shipped outside of the prefecture), Hokkaido's recent production recovery has helped to increase the national supply of factory use milk in 2015. Through August, the volume of fluid use milk was up slightly (0.7 percent) to 2.611 MMT, supported by fairly solid consumption of fermented milk (including various yogurt products) and relatively stable consumption for regular white milk, fortified milk, and milk beverages. Meanwhile, the volume factory use milk remained unchanged at 2.325 MMT, as the contraction in production for factory use across the rest of Japan offset the rebound in Hokkaido's production, partially as a result of milder 2015 summer weather dragging on national ice cream production and consumption (see Table 4).

A major component of tight milk supplies in recent years has been the longer than average stretches of hotter than average summer temperatures. In 2013 and 2014, such weather conditions led to greater stress on milk cows and higher incidence of mastitis, both of which reduced the output per milk cow. Those conditions also had a negative impact on the quality and availability of local forage production, which remains critical to the profitability of Japanese dairy farmers, whose feed costs have remained high as the Yen has weakened (relative to the U.S. Dollar) even as global grain prices have fallen from 2012 highs. Elevated summer temperatures in 2013 and 2014 did, however, contribute to greater levels of ice cream production and sales (see Table 4).

With an improvement in Hokkaido's fluid milk production, coupled with almost unchanged annual outputs from last year projected for the rest of Japan in 2015, Post projects Japan's 2015 national fluid milk production to recover slightly from the previous year to around **7.375 million MT**, with milk for drinking marginally up at **3.920 million MT** supported by solid consumption of fermented milk (various types of yogurt products) and milk for processing slightly up at **3.400 million MT** from the previous year, mainly reflecting Hokkaido's output recovery.

Note 1: The national average pooled price (what a farmer receives) for a kilogram of milk (inclusive of consumption tax) increased five percent in 2014 (to 95.99 yen/kg.) and another four percent through August 2015 (to 98.30 yen/kg.). In general, the contract price for factory use milk (mostly produced in Hokkaido, which produces more than 52 percent of Japan's milk, but is home to only 4 percent of the population) is set lower than the contract price for fluid use milk, which is mostly produced closer to consumers across the rest of Japan. As a result of this price differential, the national government maintains a direct subsidy payment scheme for factory use milk utilized for the production of

designated dairy products, such as butter, NFDM and domestic natural cheeses (see Table 2). Contract prices are typically negotiated several months before the beginning of the new calendar year and, barring extraordinary circumstances like a national disaster or a disease outbreak, extend for the length of the calendar year.

#### **Butter and NFDM:**

# Demand and Supply for Butter and NFDM Roughly Balance Out in 2015

While the total volume of milk allocated to factory use through August 2015 was unchanged from the previous year at 2.325 MMT, the volume of factory use milk utilized for the production of designated dairy products, such as butter and NFDM, increased three percent to 1.134 MMT. Through August 2015, Japanese dairy processors have reduced the volumes of factory use milk allocated to the production of domestic natural cheeses by eight percent (to 319,874 MT) and fresh cream by less than one percent (to 870,375 MT), in order to divert more factory use milk to butter and NFDM. As a result, domestic production of butter has increased five percent (to 43,588 MT), and domestic production of NFDM has climbed by six percent (to 88,566) (see Table 4). According to market sources, domestic dairy product manufacturers (buyers of milk) and major dairy cooperatives (sellers of milk) have collaborated to stabilize the supply of butter and NFDM in 2015 in response to intense public criticism (the result of the temporary disappearance of domestic butter from retail shelves in major cities around Japan in late 2014; see Note 2).

## **Butter**

According to data from the state-owned Agriculture & Livestock Industries Corporation (ALIC), butter imports through August 2015 have totaled 5,830 MT, comprised of Japanese Fiscal Year (JFY) 2015 current access import volumes as well as a portion of the JFY 2014 'additional' imports that arrived between January 2015 and March 2015 (the final quarter of JFY 2014). Butter distributed in commerce over the same period was slightly lower than 2014 levels at 46,910 MT, reflecting lower overall household consumption of retail butter as well as lower consumption of desserts and confections. The sizeable imports, expanded production and lower consumption have led to the recovery of monthly ending butter stocks, which reached 20,000 MT by the end of August 2015, more than 20 percent higher than stocks held in August 2014.

Post estimates Japan's 2015 total butter imports to reach **15,000 - 16,000 MT**, of which 12,800 MT (JFY 2015 current access volume as well as 'additional' imports) is scheduled to be imported by the end of October 2015, and most likely be distributed into commerce by the end of December 2015 (see Table 11 and Note 3). A portion of the JFY 2014 'additional' import volume (2,700 MT out of 10,000 MT) was imported between January 2015 and March 2015, and was added to the 2015 total import estimate.

Given the firm commitment to improve domestic butter production and the production data available through August 2015, Post projects Japan's total 2015 butter production to increase by five percent from 2014 to around **64,000 MT**. Compounded by substantially high butter imports, increased domestic output in 2015 should ensure that Japan has sufficient supplies of butter to meet the 2015 total annual demand projection of **75,000 MT**. Post has set the 2015 consumption estimate at roughly the same level as 2014, despite the slightly lower overall demand observed through August 2015, as Japanese butter consumption traditionally picks up towards the end of the calendar year. Post estimates that 2015 year ending stocks will be approximately **20,000 MT**, 33 percent higher than the beginning of 2014.

