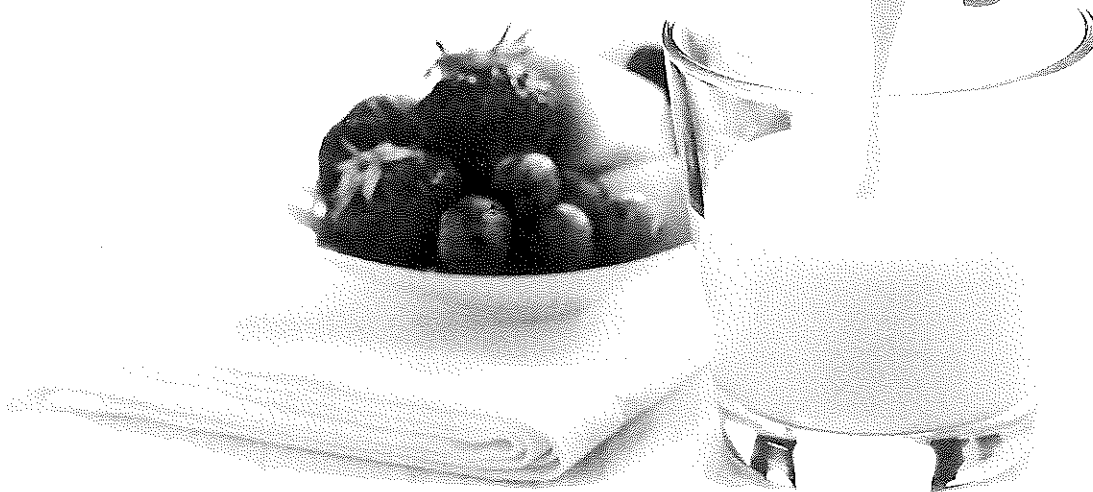


# Wither whey?



**T**he dairy industry has had a rethink about the former waste product whey. Now, when they look at the by-product from cheese making and yogurt production, companies see profits. Multinationals such as Fonterra, Glanbia and Arla are also looking to join up with cheese making partners for whey production, and areas such as yogurt making are also ripe for whey collection, according to Dr Joop Kleibeuker, chair of the European Whey Products Association.

The scientific community surrounding whey and the industry have also linked together in the area of the International Whey Conference (IWC), being held this year in Rotterdam, The Netherlands (see panel). Dr Kleibeuker, also IWC organising committee chair, says that the conference has moved on since its inception back in 2001. "Back during the first conference, it was all about the upcoming science, experience and the health

**Whey is now the primary product for cheese making, says Dr Joop Kleibeuker, chair, European Whey Products Association**

aspects of whey," he notes. "There was an increasing relevance of the health aspect as the years went on. We now have a much greater understanding of health aspects of whey and the components that make up whey – proteins, oligosaccharides and so forth.

"The conference will provide the latest updates on whey and its scientific outlook. It offers platforms for business to learn about the most recent research, and then a way for researchers to learn what businesses are focusing on and what they need to do more research on. It offers up future questions that may need scientific work."

## Changing times

Whey has seen marked changes over the last several years, Dr Kleibeuker notes. "There have been two primary developments – there is an increase in interest in marketing in whey and healthy products, and there has been further fractionation of whey into products for the market. Whey has become a very relevant ingredient," he says. "There is significant demand and the prices are quite stable now for whey powders versus skimmed milk powder. In the past it was volatile. There has also been an increase in market volumes."

Whey used to be a secondary product

## The excitement around whey



The 7th International Whey Conference is being held in Rotterdam, The Netherlands 7-9 September. Its organiser are the European Whey Producers Association, Netherlands-based research organisation Nizo and the American Dairy Products Institute. The conference scope will include: sources and quality of whey; whey processing; the whole range of whey based products and their applications; functionalities of whey products; health and nutrition aspects of whey products in food and feed; proteins in whey; lactose and other carbohydrates in whey; potential of whey as food/feed ingredient; expected customer needs; marketing challenges and the relevance of whey applications for sustainability.

For further information visit [www.iwc2014.com](http://www.iwc2014.com)



## Whey Processing



### FROM ACID WHEY TO VALUE ADD

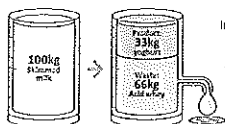
#### Whey as a Challenge

Currently growing volumes of acid whey from Greek yogurt production are turned into



Manufacture is high  
End products are high  
Waste is poor

#### Traditional process

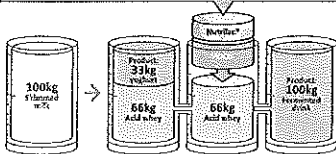


It is **accepted** that acid whey is an **unavoidable waste product** of Greek yogurt production.

#### Suggested process

...but **not any more**

With the addition of Arla Food Ingredients' **Nutrilac** solution, what was once a **waste product** is now a **raw material** - creating a new product and added value!



#### Product possibilities

Your **NEW** value add products...

- High-protein yogurt
- Enriched fluid
- Enriched dessert

Nutritional advantages of acid whey



to be handled or get rid of, but nowadays, many cheese producers would not be profitable without whey, according to Kleibeuker. "Investors are taking notice and joint ventures like A-ware in the Netherlands and in the UK and Lithuania clearly reflect this." Fonterra and A-ware Food Group started the joint venture in March 2013. Their plan is for A-ware to run a cheese plant in Heerenveen, Netherlands, while Fonterra will operate a whey and lactose processing plant next door supplied by A-ware. Both plants are scheduled to be operational in late 2014. "Companies are actively looking for whey. Cheese can almost be seen as a secondary production," he notes.

This may be the beginning of another historical trend, he believes. "If you look back 100 years, it used to be that dairy processors were largely involved in making butter. The liquor that drained off, the skimmed milk was an afterthought. Now the skimmed milk is much more

important than butter. That may be the same development for the future between cheese and whey."

### End use markets

The knowledge of what whey is and what benefits it confers to end products reflect our better understanding and acceptance of whey, Kleibeuker points out. "Between sports nutrition, elder nutrition and infant nutrition, there is a clear common thread. They are strongly linked to healthy development – muscles, keeping ageing bodies strong and aiding in developing bodies. Whey is very relevant for development and the value of whey has been made very clear. There is recognition of its value. It is now being used in a much broader range of products and adding whey proteins to products is healthy."

The whey and dietary protein conferences have helped the discussion about the dietary quality of protein. In 2011, an international symposium was held in Auckland, New Zealand about the dietary protein for human health and how to define it. Overall, it concluded that whey is a top quality protein, and different from other proteins such as egg and so forth, as it offers high digestibility and high solubility.

Whey will continue to evolve, notes Dr Kleibeuker. "In the past, production was gained from cheese making and cows' milk. Now, processors are looking at other sources – goat and sheep's milk cheeses. Whey production from casein and caseinates production is also being considered, as well as whey production from products such as Greek yogurt."

There are ways being sought for how industry can use acid whey from Greek yogurt production, whose production has grown exponentially over the last few years. The applications are similar to sweet whey. "The protein composition is basically the same and, and there have been projects in the US for applications," he notes. Whey is currently a regional issue. For the time being, the EU and the US are the producers, and China is the main market. "China has been very important up to now and it has not become a large producer of cheese to date," Kleibeuker says. "So, over the next decade, expect strong exports to continue to China and southeast Asia. At a later point, they will be producing whey for themselves. The markets are strong and they need whey."



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