

Insights on Today's Global Dairy Business from the Hoogwegt Companies

Market Matters

Fat-Filled Milk Powder: No Longer a Bit Player

Fat-filled milk powders (FFMPs) are blended using vegetable oil instead of butterfat, and during these times of high butterfat prices, they provide an affordable alternative to whole milk powder (WMP). FFMPs help keep dairy ingredients within reach of consumers in many developing markets and contribute to global demand for milk proteins.

Production of FFMPs has expanded rapidly in recent years, driven by the need to address the global surplus of skim milk powder (SMP), coupled with growing demand for dairy proteins in price-sensitive markets. Post-quota, milk expansion in Europe and the Russian ban on cheese imported from the European Union drove higher levels of production as processors looked for alternative markets. The 2016 surge in European butterfat prices provided an opportunity to sell surplus proteins in price-sensitive markets via FFMP, while retaining butterfat for regional markets.

Stable veg oil prices boost demand

Stable, competitive vegetable oil prices (see chart) helped build demand for FFMPs at a time when butterfat values were high and volatile. This growing demand for FFMPs in price-sensitive markets effectively capped prices for WMP over the past couple of years.

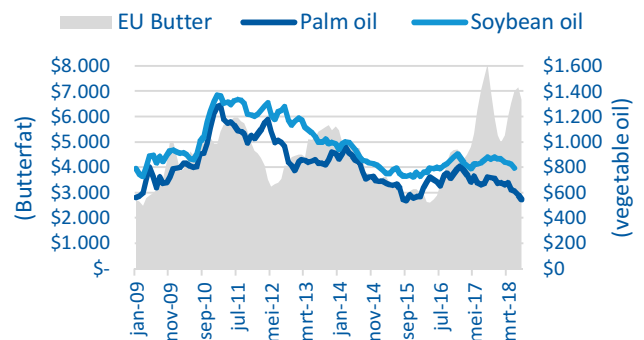
Europe has driven most of the expansion in FFMP output, aided by relatively low barriers to investment in mixing and drying facilities for existing milk powder processors. Using SMP as a raw material, some production also occurs close to the market, for example, in Southeast Asia and Central America.

FFMPs come in a range of specifications suited to customer use, with the percentage of fat typically between 26% and 28% and protein content varying in a very wide range. Manufacturers of FFMPs must be well versed in customer specifications because these will vary based not only on applications but also by country. In some cases, countries prohibit or discourage the use of FFMPs.

These fat-filled powders are used in reconstituted and as ingredients in bakery, ice cream, yogurt, and home cooking. Variations using sweeteners and other dairy ingredients, such as

buttermilk powder, to enhance flavor are also available. The manufacturing process uses either a skim milk concentrate or powder, depending on geographic location.

Butterfat vs. vegetable oil prices (U.S.\$/MT)



Source: USDA; Index Mundi

The major markets for these products have emerged in price-sensitive developing regions of Sub-Saharan Africa, the Middle East, and some countries in Central America. Growth elsewhere has been limited.

Poor data makes getting an accurate picture of trade and balance sheets difficult. The Harmonized Commodity Description and Coding System (HS code) used in international trade that generally includes FFMP is 190190, but that code also covers a wide range of other mixtures including dairy. There isn't a specific tariff-line code for FFMPs, and even use of codes is inconsistent across exporters and importers.

On the supply-side, production data is limited. EU annual data (sourced from Eurostat) blends FFMPs with other mixtures, and no separate reporting is available from the United States or New Zealand.



Hoogwegt Forecast

	U.S. Average Prices			EU Average Prices			Oceania Average Prices		
	\$/ton	\$/lb	Trend	\$/ton	\$/lb	Trend	\$/ton	\$/lb	Trend
SMP	1.875	0,85	Firm	1.950	0,88	Firm	2.050	0,93	Stable
FCMP/WMP	3.200	1,45	Stable	3.300	1,50	Firm	3.000	1,36	Stable
Butter	5.270	2,39	Firm	6.500	2,95	Firm	5.000	2,27	Weak
Cheddar	3.570	1,62	Stable	3.850	1,75	Firm	3.750	1,70	Stable
SWP	880	0,40	Firm	975	0,44	Firm			
Lactose	770	0,35	Stable	800	0,36	Stable			

U.S. prices stated ex-works / incl. expected CWT subsidy where applicable; world prices stated FOB main port; EUR/USD: this week 1,14

World Comment

Global milk production growth is still positive but not very convincing. Especially Europe is suffering from a long period of hot, dry weather. As well forecasts for Argentina, Brazil and Australia are not very optimistic. On the other side; New Zealand is preparing for a strong milk season, with favorable pasture conditions and well above break-even milk prices. Last available milk production numbers from China look positive, although in China there are concerns about the weather as well. USA milk production is expected to stay around 1% increase year on year. Based on these modest milk production increase, combined with a healthy cheese market, we can expect less milk to be allocated to commodities. However buyers are in no panic and in no rush to purchase their needs, coverage is at or slightly below normal levels. Recently Indian government has announced export subsidies on SMP to clear the local excess stocks and as well Turkey is currently able to offer competitively, this on top of the 300.000mts SMP still in EU Intervention stock is likely part of the reason SMP buyers are still relaxed even though downside seems very limited. WMP is still readily available in both Oceania and South-America, partly caused by import license issues in Algeria. All in all quite some mixed signals and an interesting period ahead of us.

Bring it Home

Future of FFMPs Based on Several Factors

High butterfat prices paved the way for FFMPs in 2016 and 2017, with the biggest growth in demand for FFMPs coming from economies most affected by weak prices for crude oil and other mined commodities, making these regions sensitive to the soaring cost of butterfat.

Supply and demand challenges lie ahead that could affect relative fat and protein values. For instance, the gradual release of EU Intervention stocks of SMP could reduce some of the competitiveness of FFMPs should SMP prices rise, encouraging an increase in milk output. More milk could improve the availability of butterfat, potentially easing prices, and lower butterfat prices could reduce some of the competitiveness now enjoyed by FFMPs. However, with greater consumer acceptance of butterfat's health advantages, butterfat prices are not expected to retreat to pre-2016 levels, and that likely keeps a sizeable gap

between butterfat values and vegetable oil prices for the foreseeable future.

Consumers in Africa and the Middle East could return to WMP if prices for crude oil and other mined commodities recover and political stability returns to these regions. At the same time, growing consumer acceptance of FFMPs—due in part to innovation that provided FFMPs with versatile functionality and taste profiles comparable to WMP—could prevent a major shift back to WMP.

The vegetable oil market, which also plays a role, is expected to remain stable, especially with palm oil production looking strong, but a change in climatic patterns could quickly alter the outlook.

As the dairy market adjusts, it is unclear whether the European Union will remain the dominant supplier of FFMPs. The size of the market creates room for new low-cost producers.

Did You Know?

The price premium for WMP over SMP has averaged \$1,050 (U.S.) per metric ton (MT) since November 2016, compared to less than \$200/MT in the preceding five years, based on quotes from AgriHQ NZ.

Palm oil is not only a significantly cheaper form of fat than butterfat, but prices on palm oil have experienced far less volatility (14% variation from the average) over the past five years, compared to butterfat (25% variation).

Infant formulas, a high-end form of FFMPs, are made from a blend of vegetable oils, fatty acids for functional development, and adjusted protein types to closely resemble breast milk.

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