

# INGREDIENT WATCH: WHEY PROTEINS

Non-animal whey protein has arrived and has potential to disrupt categories where technical and nutritional challenges have limited vegan formulations.



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## Mintel's perspective

### What is it?

The first non-animal whey protein has arrived in foodservice. Perfect Day's lab-grown whey protein isolate is being used to create vegan dairy ice creams in San Francisco. This is just the beginning for lab-grown proteins to enter the market.

### Why is it important?

Vegan claims in food and drink are on the rise around the world. This novel ingredient will give consumers – especially flexitarians – the best of both worlds: a vegan protein that offers the same benefits as traditional whey proteins.

### What's next?

Expect disruption in other categories where dairy proteins have dominated. In cheese, dairy proteins provide both nutrition and functionality. Other categories, such as sports nutrition, have relied on dairy proteins for their superior nutritional qualities.

## Disruption is coming to the dairy protein category



Smitten N'ice Cream partners with Perfect Day

Biotechnology is [disrupting the protein industry](#).

Fermentation and genetically engineered yeast are being used to create nutritionally identical animal-derived proteins – without the animal.

In May 2020, San Francisco-area Smitten Ice Cream launched a line of vegan ice creams using Perfect Day's non-animal whey protein isolate. The "N'ice cream" is vegan and lactose-free. Initial flavors include coconut pecan, fresh strawberry, root beer float and brown sugar chocolate.

[Perfect Day](#) first trialed their animal-free dairy ice cream in 2019 and [partnered with ADM](#) to commercialize their lab-grown whey protein. Their ingredient  $\beta$ -lactoglobulin, the major whey protein in milk, recently received [a letter of no objection](#) from the FDA for use in food and drink, excluding infant formulas.

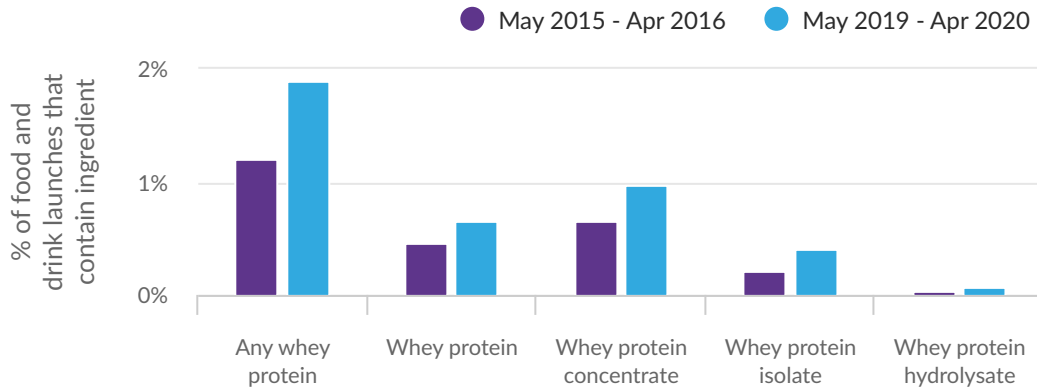
Source: [Smitten Ice Cream](#)

## Non-animal whey proteins will benefit from the growth of traditional whey ingredients

Globally, food and drink launches with whey proteins are rising. Over the past five years, the percentage of global food and drink launches with any whey protein ingredient\* increased 49%.

Product launches with whey protein isolates showed the most growth, increasing 96% during this time. Meanwhile, launches with whey protein concentrates increased 52%.

### Global: percentage of food and drink launches with whey protein ingredients, by moving annual, May 2015-Apr 2020



*\*Note: any whey protein includes any product that contains whey protein, whey protein concentrate, whey protein isolate,*

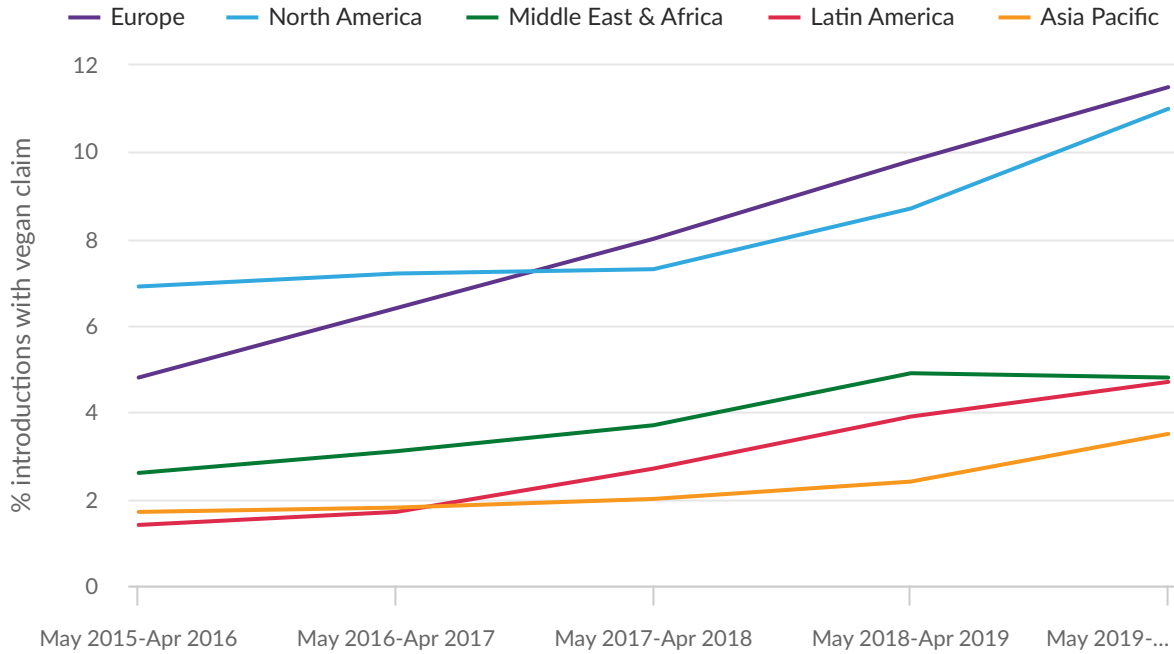
*Base: whey protein hydrolysate, alpha lactalbumin, glycomacropeptide, beta lactoglobulin, or milk fat rich whey protein*