Note 2: Nearly all of the butter available on Japanese retail shelves is produced by Japanese dairy companies. There is cyclical and sharp spike in retail demand for butter ahead of the winter holidays, when home bakers and pastry shops greatly increase their production of butter-heavy confections and cakes, such as the iconic 'Christmas Cake.' As Japanese production of butter and NFDM fell sharply in 2014, supplies of Japanese butter were largely allocated towards higher volume customers, including major bakeries and processed food companies, and away from smaller bakeries and retail shelves causing noticeably empty retail butter shelves in some grocery stores in November and December. This perceived shortfall created consumer consternation and widespread media coverage, despite indications that the shortages were largely concentrated in urban population centers rather than being a national phenomenon. Official data show that stocks of butter on hand at the end of November and December were sufficient to cover approximately two months of utilization.

#### Note 3:

- 1) JFY 2015 Current Access Butter Import Results (2,800 MT) New Zealand continued to dominate the current access tenders, capturing 50 percent of the tendered volume, while the Netherlands and Germany claimed most of the remaining volume at 26 and 21 percent respectively. Higher priced U.S. butter offers were unable to secure any of the current access butter volume in JFY 2015.
- 2) **JFY 2015 'Additional' Butter Import Resulted (10,000 MT)** New Zealand remained dominant in the tendering of 'additional' imports in June 2015, securing 76 percent of the tendered volume, again followed by the Netherlands and Germany at 9 and 7 percent respectively.

# **NFDM**

Substantially higher NFDM imports through August 2015 amounted to 19,100 MT (mostly comprised of the JFY 2015 current access since April 2015 combined with a portion of the JFY 2014 additional imports made through March 2015, but excluding those made under specific TRQs for school lunch programs and for animal feed). ALIC data showed that the ingredient demand for NFDM through August 2015 (mostly for institutional uses by dairy companies, bakeries, dessert/confectionary companies, food processors, and soft drink manufacturers) was down modestly from the same period in 2014 to 92,229 MT. Similar to butter, the above supply and demand situation helped to restore NFDM stocks, which had been drawn down in 2014, to 50,000 MT by the end of August 2015.

Post estimates Japan's 2015 total NFDM imports to amount to 53,000 MT, comprised of imports for school lunch programs (approximately 1,900 - 2,000 MT), for animal feed (24,000 - 25,000 MT), the

JFY 2015 current access and 'additional' import volumes (**15,000 MT**), and a portion of the JFY 2014 'additional' imports (8,700 MT out of 10,000 MT) that were released into commerce between January 2015 and March 2015 (see Table 11 and Note 4). Post projects Japan's total 2015 NFDM production to grow by six percent from 2014 to around **127,000 MT**. With higher import levels and expanded production, Post forecasts sufficient supply on hand in the Japanese market to meet total annual demand for NFDM in 2015, projected at **165,000 MT** (**140, 000 MT** for edible use, down modestly from 2014; 25,000 for animal feed, up modestly from 2014). As demand has slackened and supply volumes have grown, 2015 year ending stocks are estimated to reach **50,000 MT**, up 43 percent over 2014.

### Note 4:

- 1) JFY 2015 Current Access NFDM Import Results (10,000 MT) Australia and New Zealand were the most successful bidders, securing 33 and 23 percent respectively. EU countries, including Belgium (17 percent) and Germany (9 percent), claimed most of the rest of the volume. Higher priced U.S. offers were unable to secure a significant share of the current access tenders.
- 2) **JFY 2015 Additional NFDM Import Results** (5,000 MT) As with the current access tenders, New Zealand and Australia again captured significant shares, at 32 and 17 percent respectively, with Belgium at 21 percent and the United States at 17 percent rounding out the major suppliers.

### **Cheese:**

# Competition Heats Up in Growing Japanese Market for Imported Cheese

Japan's total cheese imports are projected to rebound in 2015, growing by more than five percent on significantly reduced price offers from major suppliers, increased competitiveness of EU suppliers, and lower Japanese production levels. Facing comparatively higher price offers for Oceania natural cheese in 2014, Japanese buyers drove imports of U.S. cheeses up nearly 70 percent in 2014 to a record level of over 50,000 MT (see Note 5). However, as Oceania dairy prices have fallen sharply and the U.S. dollar remains relatively strong, imports from Australia and New Zealand have regained some lost market share, while imports from the United States have fallen by 23 percent through August 2015. However, the biggest change to the Japanese market for imported cheese in 2015 has been the rapid growth of EU supplies of natural cheese, which have helped to drive imports of EU origin cheeses up 50 percent through August 2015. Through August 2015, Japan's total cheese imports have grown eight percent to 164,832 MT, recovering from lower 2014 import levels as expanded imports from the EU and Oceania have more than offset lower import volumes from the United States.

