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New Zealand

Dairy and Products Semi-annual

New Zealand Semi-Annual Dairy and Milk Supply Report 2017

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Report Highlights:
In a surprise turnaround, New Zealand 2017 milk supply is forecast to reach 21.9 million metric tons (MMT), which would surpass the record production of 2014. This is 3.5 percent above Post's initial forecast. Higher than expected cow numbers, favorable weather, and optimal pasture conditions and availability are behind this production boost. The record production will translate into higher total dairy production, which is forecast at 3.14 MMT. Total exports, including liquid milk, are forecast to reach 3.34 MMT, a 1.5 percent increase over 2016.

Executive Summary

In a surprise turnaround New Zealand 2017 milk supply is forecast to increase to 21.9 million metric tons (MMT), surpassing the record production of 2014. The combination of factors behind this 3% year-on-year increase include: higher than expected cow numbers; very high first quarter 2017 milk production; and good cow conditions and good pasture conditions, which should result in high milk production in the spring.

Actual 2016 milk production totaled 21.2 MMT, 0.4% less than had been expected.

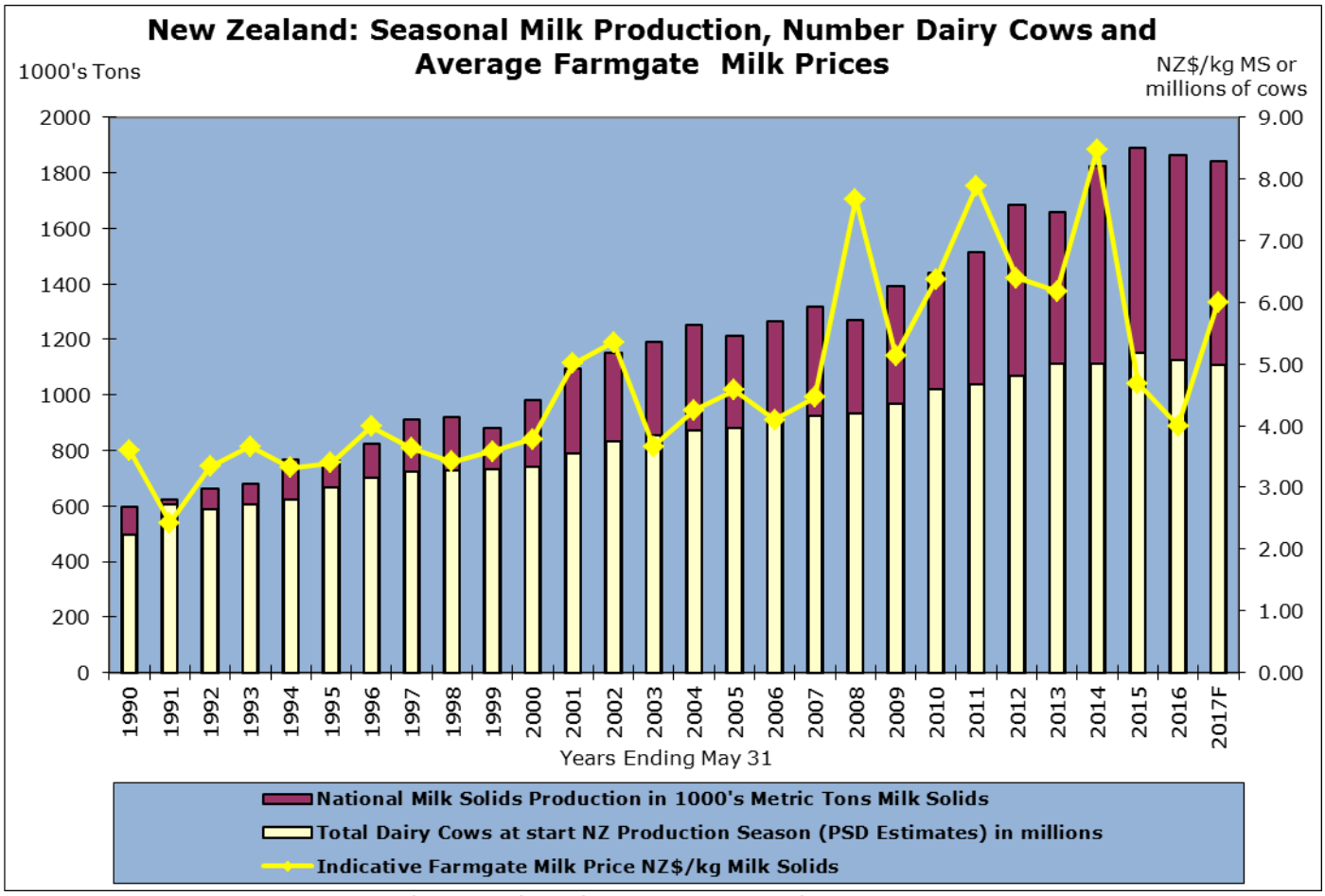
Post forecasts 2017 dairy production at 3.14 MMT, a 3.2% increase on Post's revised 2016 production total of 3.04 MMT. Again, this is a complete turnaround from Post's October forecast and is the result of the increased 2017 milk supply flowing directly into production.

