

Lactose Free Probiotic Frozen Yogurt

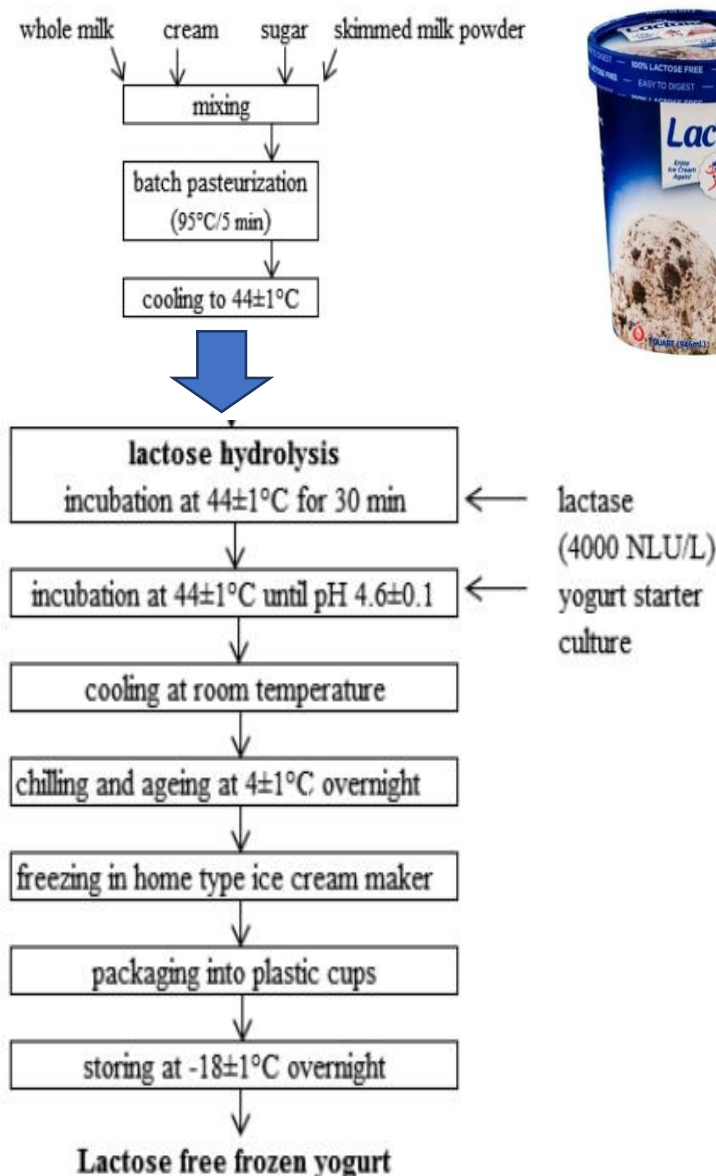
Prepared By

Avilash Roy

❖ Why we need to focus on lactose free products?

According to the National Institutes of Health, around 65% of the global population is lactose intolerance. This is driving the demand for lactose free food products including lactose free probiotic yogurt.

Process flow diagram



*NLU/L means Natural lactase unit per litre.

* Commercial Ha-lactase Enzyme is used.

Starter Culture:

Composition of **Lactobacillus delbrueckii ssp. Bulgaricus** and **Streptococcus thermophilus** is used.

