• International dairy commodity prices strengthened from already high levels in the three months to mid-December.
• Exportable supply has been rising since September as producers respond to improved margins brought about by high milk prices and falling feed costs.
• Export supply has been largely soaked up by vigorous buying from China, with prices thus staying firm to ration demand among other buyers.
• We expect 2014 to bring a further increase in China’s dairy purchases from the world market.
• A strong Northern Hemisphere production season, on the back of an exceptional season in the Southern Hemisphere, should generate more than enough exportable supply to exceed China’s additional needs in 1H 2014, loosening the market somewhat.
• Rabobank expects prices to hold around current highs before easing from mid/late Q2 2014.
• Even then, the rate of price reduction will be limited by structural constraints on suppliers, the need to replenish depleted buyer inventories, and ongoing demand growth in line with a slow economic recovery.

Prices

A small softening in international dairy commodity prices in October and November was more than offset by an uptick in early December, leaving prices up on already high levels in the three months to mid-December. WMP held above 5,000 USD/tonne in fob Oceania trade, while prices of other key commodities rose between 3% and 7% over the period as processors in the Southern Hemisphere switched milk toward the higher yielding WMP stream.

Global prices have remained high despite the supply taps now being turned up in key export regions. Responding to high milk prices and falling feed costs, and blessed by generally excellent weather, producers in the Big 7 export regions boosted milk production by 3% YOY in both August and September, with early data showing similar momentum in October.

But as anticipated, the impact of rising milk production on exports has lagged and been muted due to the lack of stocks available to drawdown compared to 12 months prior and improving consumption in some export regions. The volume of dairy product shipped out of the Big 7 export regions fell at double-digit rates in YOY terms through July and August, before finally piercing marginally above prior year levels for the first time in seven months in September.

While we believe that exportable supply expanded in the October to December period (for which data remains incomplete), there are several reasons the market remained exceptionally tight.

The world’s biggest importer, China, continued to buy exceptionally large volumes of product from the international market to supplement falling local milk supply. Increased buying from this giant is likely to have soaked up most, if not all, of the increase in exports arising from key surplus regions in Q4.

This has left the rest of the buy side of the international market again with less product to go round. Having been on reduced rations for four quarters now, many of the buyers in these regions (including South East Asia (SEA), the Middle East (ME) and North Africa) have almost certainly whittled away all meaningful backup stocks, and are struggling to secure enough product to sustain sales of key lines.

With export supply only in the infancy of recovery, China mopping up whatever increase has been available on the world market and other buyers almost desperate to secure more product after a period of prolonged belt-tightening, prices have had to edge up even further in Q4 to ensure the required rationing of supply.

2014 is shaping up to be an intriguing period for the global dairy market. We will enter the new year with exceptionally strong dairy prices, which are now manifest in extremely strong/record farmgate milk prices in export and import regions alike. Meanwhile, the prices of commodity feeds such as soybeans and corn have fallen 10% to 40% below prior year levels in US dollar terms, opening up large margins for milk producers in intensive feeding regions.

Pricing will be determined by the strength of the supply response to this significant improvement in margins and the extent to which an improving economy and pent-up demand can soak up the additional supply growth, despite the inflation of retail dairy prices.
Supply side