The production mix is likely to change marginally to match the changing international prices of the various dairy commodities. The pricing and demand for butter and anhydrous milkfat (AMF) have been relatively good over the last twelve months and are forecast to continue in the near term. However, skim milk powder (SMP) is in a price trough that is not likely to change in the short term, making fat/SMP production less profitable now. Further processed protein commodities, such as casein and milk protein concentrate (MPC), combined with fat production are relatively more profitable. However, the markets for further processed protein commodities are limited and could be readily oversupplied. Whole milk powder (WMP) is now favored on a relative price basis. Post forecasts that in general, 2017 WMP, butter/AMF, casein, MPC, and infant milk formula ingredients will be favored for production at the expense of SMP and cheese.

WMP, which comprises 44% of total production, is forecast to reach 1.37 MMT for 2017, a 3% year-on-year increase. This should mean 1.36 MMT is available for export, a 1% increase over 2016. Stock levels are forecast to be maintained from start to the end of the year. In 2016, ending stock levels were run down to an estimated 28,000 MT in order to accommodate 1.34 MMT in exports. 2017 exports of all dairy products, including liquid milk, are forecast at 3.34 MMT, a 1.5% year-on-year increase. The slower rate of export growth compared to production growth in 2017 is because ending stocks are expected to increase.

1/ Note: The GAIN Dairy Marketing Year (MY) is the same as the calendar year (CY), January 1 to December 31. In the report "2016" is used which means the marketing year (MY2016) and the calendar year (CY2016). The reference to Financial Year (FY) refers to the New Zealand farming financial year which is June1, to May 31 so FY2016 refers to the period June 1, 2015 to May 31, 2016.

Milk Supply



Sources: MAF, LIC, Posts own estimates, StatsNZ

2016

Actual milk production for 2016 was 21.2 million metric tons (MMT), 0.4% less than Post's last estimate. This puts the 2016 total at 1.7% less than the 2015 total and 3.2% below the peak production of 2014. Even though the revised cows in milk number is now estimated at 4.995 million (m) head, 45,000 head (or 0.9%) greater than had been expected, the cold wet spring in 2016 (August to October) reduced pasture supply and per cow performance more than anticipated.

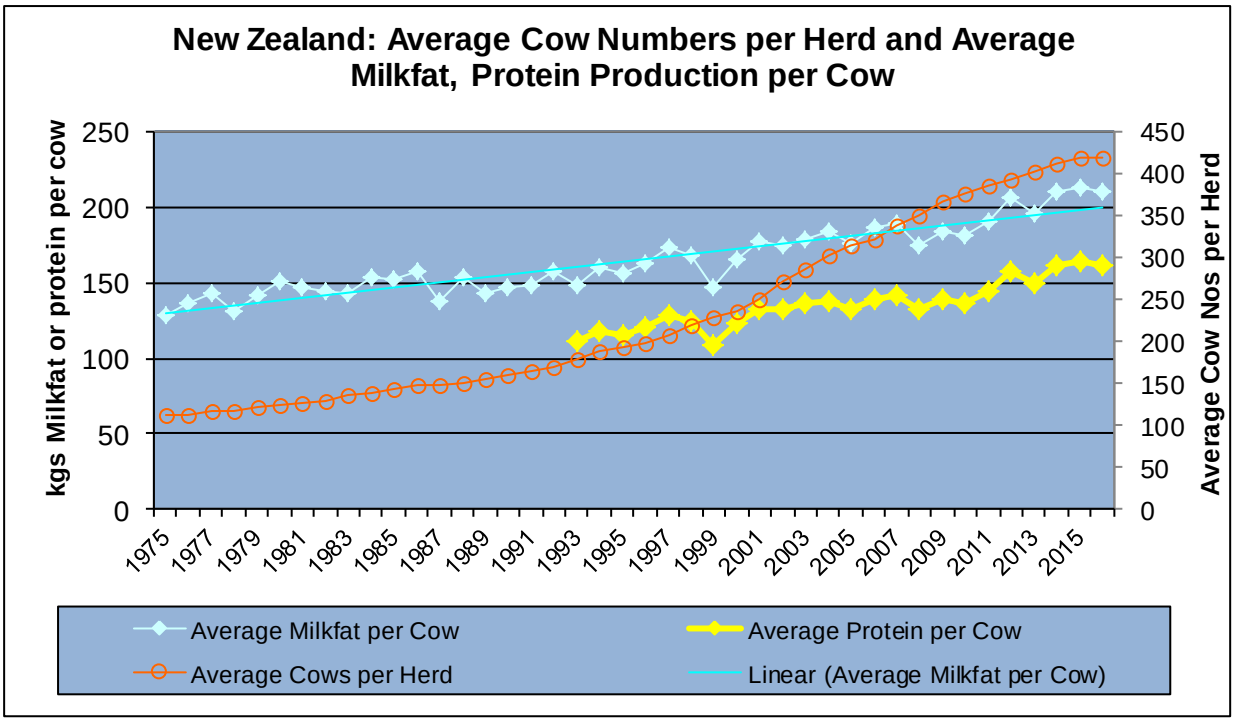
2017

Post forecasts a significant re-bound in milk production for 2017. The forecast total of 21.9 MMT is a 3% jump over 2016 and 3.5% above Post's previous forecast. Factors for this increase include:

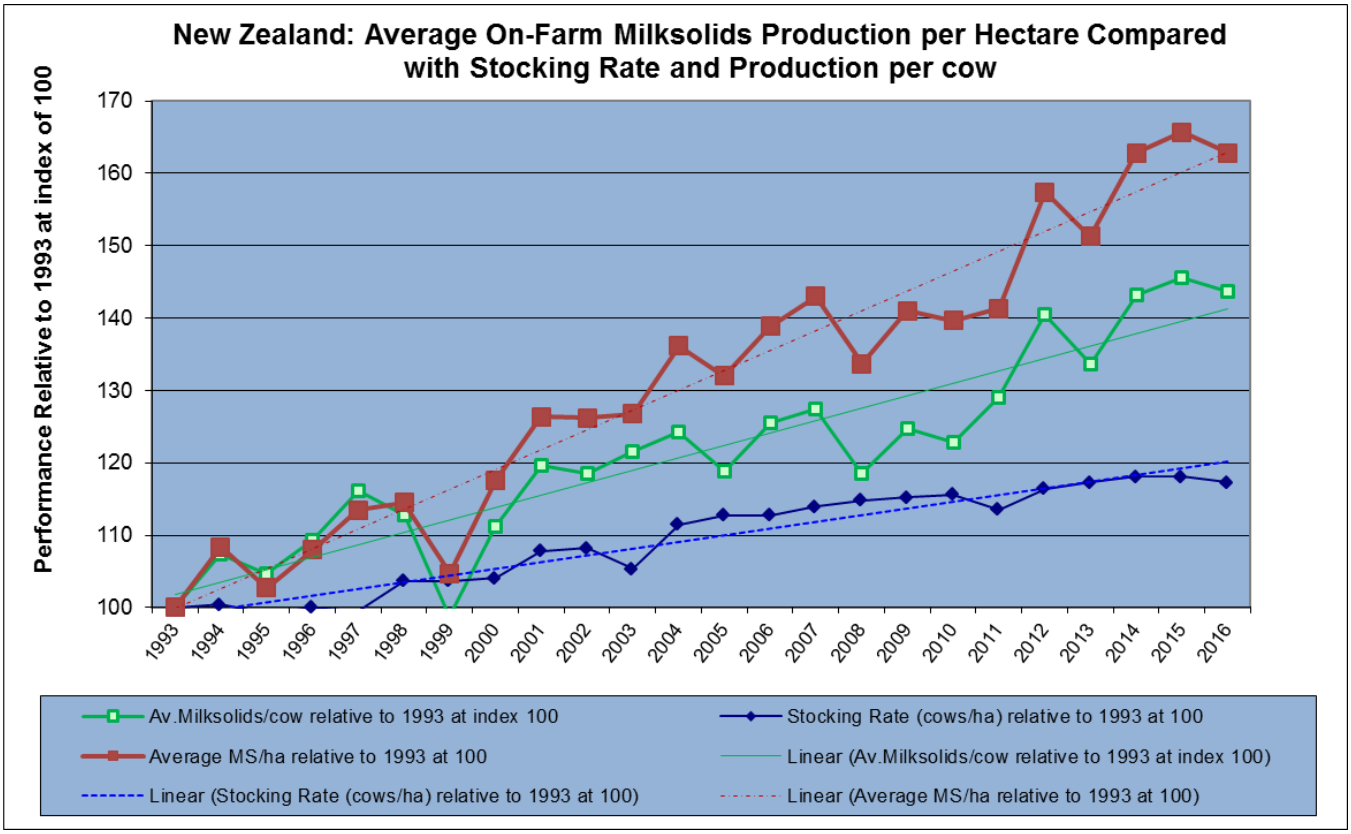
- In-milk cow numbers have not been reduced by nearly as much as previously expected. At an estimated 5m head, this is 100,000 head (or 2%) greater than had been previously forecast.

- Initial 2017 production was strong with first quarter (January to March) production at a record and 3.2% above first quarter 2016 production.

- Weather conditions over the whole of New Zealand have been very favorable for pasture growth from February to April.
- Pasture supplies are very good throughout the country.
- In general, cows are going into winter and the non-lactating period in good condition.
- Feed supplement supplies of grass and corn silage are adequate and could be readily augmented with imported Palm Kernel Extract.
- Financially for dairy farmers the 2016/2017 year has been successful. The milk solids price will be just over NZ$ 6/kg (USD 4.14), more than 50% higher than 2015/2016. This is boosting farmer confidence, which will flow through to extra farm inputs being purchased if necessary.