The EU milk supply picture has changed dramatically since the abolishment of the EU milk quota system in April 2015. Average prices for cheese across the EU in 2015 have fallen from between 5 and 40 percent (compared with 2014 prices) as supplies have risen sharply in countries like Ireland, Germany and the Netherlands that have achieved greater economies of scale and modernized production (See Table 9). Coupled with the extension of Russian bans on imports of EU dairy products, the global supply picture has been dramatically altered by considerable volumes of exportable dairy supplies from the EU (see Note 6).

Large volumes of lower priced EU natural cheeses have already found their way to Japan and other Asian markets, displacing supplies from Oceania and North America. According to sources, the rapid growth in 2015 of imports from EU countries (including Denmark, the Netherlands, and Germany) has created increasingly tough price competition for U.S. suppliers, especially in the shredded cheese market segment. This competition has only grown tougher as Australian and New Zealand suppliers have reportedly lowered price offers to remain competitive in the Japanese market. The downward trend in price offers for EU origin cheeses has also affected Japanese imports for EU natural cheese for direct consumption, which have bounced back in 2015 after contracting in 2013 and 2014.

However, the Japanese duty free quota for imported natural cheeses to be blended with Japanese natural cheeses to manufacture processed cheese in Japan has provided new opportunities for U.S. suppliers. As imports from the United States have jumped more than 40 percent to 5,078 MT, imports from Australia and New Zealand have fallen 33 percent to 10,776 MT and 7 percent to 13,724 MT respectively. However, EU suppliers have begun to make inroads in this segment as well, as Japanese importers have been drawn to increasingly price competitive products from Germany, Denmark and Ireland.

Note 5: Japan's total cheese imports in 2014 were down moderately to 231,946 MT, largely due to reduced imports from Oceania and the EU, which were more than offset by impressive growth in imports from the United States. Total imports from major suppliers were as follows: Australia down 16 percent to 79,444 MT (34 percent market share) with average CIF price up eight percent to US \$4,444 per MT; New Zealand down 13 percent to 55,459 MT (24 percent market share) with average CIF price up 18 percent to US \$4,738 per MT; United States up 68 percent to 51,003 MT (22 percent market share) with average CIF price unchanged at US \$4,797; and EU down four percent to 41,941 MT (18 percent share) with average CIF up 14 percent to US \$8,142.

Oceania has historically supplied natural cheeses to be blended with domestic natural cheeses for the manufacture of processed cheese in Japan under the zero tariff quota, while the United States has primarily supplied natural cheese to be shredded upon importation. EU countries have historically dominated the market for natural cheeses for direct consumption.

Note 6: Initially enacted in August 2014 for a period of one year, Russian bans on imports of food and agricultural products from the EU, the United States, and others were extended through to August 2016.

As the market situation described above is forecast to continue through the end of 2015, Post projects Japan's total cheese consumption in 2015 to recover modestly, up three percent to **287,000 MT**, which will be supplied by increased imports, projected up six percent to **245,000 MT**, mostly from EU and Oceania. As described in the fluid milk section, Japan's total domestic cheese production is projected to fall by nine percent at **42,000 MT** affected by reduced milk for factory use for cheese production in Hokkaido this year.

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Milk, Butter and NFDM:

# 2016 Milk Output Could Fall If Beef Demand Restricts Milk Cow Supply; Butter and NFDM Appear More Stable on Higher Year Beginning Stocks

Strong demand and high prices in the Japanese beef market could reverse the modest recovery in Japan's national milk production projected for 2015. With a limited supply of feeder calves (affecting Wagyu breeds as well as F-1 cross-breeds and Holstein steers) for cattle feeding operations, feed calf market prices have climbed to unprecedented highs in 2014 and 2015. As a result, dairy operations have expanded use of Wagyu semen to produce F-1 offspring, rather than Holsteins, further restricting the supply of replacement Holstein heifers for future dairy production. The Artificial Insemination Association of Japan (AIAJ) has recorded Wagyu semen utilization increases of three percentage points (to 20 percent) in Hokkaido and of nearly 50 percent (to over 40 percent) in the reset of Japan in 2015. Increased demand for Wagyu feeder calves is also driving increased transfer of purebred Wagyu embryos to impregnate Holtsein cows. Despite the considerably higher cost of embryo transfer relative to artificial insemination with Wagyu semen, the higher price for purebred Wagyu feeder calves (relative to the price for F-1 cross-breed feeder calves) can make embryo transfer a profitable enterprise.

As dairy operations face increasingly high prices for replacement heifers to sustain (let alone expand) current output, the rate of exit from the dairy industry (especially small and medium scale operations outside of Hokkaido) may accelerate, resulting in greater liquidation of the dairy cow herd. As a result, Post projects the total number of milk cows raised at the beginning of 2016 to be **7.45 million head**, slightly less than at the beginning of 2015. Even if the per cow output in 2016 is sustained at 2015 levels, Post projects that Japan's total milk output in 2016 will be moderately lower at around **7.340 million MT**, as marginally lower output in Hokkaido is compounded by modest declines in other milk producing regions.