EU

- Many factors aligned to generate a wave of strong milk supply growth in Europe in 2H 2013.
- Weighted average milk prices across the EU were 20% higher YOY for September with some countries, such as Belgium (32.6%), Germany (29.7%) and the Netherlands (29.7%), rising by an even greater margin. FrieslandCampina’s guaranteed milk price for December sat at EUR 44 cents/kilogramme.
- Feed bills have gradually fallen, but while considerably below the highs of last winter, ration costs are still in line with or slightly higher than those seen in 2010 or 2011.
- In regions where quota is still binding, farmers have the capacity to grow another 1% in the current season without penalty. Moreover, the margins are so large that in some countries producers will be better off over producing and just paying the fine (the Superlevy is currently set at EUR 27.83 cents/kilogramme on marginal production).
- Finally, the weather has been favourable in most production regions, especially when compared to the difficult prior year conditions.
- With the incentive, capacity and conditions to expand, EU milk production rose by 3.6% above prior year levels in the three months to October. Almost all of this growth has been driven by the Big 6 EU dairy producers (Germany, France, the Netherlands, Italy, the UK and Poland) plus Ireland.
- Growth has been most rapid in the Netherlands, where farmers have been adding cows ahead of a potential cap on animal numbers being debated by the Dutch government to meet EU environmental requirements.
- While EU milk supply rose, domestic consumption of dairy products has continued to fall through 2H 2013 due to poor economic conditions and rising prices (see demand section).
- Rising supply and falling demand will inevitably free up additional supply for export. However, this was not yet evident in Q3 trade data due to lags in the flow of milk through the supply chain and low stock levels.
- Rabobank expects EU milk production growth to remain strong in 1H 2014 (up 2.6% YOY), fuelled by strong margins, the easing of quotas (and incentive to exceed them) and assumed average weather compared to the poor season in the prior year.
- Local market requirements should stabilise as employment levels do likewise on the back of a slow economic recovery. But a return to consumption growth is unlikely in 2014. This will ensure product is available for a major increase in EU exports in 1H 2014 (+18% 1H 2014).
- The rate of growth in production will likely slow somewhat in 2H (on stronger comparables, somewhat lower milk prices and in a year in which quotas will not increase), also slowing the rate of export growth.

US

- US milk prices edged up during Q4 on already strong levels, with the all milk price likely to come in at above USD 21/cwt in December—up 10% from March levels, and just shy of its record (USD 22/cwt).
- But the bigger shift was in feed costs, which fell almost 30% from their March highs by December as a new and very large harvest arrived onto the market.
- Rising milk prices and falling feed costs saw producer margins open up like crocodile jaws through Q4—with the average IOFC for US milk producers up 93% by December from the dire levels evident in March, approaching highs not seen since 2007.
- Despite the striking improvement in spot margins (which turned positive from September onwards), US milk production grew by less than 1% YOY in the September/October period, despite weak year-ago comparables.
- Several factors appear to be temporarily delaying the supply response, including forward contracting of feed at higher prices and the poor quality of forage in the market.
- Thankfully, for those buying milk, US dairy consumption growth remained pretty weak through 2H 2013 (see demand section below), with rising retail dairy prices and cuts to welfare programmes partly counteracting rising employment.
- In contrast, exports boomed as processors took advantage of falling supply in other regions and firm international demand. Outgoing shipments rose 37% in volume terms over prior year levels in Q3, with similar growth evident in October.
- Stock levels were drawn down considerably though Q3 and into October as a result—eliminating the excessive levels that had accumulated through the middle of the year.
- Rabobank expects spot margins (in terms of IOFC) to slowly decline for US farms as 2014 progresses, as a softening world market exerts downward pressure on US milk prices. However, margins will remain profitable throughout given the exceptional starting point.
- In past decades, such margins were typically associated with milk supply growth of between 3% and 3.5% pa.
- There are several reasons to expect that the supply response will be less vigorous in 2014, even once the temporary drags outlined above come to pass early in the year.
New Zealand

- First, after a period of loss making, many producers are looking to build equity for a period rather than invest further in the sector immediately. Second, among those who do want to invest, bank finance is not as freely available as it was several years prior. Thirdly, uncertainty regarding immigration reform is impacting the appetite of some to invest even where they can. And finally, of those that are investing, a share of farmers is investing in more ground to grow more of their own feed rather than in cows and sheds.

- Accounting for these factors, Rabobank expects that US milk production will rise by 2% in 1H 2014, and around the same in 2H (on stronger comparables).

- Local demand for dairy will improve in 2014 as the economy continues to slowly recover (up 1.5% in 1H 2014 and slightly less in 2H).

- Even with a relatively modest rate of supply growth, these assumed domestic demand levels would leave US processors with the firepower to launch another major push into export markets in 1H 2014—with another period of 30% YOY growth entirely feasible.

- Rabobank expects full season production growth through Q2 2014 to come in at 7%—effectively underwritten by the favourable seasonal conditions to date and a record milk price forecast. Market returns from largely powder streams would indicate a milk price at NZD 9.00/kilogramme milk solids (MS). However, Fonterra has chosen to maintain its September forecast for the 2013/14 season at NZD 8.30/kilogramme MS (up 51% or NZD 2.80/kilogramme MS on the same period last year). The implication is that farmers will utilise supplementary feed whenever necessary to overcome any climatic issues or feed deficits arising.