Source: DairyNZ



Source: DairyNZ

PSD Milk

Dairy, Milk, Fluid (1000HD, 1000MT)	2015 Market Year Begin: Jan 2015		2016 Market Year Begin: Jan 2016		2017 Market Year Begin: Jan 2017	
New Zealand	Official	New Post	Official	New Post	Official	New Post
Cows In Milk	5056	5056	4950	4995	4900	5000
Cow's Milk Production	21582	21587	21370	21224	21600	21904
Other Milk Production	0	0	0	0	0	0
Total Production	21582	21587	21370	21224	21600	21904
Other Imports	2	2	2	2	2	2
Total Imports	2	2	2	2	2	2
Total Supply	21584	21589	21372	21226	21602	21906
Other Exports	171	171	265	243	300	273
Total Exports	171	171	265	243	300	273
Fluid Use Dom. Consum.	497	497	497	497	500	500
Factory Use Consum.	20866	20871	20560	20436	20752	21083
Feed Use Dom. Consum.	50	50	50	50	50	50
Total Dom. Consumption	21413	21418	21107	20983	21302	21633
Total Distribution	21584	21589	21372	21226	21602	21906
CY Imp. from U.S.	0	0	0	0		0
CY. Exp. to U.S.	0	0	0	0		0
TS=TD	0	0	0	0	0	0

Not official USDA estimates

Dairy Production

Dairy Production at a Glance

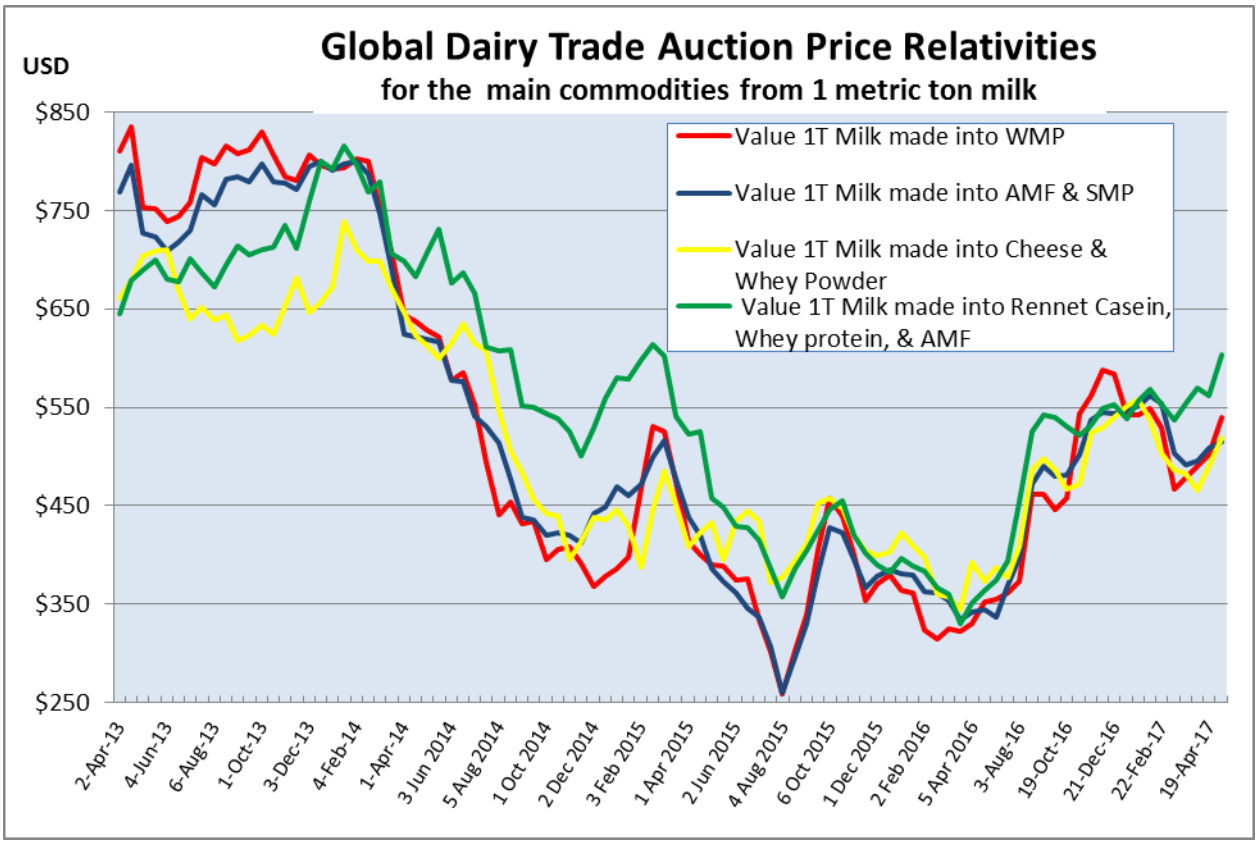
New Zealand Summary Table for Estimated Dairy Production					
Commodity Group	2015	2016		2017	
(1000s Metric Tons)	Firm Estimate	Estimate	% change from prev. year	New Forecast	% change from prev. year
WMP	1,380	1,330	-3.6%	1,370	3.0%
SMP	410	414	1.0%	410	-1.0%
Butter/AMF	604	584	-3.3%	610	4.5%
Cheese	355	360	1.4%	370	2.8%
Sub-Total PSD Commodities	2,749	2,688	-2.2%	2,760	2.7%
Casein & Caseinates	109	100	-8.3%	105	5.0%
Whey Products	32	43	34.4%	45	4.7%
Milk Protein Concentrates	81	93	14.2%	100	8.1%
Other Products	56	53	-5.4%	55	3.8%
Infant Milk Formula	34	61	79.4%	70	14.8%
Subtotal Rest of Dairy	312	350	12.0%	375	7.3%
Total Production	3,061	3,038	-0.8%	3,135	3.2%

Source: Post estimates Note: Butter/AMF line has the AMF adjusted to butter equivalents

Post forecasts 2017 dairy production at 3.14 MMT, a 3.2% increase on Post's revised 2016 production total of 3.04 MMT. Again, this is a complete turnaround from Post's October forecast and is the result of the increased 2017 milk supply flowing directly into production.