Post projects that milk for fluid use will fall slightly to **3.90 million MT** in 2016, in line with a slower, but still gradually declining trend in overall fluid use consumption. Post forecasts moderately higher yogurt and milk beverage consumption more than offset by lower regular milk and processed milk consumption. Post also projects that milk for factory use will also fall slightly to **3.385 million** MT due to lower projected output in Hokkaido, which accounts for nearly 90 percent of the national factory use milk production.

At the projected volumes of total milk for factory use in 2016, Post anticipates that stiff competition will persist within Hokkaido for the allocation of milk across factory uses (like butter/NFDM, cream and cheese) as well as with shipments from Hokkaido to the rest of Japan to fill the supply deficit for fluid use milk. Accordingly, Post projects that Japan's production of butter and NFDM in 2016 will be down slightly down from 2015 projected levels to **63,000 MT** and **125,000 MT** respectively.

With the projected recovery of butter and NFDM stocks in 2015, Post does not procject tightness in the supply of either commodity heading into 2016. As such, ALIC would not face immediate pressure to import current access butter or NFDM in order to stabilize the supply and demand for either commodity (see Table 6). However, assuming that market demand for butter in 2016 remains at the 2015 level, Post estimates that Japan would still need to import between **10,000 and 12,000 MT** of butter to maintain

stock levels around 20,000 MT; imports of that magnitude would likely necessitate further 'additional' butter imports in 2016. Assuming that market demand for NFDM remains at roughly equal to 2015 levels, Post estimates total NFDM imports in 2016 of **30,000 MT** (25,000 MT for animal feed; 2,000 MT for school lunch programs; plus approximately **2,000 MT** by ALIC either through current access or 'additional' imports). Based on that estimate, 2016 year ending stocks of NFDM would fall to **40,000 MT** from the estimated year beginning level of 50,000 MT.

### Cheese 2016 Outlook:

# **Moderate Consumption and Import Growth Forecast in 2016**

Post projects that Japanese cheese consumption in 2016 will sustain moderate growth, rising two percent to **292,000 MT**. With Japanese cheese production forecast to be flat, supply growth will be driven by imports, which are projected to rise two percent to **250,000 MT**. U.S. cheeses will continue to face stiff competition from Oceania and EU-origin products. The dynamics of EU dairy production in 2016 are forecast to be a determinative factor of imported cheese market share in Japan.

# Supplemental Tables:

Table 1: Japanese Household Consumption of Milk and Dairy Products (two or more person households)

												ι	Init: JP Yen
	Brea d	Milk	Powd ered Milk	Yog urt	But ter	Che ese	Confecti onary	Coffe e Bever age	Coco a Bever age	Lacti c Acid Bact erial Drink s	Milk Bever age	Marga rine	Ice Cream/Sh erbet*
201 4													
Jan.	2,4 79	1,2 93	56	987	88	398	6,102	347	31	304	124	61	396
Feb	2,4 46	1,1 73	56	926	96	429	6,337	292	49	276	126	71	309
Mar	2,5 17	1,2 31	73	961	11 2	503	8,892	270	53	313	111	85	447
Apr.	2,2 22	1,1 42	50	882	70	353	6,202	255	49	243	100	62	520
Ma y	2,2 21	1,1 37	50	924	98	363	6,275	238	55	255	89	69	803
Jun.	2,5 61	1,2 41	78	1,0 00	11 0	432	7,432	306	37	271	119	69	900
Jul.	2,4 54	1,2 55	43	949	64	361	6,197	307	23	282	118	66	1,202
Aug	2,5 57	1,3 25	48	984	72	396	6,701	378	18	300	137	66	1,238
Sep t.	2,4 17 2,4	1,3 50 1,3	42	977	75	369	6,036	429	14	313	132	66	748
Oct.	52	62	45	963	71	368	6,452	481	15	340	131	71	570
Dec	86	77 1,2	56	947	67	385	7,507	454	12	302	147	74	419
201	00	90	46	958	72	364	5,996	402	18	304	135	10	455
5	2,3	1,1		Ī	T	T		1	1			<u> </u>	1
Jan. Feb	99	24	71	983	66	393	6,326	244	50	274	107	65	401
Mar	57	29	63	964 1,0	85	394	6,704	233	56	284	97	74	345
•	88 2,6	51 1,2	59	42 1,0	88	438	7,639	303	31	307	122	72	480
Apr. Ma	25 2,6	62 1,3	55	36 1,0	74	405	6,330	324	29	316	137	72	590
У	2,5	1,3	49	1,0	78	412	7,000	426	18	302	133	68	928
Jun.	25	1,4	39	1,0	83	402	6,206	455	15	314	140	66	894
Jul. Aug	2,5	1,4	38	20	68	382	6,732	520	13	355	153	62	1,257
•	13	16	38	984	68	380	7,850	508	16	323	151	59	1,384
201 2	28, 281	15, 266	679	10, 270	90 6	4,2 84	77,778	3,70 7	410	3,55 8	1,33 6	888	7,592
201 3	27, 973	15, 211	594	10, 856	92 9	4,3 76	78,949	4,00 4	388	3,44 1	1,38 0	856	8,116
201 4	29, 212	15, 176	643	11, 458	99 5	4,7 21	80,129	4,15 9	374	3,50 3	1,46 9	770	8,007

