192

Using Biotechnology to Make Scarce and Expensive Nutrients More Accessible

Leah Bessa, Joni Symon

De Novo Foodlabs, Cape Town, South Africa

Abstract

The world needs to move towards more sustainable means of food production and consumption, especially when it comes to livestock production. While plant-based meat and dairy products begin to offer an alternative for consumers, there is still the question of nutrition.

Certain animal proteins not only offer a nutritional benefit to humans, but they often provide an additional functional benefit upon consumption. For example, some bioactive proteins can offer anti-microbial properties, promoting a healthy gut balance or proper delivery of nutrients in the body.

Precision fermentation is a technology that is widely used for medical purposes to produce nature-identical functional, mammalian proteins, like insulin, without the use of animals. Using a similar principle, we are able to produce some very important bioactive proteins in a more efficient, sustainable and ethical way. Lactoferrin, found predominately in colostrum, is harvested from cows' milk in small amounts making it expensive and inefficient to produce. It is a vital nutrient for infants, and it also used in for improving health because of its gut health promoting qualities and iron transporting properties. Precision fermentation allows us to produce lactoferrin in higher concentrations than found in cow's milk making it cheaper and completely animal-free.

PRESENTER BIOGRAPHY: LEAH BESSA

Dr. Leah Bessa is a food scientist on a mission to positively change the food industry. Her research into alternative proteins has ranged from insects to precision fermentation in her pursuit of sustainable food production and creating products that are changing the game of nutrition. With her company De Novo Foodlabs, she aims to make a real impact on both people and the planet through food and nutrition.