At present, the Global Dairy Trade (GDT) Auction prices favor the production of WMP and further processed protein products, such as casein, milk protein concentrates, whey protein products together with butter or anhydrous milkfat (AMF) (see chart below). However, markets for further processed protein products are limited, so New Zealand dairy processors will fall back on SMP production as the protein product of last resort in order to produce enough butter/AMF to satisfy demand for fat products. There is some talk that the current high international prices for butter and AMF are a bubble, which may burst before the end of the year. If this is the case, then WMP will become the product of choice for the extra milk produced in spring 2017 (August to November).

Cheddar cheese production will still take place in the spring to help process the peak milk supply in October and November. The peak supply period can overwhelm processing capacity. However there is enough new drier capacity compared to 2014 and 2015, which were particularly tight, that will reduce the need for higher cheddar cheese production other than is strictly necessary.



Source: GDT, GTA, Post estimates

Dairy Exports at a Glance

New Zealand Summary Table for Dairy Product Export Quantities					
Commodity Group (1000s Metric Tons)	2015	2016		2017	
	Actual	Actual	% change from prev. year	New Forecast	% change from prev. year
WMP	**1,380**	**1,344**	-2.6%	**1,356**	0.9%
SMP	**411**	**444**	8.0%	**408**	-8.1%
Butter/AMF	**552**	**554**	0.4%	**582**	5.1%
Cheese	**327**	**355**	8.6%	**344**	-3.1%
Liquid Milk	**171**	**243**	42.1%	**273**	12.3%
Sub-Total PSD Exports	**2,841**	**2,940**	3.5%	**2,963**	0.8%
Casein	**109**	**100**	-8.3%	**105**	5.0%
Whey Products	**32**	**43**	34.4%	**45**	4.7%
Milk Protein Concentrates	**81**	**93**	14.2%	**100**	8.1%
Other Products	**56**	**53**	-5.4%	**55**	3.8%
Infant Milk Formula	**34**	**61**	79.4%	**70**	14.8%
Total Exports	**3,153**	**3,290**	**4.3%**	**3,338**	**1.5%**

Source: GTA, Post estimates. Note: Butter/AMF line has the AMF adjusted to butter equivalents

Product Specific Production and Trade

Whole Milk Powder (WMP)

Post has revised its forecast for 2017 WMP upward by 4% to reach 1.37 MMT. This equates to a 3% year-on-year increase. This extra production will translate into an additional 12,000 MT going to exports. At the same time closing inventories are forecast to remain steady at 141,000 MT. If the price bubble for butter/AMF bursts in 2017 and the price for WMP relative to butter/AMF improves, then WMP production could further increase at the expense of AMF/SMP production.

The 2016 production of WMP was revised upward by 5,000 MT to 1.33 MMT. Beginning to end stocks were run down by 28,000 MT in order to facilitate exports of 1.344 MMT, which was 2.2% above previous expectations.

Post forecasts 2017 WMP exports at 1.36 MMT, which is a year-on-year increase of 1% and an upward revision of 4% from Post's previous estimate. The reason for the turnaround is the positive change in the pricing for WMP relative to the other commodities and the increase in milk supply.

New Zealand Export Statistics for Whole Milk Powder						
Annual Series: 2011 - 2016						
	Quantity (metric tons)					
Partner Country	2011	2012	2013	2014	2015	2016
China	302,261	423,435	622,133	587,631	354,291	389,079
Algeria	79,602	75,426	32,752	95,030	121,129	166,570
United Arab Emirates	67,700	91,893	76,635	112,579	125,488	96,795
Sri Lanka	64,398	56,927	45,339	47,154	57,764	67,137
Malaysia	38,218	41,703	36,829	59,448	82,358	51,111
Bangladesh	29,115	31,144	22,558	30,465	39,039	42,876
Thailand	30,760	30,132	31,609	38,799	44,921	42,522
Saudi Arabia	37,701	42,512	27,548	45,485	45,073	42,190
Vietnam	24,422	31,146	23,758	33,571	49,340	38,708
Singapore	36,634	30,635	35,123	39,331	40,031	38,438
Rest of World	398,824	406,325	337,176	333,448	420,980	368,231
World	**1,109,635**	**1,261,278**	**1,291,460**	**1,422,941**	**1,380,414**	**1,343,657**
Av. FOB price USD/MT	$3,780	$3,404	$4,290	$4,255	$2,551	$2,361

Source: GTA

The destinations for WMP exports are unlikely to change much in 2017, except for volumes to Algeria. Given the Algerian Government's control of the tendering process, export volumes can be volatile depending on whether or not an exporter wins or loses a tender offer. Volumes shipped to China are rising and could be expected to increase again in 2017.