- Exports peak seasonally through Q4 and are likely to exceed the record Q4 2012 given the exceptionally strong October volumes and continued modest YOY milk production increases. Exports in 1H 2014 are expected to lift at least 5% on the prior year.

- The potential for further upside in milk production from Rabobank’s base estimate remains. With very high milk prices, farmers may utilise supplementary feed to a greater extent than usual, particularly to extend lactation through Q2 2014.

- Milk production in 2H 2014 (the start of a new New Zealand season) can be expected to be a modest improvement on 2H 2013. While the fantastic seasonal conditions are unlikely to be repeated, this will be offset by the incremental growth from new dairy herds as a strong milk price (although not as high as the exceptional current price) will be conducive to further milk production growth.

- Buoyant global market conditions and weak competition from other land uses means the inevitable slowdown in New Zealand milk production growth due to resource constraints will likely be delayed until the milk price no longer outweighs the barriers to growth.

Australia

- In Australia, challenging seasonal conditions in many regions have negatively impacted milk flows. National production volumes for the season-to-date were down 4.2% at the end of October. All dairy regions recorded falls in production, except Northern Victoria, where volumes were unchanged.

- Dairy export flows from Australia continue to track below year-ago levels, reflecting the low milk production volumes. In the past three months (to October), volumes totalled 174,000 tonnes. This was 9.5% less than the same period last year. There were falls in most product streams, with the largest falls recorded for SMP (-43%), WMP (-22%) and cheese (-17%).

- With the peak production months now passed, it is unlikely the sector will meet early expectations for milk growth this season.

- However, most dairy regions should experience a healthy finish to the season on the back of improved milk prices, falling supplementary feed costs and late spring conditions. This should see production volumes recover somewhat.

- Expectations among the dairy processors in the southern export regions are for end of season farmgate milk prices to finish in the range of AUD 6.10/kilogramme MS to AUD 6.30/kilogramme MS.

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**Figure 2: Milk production growth in key export regions, Aug 2013-Oct 2013**

<table>
<thead>
<tr>
<th>YOY change (percent)</th>
<th>Aug-13 through Oct-13</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Oct-13</td>
</tr>
<tr>
<td>EU</td>
<td>4.4</td>
</tr>
<tr>
<td>US</td>
<td>1.0</td>
</tr>
<tr>
<td>NZ*</td>
<td>3.0</td>
</tr>
<tr>
<td>Australia</td>
<td>-4.9</td>
</tr>
<tr>
<td>Argentina</td>
<td>3.3</td>
</tr>
<tr>
<td>Brazil</td>
<td>12.8</td>
</tr>
<tr>
<td>Total*</td>
<td>3.7</td>
</tr>
</tbody>
</table>

* *Rabobank estimates

Source: Rabobank, AMI, USDA, DA, CEPEA, Alimentos Argentinos, 2012
As a result, Rabobank expects milk supply to edge higher by 1.9% in 1H 2014, which will generate a small increase in exportable surplus.

The better conditions in the back half of the season will see Australia’s national milk production for 2013/14 now finish down 1% at 9.1 billion litres.

**Brazil**

- The Brazilian supply engine has been switched on in earnest in recent months.
- The price of farmgate milk peaked in October after increasing for nine consecutive months, reaching an all-time record of BRL 1.12/L (USD 0.49). This represents a 27% gain on prices paid in October 2012. Farmgate milk prices softened fractionally in November and December.
- With the price of key commodity feeds falling sharply in 2H 2013, the ratio of milk to corn is now also at record levels—ensuring exceptionally strong profitability on farm.
- Buoyed by strong returns, solid ongoing investment in dairy farms and favourable weather, milk production rose 9% in the three months to October, according to CEPEA estimates. This was the fastest growth seen in these peak months since 2007.
- Ironically, while Brazil’s supply engine has restarted, its demand engine has spluttered. The economy contracted in Q3, and inflation is on the rise—snuffing out consumption growth during the period.
- Strong supply growth and slowing demand have enabled Brazil to reduce imports through most of 2013. Incoming shipments were down 1.2% YOY in September and down 7% YTD.
- Rabobank expects that Brazil’s milk production will continue to show solid growth in 1H 2014 (up 3.5%) as producers continue to capitalise on strong margins.
- With only modest growth expected in the economy in 2014, consumption will likely rise only slowly. This should enable Brazil to further reduce imports in 2014 (conceivably by up to 30%).