%													
Chg	4	0	8	6	7	8	1	4	-4	2	6	-10	-1
Jan.			_								-		
-													
Aug													
201	19,	9,7		7,6	71	3,2		2,39		2,24			
4	457	97	454	13	0	35	54,138	3	315	4	924	549	5,815
Jan.													·
-													
Aug													
201	20,	10,		8,0	61	3,2		3,01		2,47	1,04		
	276	245	412	64	0	06	54,787	3,01	228	5	0	538	6,279
5 %						_	, -						
Chg													
	4	5	-9	6	-14	-1	1	26	-28	10	13	-2	8

<sup>\*</sup>Ice Cream and Sherbet are also included in Confectionary Data

Source: Ministry of Internal Affairs and Communications (Statistics Bureau)

	Milk (Liters)	Powdered Milk (grams)	Cheese (grams)	Butter (grams)	Margarine (grams)	Bread (grams)
2014		•				
Jan.	6.01	22	236	36	88	3,427
Feb.	6.01	24	242	53	100	3,531
Mar.	6.57	39	277	60	117	3,828
Apr.	6.42	22	212	34	88	3,772
May	6.91	17	238	38	90	4,106
Jun.	6.9	20	224	39	94	3,706
Jul.	7.15	22	213	38	97	3,706
Aug.	7.27	25	232	33	86	3,772
Sept.	6.79	24	216	39	92	3,689
Oct.	6.57	31	231	42	100	3,784
Nov.	6.11	32	255	46	102	3,790
Dec.	6.12	31	288	54	102	3,820
2015		•				
Jan.	5.97	37	237	33	87	3,493
Feb.	5.74	31	240	41	101	3,668
Mar.	6.28	29	263	42	97	4,121
Apr.	6.2	28	230	36	98	3,882
May	6.68	24	244	38	91	4,038
Jun.	6.76	18	224	40	89	3,848
Jul.	7.11	17	224	32	84	3,763
Aug.	7.06	18	228	31	74	3,864
2012	81	362	2,760	504	1,255	44,820
2013	80	305	2,843	503	1,230	44,935
2014	79	309	2,864	512	1,156	44,931
% Chg.	-2	1	1	2	-6	0
Jan Aug. 2014	53	191	1,874	331	760	29,848
Jan Aug. 2015	52	202	1,890	293	721	30,677
% Chg.	-3	6	1	-11	-5	3

Source: Ministry of Internal Affairs and Communications (Statistics Bureau)

Table 2: Government Subsidy Payment and Eligible Milk Quota for Factory Use

For Factory Use Milk to Manufacture Designated Dairy Products\*

	Unit Subsidy Payment		Eligible Volume
	Yen/Kg.	Type	Million MT
JFY1995	11.49	deficiency payment	2.30
JFY1996	11.49	deficiency payment	2.30
JFY1997	10.87	deficiency payment	2.40
JFY1998	10.84	deficiency payment	2.40
JFY1999	10.80	deficiency payment	2.40
JFY2000	10.30	deficiency payment	2.40
JFY2001	10.30	direct payment	2.27
JFY2002	11.00	direct payment	2.20
JFY2003	10.74	direct payment	2.10
JFY2004	10.52	direct payment	2.10
JFY2005	10.40	direct payment	2.05
JFY2006	10.40	direct payment	2.03
JFY2007	10.55	direct payment	1.98
JFY 2008	11.55	direct payment	1.95
JFY 2008 (Revised)	11.85	direct payment	1.95
JFY 2009	11.85	direct payment	1.95
JFY 2010	11.85	direct payment	1.85
JFY 2011	11.95	direct payment	1.85
JFY 2012	12.20	direct payment	1.83
JFY 2013	12.55	direct payment	1.81
JFY 2014	12.80	direct payment	1.80
JFY 2015	12.90	direct payment	1.78

 $<sup>*</sup>Designated\ Dairy\ Products\ include\ Butter,\ NFDM,\ Other\ Powdered\ Milk\ and\ Evaporated/Condensed\ Milk\ And\ Evaporated/Con$ 

Source: Ministry of Agriculture Forestry and Fisheries

For Factory Use Milk to Manufacture Domestic Natural Cheese

	Unit Subsidy Payment		Eligible Volume
	Yen/Kg.	Туре	Million MT
JFY 2014	15.41	direct payment	0.52
JFY 2015	15.53	direct payment	0.52

Source: Ministry of Agriculture Forestry and Fisheries

Table 3: Japanese Utilization of Fluid Milk for Drinking Milk Products

Unit: 1,000 Kilo Liters

							UIIII: 1,000 K	no Liters
					%			%
		2012	2013	2014	Chg.	2014	2015	Chg.
				Jan/De		Jan/Au	Jan/Au	
		Jan/Dec	Jan/Dec	С		g	g	
Total Drinking Milk Products		3,586	3,507	3,546	1	2,279	2,283	0
	Regular Milk	3,068	3,031	2,989	-1	1,966	1,983	1
	Processed Milk	518	476	468	-2	313	300	-4
Milk Beverages		1,331	1,367	1,330	-3	890	878	-1
Fermented Milk		984	1,003	1,001	0	679	704	4
Lactic Acid Bacteria Drinks		163	157	146	-7	101	105	3