PSD

Dairy, Dry Whole Milk Powder New Zealand (1000MT)	2015		2016		2017	
	Market Year Begin: Jan 2015		Market Year Begin: Jan 2016		Market Year Begin: Jan 2017	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Beginning Stocks	180	180	169	169	190	141
Production	1,380	1,380	1,350	1,330	1,360	1,370
Other Imports	7	7	5	4	5	4
Total Imports	7	7	5	4	5	4
Total Supply	1,567	1,567	1,524	1,503	1,555	1,515
Other Exports	1,380	1,380	1,315	1,344	1,380	1,356
Total Exports	1,380	1,380	1,315	1,344	1,380	1,356
Human Dom. Cons.	3	3	4	4	4	4
Other Use, Losses	15	15	15	14	15	14
Total Dom. Cons.	18	18	19	18	19	18
Total Use	1,398	1,398	1,334	1,362	1,399	1,374
Ending Stocks	169	169	190	141	156	141
Total Distribution	1,567	1,567	1,524	1,503	1,555	1,515
CY Imp. from U.S.	0	0	0	0	0	0
CY. Exp. to U.S.	0	4	0	2	0	2
TS=TD	0	0	0	0	0	0
(1000 MT)						

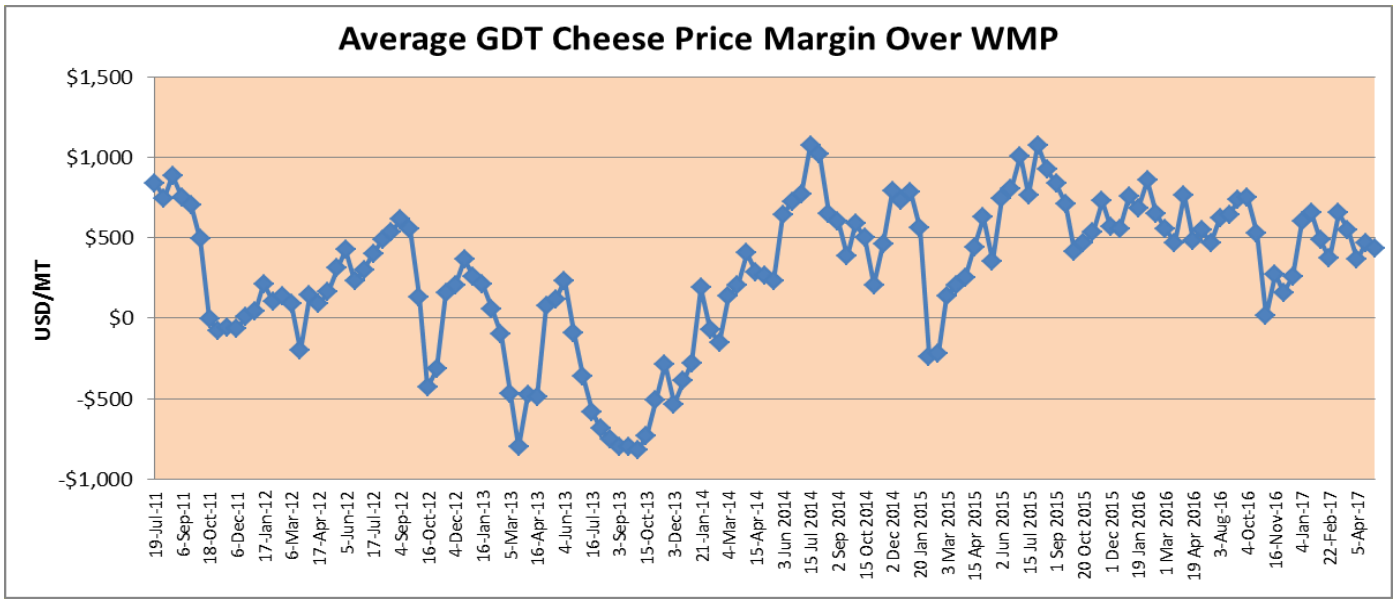
Not official USDA estimates

Milk powder production capacity will be augmented in the North Island with the construction of a new drier by Open Country Dairy (OCD) in the heart of the Waikato. The processing facility is expected to start operating in mid-2018. The factory will be capable of producing 40,000 MT of milk powder with technology suitable to meet exacting specifications for specific functional ingredients. Waikato regional milk supply is likely to be quite stable over the next 3 to 5 years, so OCD will probably need to take market share away from Fonterra to get enough milk.

Cheese

Post forecasts 2017 cheese production at 370,000 MT, representing a 3% increase over Post's revised estimate for 2016 production of 360,000 MT. It is estimated cheese ending stocks were run down in 2016 by 20,000 MT in order to ship out 355,000 MT of exports (3% greater than the previous estimate).

Exports in 2017 are forecast at 344,000 MT, 3% less than 2016. However, ending stocks are forecast to be maintained at the opening stock level. Cheddar cheese exports will be reduced but offset to some degree by fresh cheese export increases.



