

THE INGREDIENT MARKET

# Whey & Lactose: Market Fueled by High Protein

How the production of whey and lactose in the global and emerging markets is developing and how Asia is the major driver for global demand.

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The supply of whey is mainly driven by cheese production, which accounts for approximately 95% of the world's liquid whey and is forecasted to grow by approx. 2% annually. The remaining 5% of

whey production stems from casein production, which is rather stagnant. Demand for whey ingredients, however, has been growing much faster, at approx. 4-5% on average across all whey and lactose ingre-

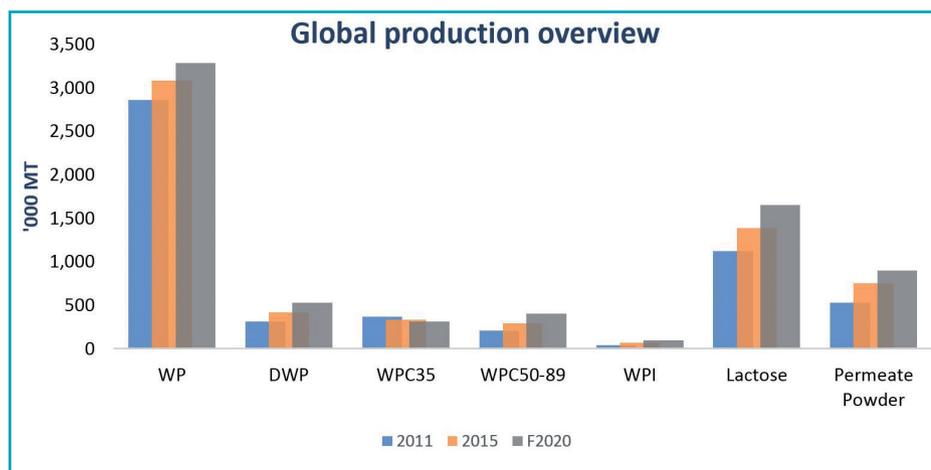


Figure 1: Global overview of historic and forecasted production of whey and lactose ingredients

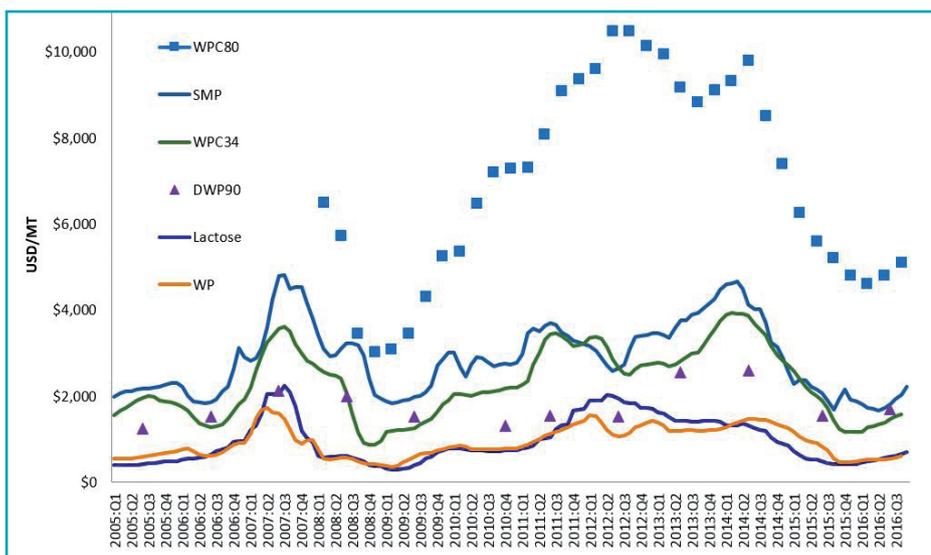


Figure 2: The market forecast for whey ingredients is continued growth

dients, while the most dynamic ingredients have grown by approximately 10% annually.

Both nutritional markets such as infant nutrition, sports nutrition and clinical/medical nutrition and commodity markets such as food and animal feed, are driving this development.

Major international dairy companies are increasingly looking to secure additional future whey streams, as whey has become a key strategic resource in the dairy market.

Whey Still Dominates

Whey Powder (WP) remains the dominant whey product in terms of both volume and value in 2015, closely followed by Whey Protein Concentrates (WPC) with protein concentrations of 50-89% in value terms. In 2015, the EU accounted for 64% of global WP production and North America for 16%. Most of the remaining production taking place in Latin America and Russia-Belarus-Ukraine.

North America, on the other hand, is the dominant production region of WPC 50-89%, accounting for close to half of global production, followed by the EU and Oceania, which account for 31% and 13% respectively.

However, while 40% of WPC 50-89 produced in the EU is estimated to have protein concentrations of less than 80%, 95% of North American and virtually all of Oceanian WPC 50-89% production is WPC 80.

Forecasted Production

Figure 1 gives a global overview of historic and forecasted production of whey and lactose ingredients.

The general trend in the whey ingredients market is high growth for high-end products, with WPC 80 and Whey Protein Isolate (WPI) having exhibited the highest growth rates between 2011 and 2015.