**Argentina**

- Argentina is set to provide a useful contribution to boosting global milk supply in 2014, but its response will likely be weaker and shorter lived than its potential suggests.
- Weather conditions have been favourable for cow conditions and milk production in recent months.
- In line with global market trends, the Argentine milk-to-feed price ratio improved considerably over 2013, with attractive margins opening up for farmers by the end of the year as milk prices rose and feed costs fell.
- It could have been even better. Amidst an unstable economic and regulatory environment, there has been little investment in processing capacity in recent years, which will limit the competition for milk.
- In part reflecting this, milk prices, while up, are well short of those being paid to farmers in other export regions when converted to the same currency.
- Although it is more of a short-term issue, corn and soybean prices are also falling less than on the world market in 2H 2013, reflecting concerns over the late planting of the current crop and farmers holding off from selling soybeans in hopes that the currency will fall further still.
- Nonetheless, Argentine milk production grew solidly through Q3 and will continue to do so through 1H 2014 (Rabo forecast up 5%)—recovering ground lost in 2012 and boosting export supply by around 220 kt LME in 1H 2014.
- But the rate of supply growth will likely slow in 2H 2014 as the industry hits capacity constraints and weaker signals are passed through to farmers—with export growth slipping considerably as a result.
Demand side

The market environment for dairy demand remained very poor through Q4 2013. Modest improvements in economic conditions delivered little to consumers and prices generally rose at the retail level. In markets where conditions remained encouraging for demand growth, industries struggled to get their hands on enough milk to grow the category.

Sales continued to contract in the EU (20% of global consumption). While the economy expanded for the second quarter in a row in Q3, the pace of growth slowed (0.1% YOY) and remains well short of that required to generate employment or meaningful income growth. While most companies were reluctant to pass on rising milk and commodity costs, retail dairy prices did edge up in many categories in late 2013. This contributed to contractions in sales volumes of between 2%-4% YOY in most product categories in Germany and France in Q3 and early Q4. Other countries fared better: UK fluid milk sales were up 1.5% YOY in October. However, aggregate EU consumption is assumed to have fallen through to year end.

The US market (15% of global consumption) fared better, though not as well as headline economic news would seem to suggest. GDP rose by a perky 3.6% annualised rate in Q3, and employment growth has surprised on the upside in recent months. But underemployment remains a major issue. Moreover, the temporary expansion of the SNAP programme (i.e. food stamps) and unemployment benefits extension, both introduced during the recession, ended in November and December respectively, reducing spending power for millions of poorer Americans.

With dairy prices also now rising in the US, some categories have found growth elusive. Fluid milk contracted 3.1% Q3 YOY on very weak prior year comparables, with Nielsen data suggesting October was worse. Cheese sales have thankfully held up better (commercial disappearance was up 3% YOY in Q3) as rising sales in foodservice offset what appears to have been some loss of recent momentum in retail cheese. Yoghurt continues to generate solid growth, buoyed by rising product recognition, recent capacity expansions and promotion. Growth in cheese and yoghurt have offset declining fluid sales, enabling the US market to return to growth after contraction in 1H 2013.

Among the BRICs, economic performance has been uncharacteristically poor in recent months due to various combinations of domestic policies, weaker commodity prices, pedestrian global trade and structural bottlenecks. Brazil’s economy actually contracted in Q3. Russia’s expanded just over 1%, India’s by a comparatively anaemic 4.8%, but China’s did accelerate to 7.8%. Retail prices are also rising sharply in many of these countries.

Available evidence suggests that slower growth appears to be impacting the expansion of the dairy category in these countries. Moreover, in Russia and China, the maths of product availability (declining production insufficiently offset by rising imports) make it hard to build a case that dairy consumption actually rose at all in 2013.