Note: Processed Milk: low fat, high fat, vitamin and mineral fortified, calcium

enriched

Milk Beverages: flavored milk (coffee and fruit flavored)

Fermented Milk: Yogurt, etc. Source: ALIC Monthly

Table 4: Japanese Production of Dairy Products

Unit: Metric Ton

	2012	2013	2014	% Chg.	2014	2015	% Chg.
	Jan/Dec	Jan/Dec	Jan/Dec		Jan/Aug	Jan/Aug	
Butter	68,984	68,303	60,762	-11	43,588	45,791	5
Cream	112,995	113,502	116,911	3	75,475	74,795	-1
Whole Milk Powder	12,451	10,765	12,077	12	8,918	8,739	-2
Prepared Milk Powder	23,914	22,915	26,659	16	17,330	16,999	-2
Skim Milk Powder (NFDM)	138,598	136,354	119,844	-12	83,576	88,566	6
Ice Cream (Unit: kilo liter)	138,046	143,433	144,724	1	86,866	93,133	7

Source: ALIC Monthly

Table 5: Japanese NFDM Imports

Unit: Metric Ton

	2012	2013	2014	% Chg.	2014	2015	% Chg.
	Jan/Dec	Jan/Dec	Jan/Dec		Jan/Aug	Jan/Aug	
For School Lunch Program	1,966	1,924	1,874	-3	1,414	1,343	-5
For Feeds	26,886	22,361	24,040	8	16,337	16,245	-1
For ALIC plus other edible imports	3,436	7,996	16,611	108	9,004	20,094	123
Total NFDM Imports	32,288	32,281	42,525	32	26,755	37,682	41

Source: ALIC Monthly

Table 6: Monthly Ending Stocks of Butter and NFDM

Unit: 1,000 Metric Ton Butter % Chg. % Chg. % Chg. 2011 2012 2013 2014 2015 % Chg. 22.6 18.9 17.5 Jan -16% 21.9 16% 19.1 -13 -8 Feb 21.1 18.9 -11% 22.2 17% 18.2 -18 17.7 -3 3 Mar 20.6 19.1 -7% 23.5 23% 17.3 -26 17.8 21.3 19.4 -9% 24.4 25% 17.2 -29 18.3 Apr May 23.0 21.5 -6% 25.8 20% 18.0 -30 19.6 9 Jun 22.7 21.5 -5% 25.7 20% 18.4 -29 20.3 10 July 21.8 21.5 -1% 25.0 16% 17.1 -32 20.2 18 23.0 23.2 1% 24.5 6% 16.6 -32 20.0 20 Aug Sept 21.8 22.4 3% 23.0 2% 17.2 -25 Oct 20.6 21.3 3% 21.5 1% 15.4 -28 Nov 18.6 20.5 10% 20.0 -2% 17.1 -15 -16 18.0 13% 18.2 15.3 Dec 16.0 1% NFDM 2011 2012 2013 2014 2015 % Chg. % Chg. % Chg. % Chg. Jan 60.7 45.9 -24% 45.3 -1% 42.0 -7 40.7 -3 Feb 60.6 46.4 -23% 46.7 41.0 -12 43.3 1% 6 Mar 58.7 47.6 -19% 49.5 4% 40.3 -19 46.5 16 -17% 39.9 -23 47.6 19 58.2 48.2 52.1 8% Apr 58.2 -17% 53.3 -24 51.2 May 48.2 10% 40.6 26 -14% 13% 39.2 52.0 33 Jun 54.7 47.1 53.1 -26 July 50.3 44.9 -11% 50.7 13% 37.2 -27 51.7 39 Aug 47.1 43.2 -8% 48.3 12% 35.5 -26 50.4 42 Sept 42.9 39.7 -7% 44.1 11% 34.7 -21 Oct 40.4 36.7 -9% 40.3 10% 30.5 -24 Nov 39.1 36.6 -6% 38.0 4% 31.8 -16 Dec 41.8 40.3 -4% 40.3 0% 34.9 -13

Source: ALIC Monthly

Table 7: Average Wholesale Price of Dairy Products

Unit: JP Yen per Kg.

						Omi. Jr 16	in per rig.
Butter							
	2012	2013	% Chg.	2014	% Chg.	2015	% Chg.
Jan	1,140	1,224	7	1,237	1	1,320	7
Feb	1,142	1,233	8	1,240	1	1,320	6
Mar	1,158	1,233	6	1,239	0	1,319	6
Apr	1,172	1,236	5	1,275	3	1,375	8
May	1,179	1,237	5	1,278	3	1,355	6
Jun	1,189	1,237	4	1,281	4	1,374	7
July	1,192	1,236	4	1,295	5	1,378	6
Aug	1,203	1,237	3	1,309	6	1,374	5
Sept	1,212	1,237	2	1,305	5		
Oct	1,213	1,236	2	1,310	6		
Nov	1,217	1,237	2	1,321	7		
Dec	1,219	1,237	1	1,321	7		
NFDM							
	2012	2013	% Chg.	2014	% Chg.	2015	% Chg.
Jan	15,200	15,761	4	15,727	0	16,846	7
Feb	15,211	15,753	4	15,736	0	16,856	7
Mar	15,236	15,759	3	15,779	0	16,923	7
Apr	15,246	15,767	3	16,323	4	17,457	7
May	15,251	15,763	3	16,478	5	17,534	6
Jun	15,243	15,749	3	16,601	5	17,545	6
July	15,264	15,755	3	16,703	6	17,581	5
Aug	15,449	15,750	2	16,736	6	17,577	5
Sept	15,567	15,737	1	16,780	7		
Oct	15,638	15,729	1	16,794	7		
Nov	15,699	15,726	0	16,826	7		
Dec	15,685	15,728	0	16,835	7		
	•	•	•	•	•	•	•