The nutritional sectors, particularly sports and performance nutrition products, are the main driving industry sectors for the strong growth in high end protein ingredients.

Other strong growth markets include weight loss, clinical nutrition and nutritional products, targeting the aging populations wish to stay active and retain muscle mass.

Also growing strongly has been the production of Demineralized Whey Powder (DWP), of which the EU supplies more than 75% globally.

Growth in production of this whey ingredient has been largely demand driven, mainly by the infant formula sector with DWP 90 (90% demineralization) in particu-

lar is being applied in these products.

Production of low-end WPCs, on the other hand, is rather stagnant from a global perspective.

New production comes on stream in emerging whey processing regions, whereas the traditional whey processing regions generally convert production into higher-value adding.

### Inside the Lactose Market

In the market for lactose ingredients, the EU and North America are the two main regions for production, collectively producing almost 80% of lactose and more than 90% of permeate powder supply, globally.

The EU is the dominant region for the production of lactose, while North America dominates permeate powder supply, particularly the US. Large investments have been made in lactose production in recent years.

This is leading to significant growth, which is expected to continue towards 2020.

While North America and the EU will be the main driving regions of growth in the lactose ingredient market, the production of lactose is also growing in developing regions, and permeate powder production in Latin America.

This is the only other region to produce significant volumes of permeate powder, is also growing steadily.

Despite growing production in the developing regions of Latin America and Eastern Europe, it is evident that the EU and North America (in particular the US),

remain the dominant regions for supply of whey and lactose products.

### Commodities Growth

Whey powder accounts for around 70% of total global demand for whey products (excluding lactose and permeate powder) and is showing decent growth rates in several regions. For the remaining 30% - the refined whey products - the global market has increased by +6% annually between 2011 and 2015, however. WPC80 and WPI having shown double-digit growth during the same period.

This trend towards more demand for high end WPCs is expected to continue at the expense of less refined whey ingredients. The EU remains the major market for all whey powder and most refined ingredients except the high end WPCs, whereas North America is the major market. Demand however is stagnating in most categories, but less so for the high-end products. On the other hand, Latin America and particularly Asia, are experiencing growing demand in all whey categories. Asia has manifested its position as the number two global market for WP and DWP, only surpassed by the EU.

In terms of lactose demand, the Asian market is assuming the position as the second largest market after the EU. For permeate powder, Asia is also the second largest market in 2015 behind North America.

### Price Level Volatility

The price level for whey and dairy ingredients reached a historically high level in 2007, after a period of very stable prices. The simple explanation for the 2007 development is that demand for dairy products and dairy ingredients exceeded supply.

The disappearance of surplus stocks, including SMP intervention stocks in both Europe and the US, combined with a reduction in milk supplies in major producing regions, resulted in a market imbalance.

### A Global Oversupply

In early 2014, most ingredient prices were close to their peak in 2007, however by mid-2014, prices on both whey and lactose products were declining. This is due to global oversupply of milk and lack of demand for dairy products and dairy ingredients.

Whey and lactose prices are usually fairly volatile and strongly reflect the global supply and demand situation for milk and dairy commodities in general. The decline in whey and lactose prices has lasted until late-2015/early-2016, and prices have generally been recovering since.

Whey powder and whey proteins represent a global market value of approx. US\$4.9 billion in 2015, down significantly from previous years given the low prices. The market value is forecast to reach approx. US\$6.1 billion in 2020 at constant prices, corresponding to an average annual value growth towards 2020 of 4.5%. Lactose, pharmaceutical lactose and permeate powder markets were globally worth US\$1.6 billion in 2015, a figure estimated to exceed US\$1.9 billion in 2020, using the same price level, implying an average annual growth of 4% towards 2020.

### Market Outlook

Looking towards 2020, the market for most whey ingredients is expected to continue growing, as illustrated in figure 2.

This is mainly driven by a strong trend towards protein and high protein products across the entire food and drinks market. This is despite the fact that most consumers in the Western developed world already get sufficient protein in their diets.

This is attributed to increasing health concerns such as weight management, but more importantly by the move of sports and performance products from niche to mainstream products.

Target groups are now the generally active consumers rather than just athletes and sportsmen.

The four key consumer groups of protein-rich foods are identified as:

- (1) The elderly, in order to minimize the effects of age related muscle loss for which protein is vital;
- (2) Children, since proteins are an essential part of children's nutritional intake to aid in health growth;
- (3) Dieters, since proteins represent a lean source of nutrition and increase satiety thereby preventing dieters from giving in to their cravings;
- (4) Sportsmen, due to the positive effects of protein on muscle growth and recovery.

Given the high growth for high end protein concentrates, it begs the obvious question - can supply keep up with demand? The analysis in our report concludes that additional future whey streams combined with the opportunity to upgrade from low-end commodities to high end ingredients should be able to create a reasonable future market balance. ▼

This article is based upon the report *Whey Book 2016* published by 3A Business Consulting on the global market for whey and lactose ingredients 2016-2020. For more information, contact: Tage Affertsholt, Managing Partner at ta@3abc.dk.

SOURCE: INNOVA MARKET INSIGHTS



› Bodylab Proteinella Chocolate Spread contains added protein and is formulated with whey protein isolate.