



Lee Enterprises  
Consulting

## Case Study

### Client

Milk Processor

### Project Number

22018

### Team Members

Glenn Farris  
Dr. Greg Potter

# Fermentation of Lactose into Food and Feed Ingredients

---

## Summary of Client and Challenge They Faced

A milk processor was producing food and feed ingredients using their own processed milk and ingredients purchased from other companies. The company sought to determine whether it was more profitable to continue selling a by-product of their processing or whether it was better to use it as a feedstock to make one of the ingredients that they were currently purchasing.

Even a preliminary analysis of the business case would be complex, requiring the evaluation of the latest fermentation technologies, ingredient cost and availability, and overall marketplace trends. In addition, the company needed to determine the retooling needed to reach sufficient capacity for producing the ingredient in-house.

## Our Approach to the Solution

LEC experts developed a plan to analyze available techniques and technology, including production price points when available. The milk



Lee Enterprises  
Consulting

## Case Study

---

### Fermentation of Lactose into Food and Feed Ingredients

#### Client

Milk Processor

#### Project Number

22018

#### Team Members

Glenn Farris  
Dr. Greg Potter

processor would then use these findings to develop a business case for the continued sale or reprocessing of their by-product.

First, the LEC team reviewed databases and available research to compile a list of potential food and feed products along with the feedstock utilizing strain(s) associated with each product. For each of the products, LEC provided recommendations for opportunities in emerging markets (e.g., recombinant collagen) and analyzed the market readiness of the processing technology based on US regulatory approval.

Following this review, the most promising products were chosen, and a preliminary bench scale trial was developed for one food product and one feed product. The bench scale trial was developed to evaluate potential yield and biomass targets. In addition, LEC experts performed a technical feasibility study of the technology used for processing the food and feed products.

#### Client Results and Benefits

Equipped with a detailed understanding of the competitive landscape, latest processing technologies and regulatory impacts, the milk processor was able to confidently move forward. The bench trial and technical feasibility study showed that reprocessing the by-product was feasible and could lead to greater profitability. The company chose to continue building the business case for using their by-product as a feedstock for producing additional ingredients in-house, reducing their costs and dependence on outside vendors.