Source: GDT Auction data

Based on recent GDT auction results for cheddar cheese, the relative value per ton of milk is now less than WMP (or a casein/MPC/whey protein/fat production mix) and on par with SMP/ AMF streams. The per ton price of cheddar is now hovering at or below the USD $500/MT margin over WMP that is needed to make cheddar production more profitable than WMP. However fresh cheese, especially mozzarella, is in high demand in China and South East Asia. Fonterra's innovative process, which can manufacture mozzarella quickly and snap freeze the product, so it can shipped offshore promptly has reduced costs and is very profitable. Extra production capacity has been built and more is to follow.

New Zealand Cheese and Curd Export Statistics						
Annual Series: 2011 - 2016						
	Quantity (MT)					
Partner Country	2011	2012	2013	2014	2015	2016
Australia	46,471	45,619	37,661	43,174	51,294	61,959
Japan	61,175	64,754	64,296	57,515	55,045	61,345
China	13,536	17,852	21,367	28,923	39,550	51,668
Korea South	20,085	25,457	21,728	12,110	14,929	19,730
United States	1,876	12,588	945	6,926	16,915	16,715
Indonesia	8,800	13,352	11,036	10,959	14,122	15,935
Philippines	10,186	12,545	11,729	12,335	15,654	15,805
Saudi Arabia	6,940	18,862	11,775	12,749	12,122	11,190
Taiwan	6,865	5,936	7,464	8,069	8,883	9,208
Malaysia	4,712	6,031	6,098	6,750	9,044	8,607
Rest of the World	72,212	82,651	82,787	78,462	89,212	82,943
World Total	**252,858**	**305,647**	**276,886**	**277,972**	**326,770**	**355,105**
Av. FOB price USD/MT	**$4,271**	**$3,855**	**$4,179**	**$4,591**	**$3,563**	**$3,381**

Source: GTA

PSD

Dairy, Cheese New Zealand	2015		2016		2017	
	Market Year Begin: Jan 2015		Market Year Begin: Jan 2016		Market Year Begin: Jan 2017	
(1000 MT)	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Beginning Stocks	64	64	65	65	43	45
Production	355	355	350	360	355	370
Other Imports	8	8	11	10	11	9
Total Imports	8	8	11	10	11	9
Total Supply	427	427	426	435	409	424
Other Exports	327	327	345	355	340	344
Total Exports	327	327	345	355	340	344
Human Dom. Cons.	35	35	38	35	40	35
Other Use, Losses	0	0	0	0	0	0
Total Dom. Cons.	35	35	38	35	40	35
Total Use	362	362	383	390	380	379
Ending Stocks	65	65	43	45	29	45
Total Distribution	427	427	426	435	409	424
CY Imp. from U.S.	0	1	0	2	0	2
CY. Exp. to U.S.	0	17	0	17	0	16
TS=TD	0	0	0	0	0	0

Not official USDA estimates

Skim Milk Powder (SMP)

Post forecasts 2017 SMP production at 410,000 MT, or 1% less than the 2016 total. The 2016 production number has been revised upward by 14,000 MT (3.5%) to 414,000 MT in light of the better than anticipated export volume. Even so it is still estimated that 2016 ending stocks were reduced by 32,000 MT in order to accommodate the export outflow. Post forecasts that this will not continue in 2017 and ending stocks will be the same as the beginning stocks.

Post forecasts 2017 SMP exports at 408,000 MT, 8% less than 2016. This is a 6% revision above the previous forecast.

The world is oversupplied with SMP at present and internatonal prices are languishing at the bottom of the price cycle with no end in sight in the near term. However SMP is the initial co-product of the butter/AMF production process, so it will continue to be produced in New Zealand at levels comparable to recent years in order to maintain fat production, which is in high demand.

New Zealand Skim Milk Powder Export Statistics						
Annual Series: 2011 - 2016						
	Quantity (MT)					
Partner Country	2011	2012	2013	2014	2015	2016
China	77,474	100,851	132,527	114,949	122,926	107,627
Philippines	33,712	30,738	34,958	30,591	32,668	41,247
Malaysia	33,871	34,593	36,106	33,376	31,272	39,439
Indonesia	23,524	37,413	33,780	26,918	24,021	32,470
Thailand	29,899	22,545	15,816	20,580	25,838	27,078
Singapore	18,678	21,269	23,575	29,049	35,266	24,038
Algeria	18	8,717	6,606	3,400	5,233	22,375
Vietnam	5,876	13,648	10,496	7,901	18,483	19,373
Taiwan	11,962	12,055	14,841	18,674	20,655	18,476
Saudi Arabia	26,781	23,761	10,112	17,768	14,738	12,885
Rest of the World	99,830	84,034	73,152	79,764	80,214	99,049
World Total	**361,625**	**389,624**	**391,969**	**382,970**	**411,314**	**444,057**
Av. FOB price USD/MT	**$3,510**	**$3,244**	**$4,149**	**$4,110**	**$2,337**	**$1,967**