Source: ALIC Monthly

Table 8: Japanese Butter Imports YTD

Unit: Metric Ton, Customs Clearance Basis

		C	alendar Year (J	Jan Dec.)		Year To Date (Jan Aug.)			
Partner Country	2012	2013	2014	% Change 2014/2013	Share (2014/2013	08/2014	08/2015	%Change	
World	9,774	3,888	10,914	181	100%	3,030	6,014	98	
New Zealand	4,753	2,997	6,103	104	56%	1,283	4,021	213	
Netherlands	1,989	149	2,322	1458	21%	438	976	123	
United States	986	223	1,297	482	12%	721	25	-97	
Germany	44	0	633	n.a	6%	419	599	43	
Australia	1,848	275	353	28	3%	67	66	-1	
France	144	230	170	-26	2%	96	214	123	
Others	10	14	36	157	0%	6	113	1783	

Global Trade Atlas (Source of Data: Japan Ministry of Finance)

Unit: United States Dollars per Metric Ton

		Calend	lar Year (Jai	1 Dec.)	Year To Date (Jan Aug.)			
Partner Country	2012	2013	2014	% Change 2014/2013	08/2014	08/2015	%Change	
World	3,516	4,558	4,458	-2	5,267	3,670	-30	
France	12,100	10,195	13,919	37	14,264	7,944	-44	
Germany	3,512	0	5,065	n.a	5,244	4,078	-22	
Australia	3,436	5,506	5,002	-9	6,919	5,691	-18	
Netherlands	3,634	5,742	4,673	-19	5,227	3,923	-25	
United States	3,596	3,885	4,503	16	4,494	4,053	-10	
New Zealand	3,212	4,014	3,996	0	4,952	3,272	-34	

Source of Data: Global Trade Atlas (Japan Ministry of Finance

Table 9: Japanese Cheese Imports YTD

Unit: Metric Ton, Customs Clearance Basis

D 4		Cale	ndar Year (Jai	n Dec.)		Year To Date (Jan Aug.)			
Partner Country	2012	2013	2014	%Change 2014/2013	2014 Share	08/2014	08/2015	%Chang e	
World	234,616	236,191	231,94 6	-2	100%	153,282	164,832	8	
Australia	93,505	94,428	79,444	-16	34%	53,061	58,630	10	
New Zealand	66,169	63,881	55,459	-13	24%	38,141	39,469	3	
United States	26,656	30,322	51,003	68	22%	34,416	26,516	-23	
EU Countries	44,229	43,758	41,941	-4	18%	25,481	38,185	50	
Argentina	3,588	3,367	3,213	-5	1%	1,686	1,761	4	
Canada	369	370	794	115	0%	458	225	-51	
Others	100	65	92	42	0%	39	46	18	

Source of Data: Global Trade Atlas (Japan Ministry of Finance)

Unit: United States Dollars per Metric Ton

		Calendar Year (J	Jan Dec.)			r To Date (Jan	lars per Metric Ton  Aug.)
Partner Country	2012	2013	2014	%Change 2014/20 13	08/2014	08/2015	%Change
World	4,956	4,735	5,122	8	5,170	4,315	-17
Australia	4,433	4,115	4,444	8	4,454	3,843	-14
New Zealand	4,263	4,029	4,738	18	4,827	3,977	-18
United States	4,836	4,814	4,797	0	4,699	4,840	3
Argentina	4,090	4,107	4,713	15	4,709	4,132	-12
Canada	4,104	3,964	4,495	13	4,387	4,687	7
Bulgaria	10,98 7	0	0	n.a.	0	0	n.a.
Estonia	0	0	0	n.a.	0	2,894	n.a.
Latvia	3,582	0	0	n.a.	0	0	n.a.
Lithuania	0	0	15,233	n.a.	0	15,228	n.a.
Switzerland	13,83	13,897	15,077	8	15,415	14,422	-6
Serbia	0	11,530	12,140	5	12,638	10,479	-17
Spain	8,848	11,408	11,497	1	10,972	10,438	-5
Sweden	10,47	10,858	11,474	6	11,698	9,815	-16
Norway	11,36 2	11,105	11,451	3	11,894	8,412	-29
Italy	10,64	10,654	10,621	0	11,053	8,656	-22
Cyprus	10,59 5	11,049	10,544	-5	11,353	11,289	-1
Greece	9,147	10,958	10,483	-4	10,935	9,003	-18
United Kingdom	8,740	8,384	10,016	19	10,448	8,276	-21
Austria	7,795	6,754	9,410	39	8,840	7,232	-18
France	9,795	8,840	8,490	-4	8,612	6,897	-20