In international trade, Chinese buying remained vigorous, again squeezing out most other regions. The Big 7 exporters shipped out 6.5% less product in Q3, yet China increased purchases by 17%, leaving the rest of the market with less product from the world market for the fourth consecutive quarter.

Rabobank expects the market context for dairy demand to improve as 2014 progresses.

We expect the global economy to start picking up steam next year, with GDP growth increasing from 3.25% this year to 3.75% in 2014. In contrast to the post global financial crisis years to date, the US and the eurozone will account for more than half of this growth acceleration.

The EU dairy market should stabilise in 2014. The rate of economic growth (forecast at 0.75% in 2014) should be sufficient to stabilise employment levels and see some uplift in hours worked. This should help counter some additional price inflation early in the year. Rabobank expects dairy consumption to stabilise at prior year levels in both 1H and 2H 2014 as a result, ending 18 months of contraction.

The growth in US dairy consumption should improve further in 2014. The economy should grow faster and continue to generate additional jobs and rising income levels, but this could be tempered by the expiry of enhanced social welfare payments introduced during the recession, and most likely by further cuts to the SNAP programme if a new Farm Bill is finally passed. Moreover, fluid milk will likely remain in structural decline. The net result will likely be 1.5% consumption growth in dairy in 1H 2014, and slightly less in 2H (as comparables get stronger).

Demand for dairy will strengthen modestly in emerging markets in 2014. Though the rate of economic growth will remain higher than in OECD countries, and will be somewhat better than in 2013, 2014 will be another sluggish year by the standards these regions have set over the last five years. Retail dairy price inflation will also be a headwind. But with product availability improving, as production stabilises and China’s tradable supply picks up, dairy consumption will again rise at a decent clip.

Rising exportable supply will improve, enabling key regions that were pushed from the table by exceptional Chinese buying in 2013 to again get a decent feed. Increased purchases from these regions (including SEA, the ME and North Africa) are expected to be a key feature of the marketplace in 2014.
Outlook

Rabobank expectations

- 1H 2014 will bring a period of very strong growth in exportable supply from the world’s key surplus regions, as producers respond to high milk pricing, low feed costs (and in the EU, additional quota expansion). Milk supply in these regions is forecast to rise 3% YOY during the period, as the tail end of a strong Southern Hemisphere production season overlaps with a strong Northern Hemisphere season.

- While consumption in some export regions will also rise, the rate of growth for surplus regions as a group will be limited by slow employment growth and the stagnancy of EU demand, limiting consumption growth in these regions to around 1% YOY in 1H 2014.

- Rising milk supply should therefore generate a large increase in exportable supply (forecast up 17% YOY in 1H 2014—or by 4 billion litres in LME terms) for the international market.

- Facing consumption growth in the low single digits, and only steady local production, Chinese purchases from the world market are expected to rise in the region of 15% to 20% in 1H 2014 (or by 1 billion litres in LME terms).

- This will soak up a share of increased international supply, but leave around 3 billion litres of additional export supply to be shared among other buyers in 1H 2014.

- With economies generally improving in emerging/deficit markets, and stocks at critical lows, this product is expected to be bought up eagerly.

- However, pricing will need to ease somewhat to ensure this occurs, reflecting the less strict rationing of supply required from around mid/late Q2 when the Northern Hemisphere season peaks.

- 2H 2014 will likely see a further modest easing of pricing, with supply continuing to rise fast enough to loosen the market further—though the extent of easing will be limited by improving demand, assuming the world economy remains on a slow recovery track.

- Developments that would lead to a higher or lower price outlook than presented here are outlined below.

Upside influences

- While we anticipate strong supply growth in 1H 2014, we will enter the year with low levels of unsold stock in all regions of the world compared to what is typical at this time of year. That leaves the market particularly exposed to adverse weather events that may crimp the second half of the Southern Hemisphere season in Q1 or disrupt the Northern Hemisphere season in Q2.

- The Chinese market remains fairly opaque, and deducing what is going on there requires both art and science. If Chinese milk production continues to fall in 2014 (rather than stabilise), import growth will exceed our estimates, and provide further support to prices.

- Venezuela has slashed its purchases from the world market in the year to date. There is a chance it will return to the market to replenish local supply, despite local economic troubles.