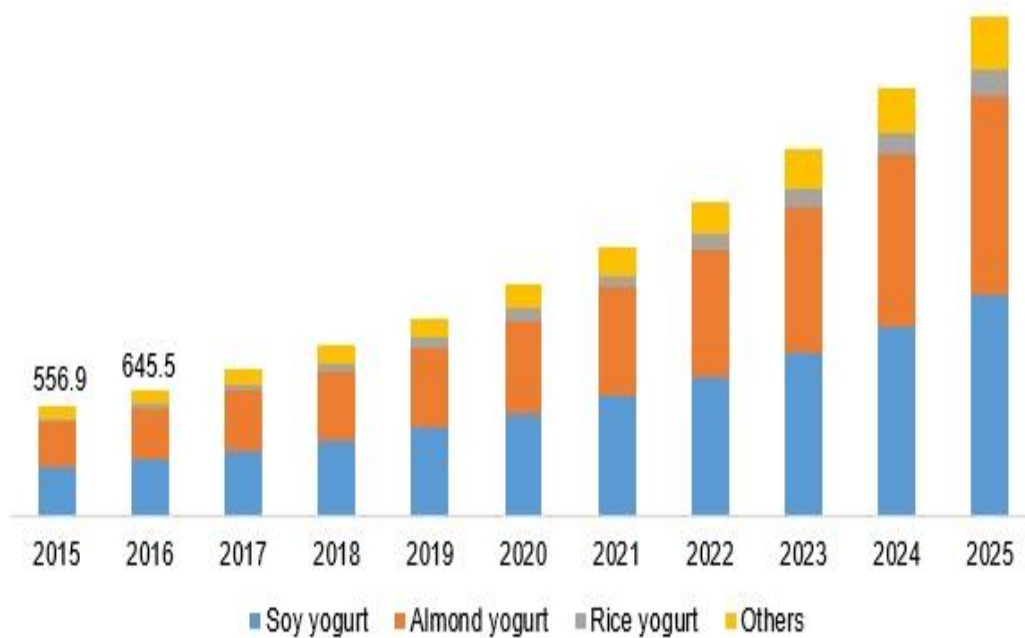
Special Note:

Milk from plant sources such as coconuts, peanuts, rice and hazelnuts can also be used. Then product will be completely vegan. But in this case we need pay some extra for this. So the cost will increase.

Market Analysis:

1. Some of the leading players in the lactose free probiotic yogurt market are Dean Foods, Nestle, Arla Foods, The DANONE Company Inc., Green Valley Organics, etc.
2. Nongfu Spring has launched vegan yogurt product in China. This product is the first mainstream plant-based yogurt in the country.
3. Oatly, a Swedish vegan brand has introduced a drinkable yogurt made using fermented oats. The new product known as Oatgurt will be provided in four flavours including strawberry, vanilla, lemon elderflower, and natural
4. DANONE North America has opened new facility to increase production of its plant-based food products.

Global vegan yogurt market revenue, by product, 2015 - 2025 (USD Million)



GLOBAL LACTOSE-FREE FOOD MARKET: KEY DRIVERS AND FIGURES

KEY MARKET FIGURES



GLOBAL MARKET GROWTH



Advantages:

- Lactose in milk is often what causes you to feel bloated, gassy, or nauseous after eating dairy products. In some cases, switching to lactose-free options can help alleviate those symptoms of indigestion.
- Lactose-free milk has the same nutrient profile as regular cow's milk, so you still get the same vitamins, minerals, calcium, and protein, without the discomfort.
- Studies have found that a diet which includes low-fat dairy products may lower your blood pressure and decrease your chances of developing type 2 diabetes.

Why not suitable in some cases?

- Vegan yogurts tend to have a longer ingredient list and additives.
- Some vegan yogurts are low in protein compared to protein rich dairy yogurts
- Some vegan yogurts are very high in saturated fat (those using coconut milk)

- Lower calcium and vitamin D content compared to dairy options.

Note: vitamin D is not naturally present in dairy yogurts, but is often added to milk and other dairy in order to improve calcium absorption.

Conclusion:

The study showed that lactose-free frozen yogurt maybe used successfully for frozen yogurt production. Lactose hydrolysis allows the manufacture of a new kind of frozen yogurt which is suitable for consumers with lactose intolerance. An important factor is the enhancement of the sweetness of the product without increasing the calorie content. Moreover, by breaking down lactose into monosaccharides, the freezing point of yogurt is reduced, which consequently greatly improves the texture and viscosity of the product, prevents ice recrystallization and may curb the melting rate even without the addition of stabilizers. Lactose hydrolysis resulted in a lighter colour of the product and improved its sensory quality. The results of this study may be useful for ice cream and frozen yogurt manufacturers to produce novel lactose-free frozen desserts.