Finland	7,681	8,752	8,447	-3	9,359	7,347	-21
Poland	8,153	8,484	8,408	-1	8,795	6,771	-23
Turkey	7,666	6,800	7,088	4	6,802	7,084	4
Denmark	6,911	6,689	6,944	4	7,413	4,892	-34
Belgium	4,455	4,419	5,105	16	5,241	3,903	-26
Ireland	4,252	4,244	5,093	20	5,221	4,245	-19
Netherland s	4,721	4,800	4,945	3	5,465	3,299	-40
Germany	4,137	4,415	4,801	9	5,202	3,367	-35
EU Average	7,120	7,132	8,142	14	7,711	7,128	-8

Source of Data: Global Trade Atlas (Japan Ministry of Finance)

Table 10: Japanese National Dairy Herd Year Beginning Inventory (as of February 1)

	2011	2012	% Chg.	2013	% Chg.	2014	% Chg.	2015	% Chg.
			N	ational Total					
Number of Farms	21,000	20,100	-4	19,400	-3	18,600	-4	17,700	-5
Number of National Dairy Herd Total (Head)	1,467,30 0	1,449,00 0	-1	1,423,00 0	-2	1,395,00	-2	1,371,00 0	-2
Average farm size (head)	70	72	3	73	2	75	2	77	3
Total Cows (Head)	932,900	942,600	1	923,400	-2	893,400	-3	869,700	-3
Cows in milk (Head)	804,700	812,700	1	798,300	-2	772,500	-3	750,100	-3
Dry Cows (Head)	128,200	129,900	1	125,100	-4	121,000	-3	119,600	-1
Heifer (Head)	534,400	506,400	-5	500,100	-1	501,200	0	501,600	0
				Hokkaido					
Number of Farms	7,500	7,270	-3	7,130	-2	6,900	-3	6,680	-3
Number of Hokkaido Dairy Herd Total (Head)	827.900	821,900	-1	806.800	-2	795,400	-1	792,400	0
Average farm size (head)	110	113	2	113	0	115	2	119	3
Total Cows	479,600	495,400	3	485,200	-2	470,300	-3	459,700	-2
Cows in milk (Head)	407,000	421,200	3	413,100	-2	401,000	-3	389,800	-3
Dry Cows (Head)	72,600	74,200	2	72,100	-3	69,400	-4	69,900	1
Heifer (Head)	348,300	326,600	-6	321,700	-2	325,100	1	332,700	2
			Prefectures	Other Than H	okkaido				
Number of Farms (Farms)	13,500	12,830	-5	12,200	-5	11,650	-5	11,000	-6
Number of Dairy Herd Total Other Than Hokkaido (Head)	639,400	627,100	-2	616,600	-2	599,600	-3	578,900	-3
Average farm size (head)	47	49	3	51	3	51	2	53	2
Total Cow	453,300	447,200	-1	438,200	-2	423,100	-3	410,000	-3
Cows in milk (Head)	397,700	391,500	-	385,200	-2	371,500	-4	360,300	-3
Dry Cows (Head)	55,600	55,700	0	53,100	-5	51,600	-3	49,700	-4
Heifer (Head)	186,100	179,800	-3	178,400	-1	176,100	-1	168,900	-4

Source: MAFF Livestock Statistics

Table 11: Japan's Imports of Designated Dairy Products under the Current Access/Additional Imports

Unit: Metric Ton

			Curr	ent Access				
	JFY 2012	Milk Equivalent Volume	JFY 2013	Milk Equivalent Volume	JFY 2014	Milk Equivalent Volume	JFY 2015	Milk Equivalent Volume
Butter	7,459	92,044	3,500	43,190	3,000	37,020	2,800	34,552
NFDM	0	0	8,768	56,817	9,178	59,473	10,000	64,800
Dairy Spread	800	9,872	225	2,777	500	6,170	330	4,072
Butter Oil	300	4,545	242	3,666	250	3,788	200	3,030
Whey/Prepared Whey	4,500	30,780	4,500	30,780	4,500	30,780	4,500	30,780
Subtotal		137,241		137,229		137,231		137,234
		Japan's Additio	nal Importatio	n of Designated I	Dairy Commodi	ties		
	JFY 2012	Milk Equivalent Volume	JFY 2013	Milk Equivalent Volume	JFY 2014	Milk Equivalent Volume	JFY 2015	Milk Equivalent Volume
Butter	2,000	24,680	0	0	10,000	123,400	10,000	123,400
NFDM	0	0	0	0	10,000	64,800	5,000	32,400
Sub-Total	2,000	24,680	0	0	20,000	188,200	15,000	155,800
Ground Total		161,921		137,229		325,431		293,034

Source: Agriculture and Livestock Industry Corporation

# Milk Equivalent Conversion Coefficients:

Butter	12.34
NFDM	6.48
Dairy Spread	12.34
Butter Oil	15.15
Whey Powder	6.84