**Source:** [Mintel GNPD](#)

# The rise of vegan claims indicates potential for more animal-free proteins

Approximately three in 10 consumers in Spain, Poland and Italy, and two in 10 consumers in France and Germany agree they would [eat lab-grown food](#).

Global: percentage of food and drink launches with vegan claims, by region, May 2015-Apr 2020

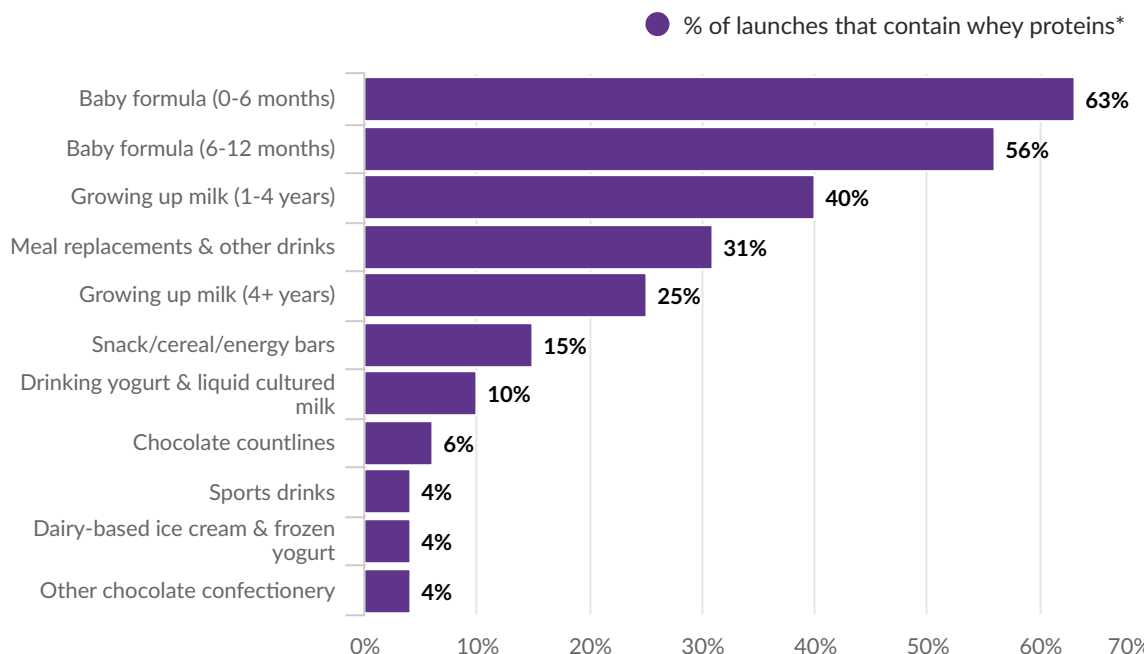


Source: Mintel GNPD (Asia Pacific, Europe, Latin America, Middle East & Africa, North America)

## Ice cream is just the beginning for non-animal whey proteins

Whey protein ingredients are most commonly found in baby formula, growing up milk and meal replacement/other drinks.

Global: percentage of launches with whey proteins\*, by leading sub-categories, Mar 2015-Apr 2020



\*whey proteins includes all whey protein ingredients

Source: Mintel GNPD

## Animal-free dairy proteins will radically change other categories where traditional dairy proteins dominate

Pending regulatory approval, synthetic non-animal dairy proteins offer new solutions in categories where nutritional or technical challenges have limited vegan innovation.

### Animal-free cheese

**Double Crème Cultured Cashew** claims to offer said to an extraordinary dairy-free cheese experience. **Formulations for vegan or dairy-free cheese** have been limited, typically relying on coconut oil, modified starches and cashews. (Canada)





### Vegan sports nutrition

[Recovery Aminos](#) contains vegan BCAA. Dairy proteins still dominate [performance nutrition](#) but vegan and dairy-free options are emerging. (Spain)

### Infant formula needs regulatory approval first

[NAN Lactose-Free Infant Formula](#). Lactose-free synthetic dairy proteins could offer support for [infants with special dietary needs](#). Lab-made breastmilk is also on the horizon, [signalling potential disruption](#) for this category. (South Africa)



### Meet the expert

#### Stephanie Mattucci

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With 10 years of experience in the food industry, Stephanie brings a food science background to her work at Mintel. She is responsible for analyzing and providing insight on ingredient and nutrition trends, regulations and food science innovations. She has a bachelor's degree in Food Science from the University of Wisconsin-Madison.

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