Downside influences

- We have stated our assumption that US milk supply will respond less strongly to the exceptional margins on offer in 2014 than in previous cycles. If it does rise by the 3% to 3.5% typically associated with these levels, we will have a lot more milk (particularly in the form of SMP/fat) on the world market in 1H 2014.

- Emerging market buyers (besides China) may not come back to the market with the same force we anticipate, given the slowdown in their economies.
**Figure 6: Quarterly dairy commodity prices (historic and forecast)**

<table>
<thead>
<tr>
<th>World (FOB Oceania)</th>
<th>Q4-2012</th>
<th>Q1-2013</th>
<th>Q2-2013</th>
<th>Q3-2013</th>
<th>Q4-2013</th>
<th>Q1-2014</th>
<th>Q2-2014</th>
<th>Q3-2014</th>
<th>Q4-2014</th>
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<tbody>
<tr>
<td>Whole milk powder USD/tonne</td>
<td>3,338</td>
<td>3,804</td>
<td>5,202</td>
<td>4,956</td>
<td>5,009</td>
<td>4,950</td>
<td>4,800</td>
<td>4,500</td>
<td>4,300</td>
</tr>
<tr>
<td>Skim milk powder USD/tonne</td>
<td>3,388</td>
<td>3,685</td>
<td>4,835</td>
<td>4,625</td>
<td>4,616</td>
<td>4,700</td>
<td>4,600</td>
<td>4,200</td>
<td>4,100</td>
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<tr>
<td>Butter USD/tonne</td>
<td>3,263</td>
<td>3,683</td>
<td>4,321</td>
<td>4,006</td>
<td>4,081</td>
<td>4,000</td>
<td>3,800</td>
<td>3,600</td>
<td>3,500</td>
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<tr>
<td>Cheddar cheese USD/tonne</td>
<td>3,098</td>
<td>4,083</td>
<td>4,529</td>
<td>4,404</td>
<td>4,550</td>
<td>4,700</td>
<td>4,600</td>
<td>4,500</td>
<td>4,400</td>
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<tr>
<td>Sweet whey powder USD/tonne</td>
<td>1,344</td>
<td>1,315</td>
<td>1,396</td>
<td>1,398</td>
<td>1,369</td>
<td>1,400</td>
<td>1,325</td>
<td>1,300</td>
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<table>
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<tr>
<th>US (AMS announced)</th>
<th></th>
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<th></th>
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<tbody>
<tr>
<td>NFDM USD/lb</td>
<td>1.51</td>
<td>1.55</td>
<td>1.62</td>
<td>1.76</td>
<td>1.87</td>
<td>1.98</td>
<td>1.94</td>
<td>1.76</td>
<td>1.71</td>
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<tr>
<td>AA butter USD/lb</td>
<td>1.75</td>
<td>1.56</td>
<td>1.63</td>
<td>1.43</td>
<td>1.53</td>
<td>1.57</td>
<td>1.50</td>
<td>1.41</td>
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<tr>
<td>Block Cheddar USD/lb</td>
<td>1.96</td>
<td>1.68</td>
<td>1.79</td>
<td>1.73</td>
<td>1.83</td>
<td>1.84</td>
<td>1.85</td>
<td>1.82</td>
<td>1.80</td>
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<tr>
<td>Whey powder USD/lb</td>
<td>0.64</td>
<td>0.63</td>
<td>0.58</td>
<td>0.58</td>
<td>0.58</td>
<td>0.60</td>
<td>0.57</td>
<td>0.56</td>
<td>0.57</td>
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<tr>
<td>Class III milk USD/cwt</td>
<td>20.17</td>
<td>17.44</td>
<td>18.04</td>
<td>17.65</td>
<td>18.71</td>
<td>18.42</td>
<td>18.34</td>
<td>18.03</td>
<td>17.88</td>
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<tr>
<td>Class IV milk USD/cwt</td>
<td>18.34</td>
<td>17.71</td>
<td>18.62</td>
<td>18.99</td>
<td>20.71</td>
<td>21.52</td>
<td>20.83</td>
<td>18.93</td>
<td>18.43</td>
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Source: Rabobank forecasts, USDA, 2013