Source: GTA

PSD

Dairy, Milk, Nonfat Dry New Zealand	2015		2016		2017	
	Market Year Begin: Jan 2015		Market Year Begin: Jan 2016		Market Year Begin: Jan 2017	
(1000 MT)	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Beginning Stocks	113	113	110	110	58	78
Production	410	410	400	414	410	410
Other Imports	5	5	5	3	5	4
Total Imports	5	5	5	3	5	4
Total Supply	528	528	515	527	473	492
Other Exports	411	411	450	444	425	408
Total Exports	411	411	450	444	425	408
Human Dom. Cons.	7	7	7	5	7	6
Other Use, Losses	0	0	0	0	0	0
Total Dom. Cons.	7	7	7	5	7	6
Total Use	418	418	457	449	432	414
Ending Stocks	110	110	58	78	41	78
Total Distribution	528	528	515	527	473	492
CY Imp. from U.S.	0	0	0	0	0	0
CY. Exp. to U.S.	0	0	0	0	0	0
TS=TD	0	0	0	0	0	0

Not official USDA estimates

Butter and Anhydrous Milk Fat

Note: All the below tonnages are expressed in butter equivalents

Post forecasts 2017 butter and AMF production at 610,000 MT, a 4.5% increase on the revised 2016 total of 584,000 MT. This upward revision is due to very good demand for butter and AMF and the increased milk supply. 2016 production was revised downward because exports at 554,000 MT were 16,000 MT less than had been expected.

The increased production volume for 2017 will lead to increased exports of 582,000 MT, a 5% year-on-year increase and a 1.2% upward revision from Post's previous forecast. Post expects ending stocks to remain constant.

The volume of butter and AMF exports are spread over the various destinations more evenly than the other main commodities. For example, in 2016 38% of the volume of AMF and butter went to destinations outside the top ten markets. This can be compared to WMP, SMP, and cheese at 27%, 22%, and 23% respectively for volumes exported to destinations outside of each category's top ten markets.

New Zealand Cheese and Curd Export Statistics						
Annual Series: 2011 - 2016						
	Quantity (MT)					
Partner Country	2011	2012	2013	2014	2015	2016
Australia	46,471	45,619	37,661	43,174	51,294	61,959
Japan	61,175	64,754	64,296	57,515	55,045	61,345
China	13,536	17,852	21,367	28,923	39,550	51,668
Korea South	20,085	25,457	21,728	12,110	14,929	19,730
United States	1,876	12,588	945	6,926	16,915	16,715
Indonesia	8,800	13,352	11,036	10,959	14,122	15,935
Philippines	10,186	12,545	11,729	12,335	15,654	15,805
Saudi Arabia	6,940	18,862	11,775	12,749	12,122	11,190
Taiwan	6,865	5,936	7,464	8,069	8,883	9,208
Malaysia	4,712	6,031	6,098	6,750	9,044	8,607
Rest of the World	72,212	82,651	82,787	78,462	89,212	82,943
World Total	**252,858**	**305,647**	**276,886**	**277,972**	**326,770**	**355,105**
Av. FOB price USD/MT	**$4,271**	**$3,855**	**$4,179**	**$4,591**	**$3,563**	**$3,381**

Source: GTA

PSD

Dairy, Butter New Zealand	2015 Market Year Begin: Jan 2015		2016 Market Year Begin: Jan 2016		2017 Market Year Begin: Jan 2017	
(1000 MT)	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Beginning Stocks	53	53	80	82	73	86
Production	600	604	580	584	575	610
Other Imports	1	1	2	2	1	2
Total Imports	1	1	2	2	1	2
Total Supply	654	658	662	668	649	698
Other Exports	552	552	565	554	570	582
Total Exports	552	552	565	554	570	582
Domestic Cons.	22	24	24	28	25	30
Total Use	574	576	589	582	595	612
Ending Stocks	80	82	73	86	54	86
Total Distribution	654	658	662	668	649	698
CY Imp. from U.S.	0	0	0	0	0	0
CY. Exp. to U.S.	0	20	0	15	0	15
TS=TD	0	0	0	0	0	0

Note AMF product weight tonnages are multiplied by 1.25 to get butter equivalents; not official USDA estimates

Other Products

Liquid Milk

The export of UHT liquid milk and creams is becoming a significant diversification for many of the New Zealand dairy processors. Total exports in 2016 reached 243,000 MT, which was a 42% increase on 2015 but 8% less than expected. This volume only used 1.1% of the milk supply in 2016. For 2017, Post forecasts that 273,000 MT of liquid UHT milk and cream will be exported, which would use 1.3% of the total milk supply. The dynamics of this category are changing quickly. The markets in China for straight UHT drinking milk in 250 milliliter packets have become very competitive with increased quantities in the marketplace driving the price down. High fat UHT creams being used as an ingredient for baking are an alternative product, which is doing very well. Differing package sizes, fat, and protein specifications can find niche markets, which are profitable.

In addition, the manufacturing process for UHT milks and creams can be complicated, which can lead to downgrades for occasional batches of milk. Most producers encounter this from time to time.

Imports

Lactose

Imported lactose is used as an ingredient in WMP production in order to standardize the protein content. As WMP production has been reduced, the need for as much lactose has also reduced. In 2016, Post estimates78,160 MT was imported, which was 10% below 2015. The United States supplied 82% of

this total. For 2017, imports are likely to be 78,000 to 80,000 MT, a slight rise as WMP production moves up again.