

# Case Study #61: Ice Cream Testing



## Highlights

- Reliable fat and total solids results with NIR testing
- Successful integration of new recipe management system
- Quick in-line analysis of multi-constituents in raw ingredients
- Major increase in production levels

## In-line Testing and Recipe Management Ups Ice Cream Manufacturer's Production

### Situation:

An ice cream manufacturer was having trouble standardizing the fat and total solids in its ice cream mix batches. Volume-based recipe management was not effectively controlling the final fat and total solids content in batches, and operators were forced to make manual ingredient corrections based on results from microwave technology lab testing equipment.

By using this slow, outdated process, each test took from five to eight minutes and the accuracy of the results was uncertain. It was a problem that was really limiting the plant's overall production capacity.

### Improvement:

To speed up and improve the reliability of fat and total solids testing, ESE used its dairy industry

engineering expertise to recommend installing the state-of-the-art Q5i in-line analyzer for NIR testing. This single unit would be positioned to measure multiple constituent values of all the batches' incoming raw ingredients.

In addition, ESE recommended a new recipe management system that would control the ingredient additions based on feedback from the Q5i.

### Result:

The simplicity of the Q5i system and the speed of response were excellent. The Q5i was able to monitor the varying constituent values in the individual batch ingredients and the new recipe control system made the appropriate adjustments to keep the fat and total solids percentages on target without the need for manual intervention.

With help from ESE's team of dairy industry engineering pros, the plant now enjoys the benefits of better manpower utilization and increased production capacity. Because of these automation improvements, the increase in capacity levels alone resulted in a project payback of less than three months.

### So Fast. So Easy. So Reliable.

See why so many dairy processors are turning to ESE's engineering consultants to meet their automation needs ... and how the Q5i in-line analyzer can impact your day-to-day operations and significantly improve your plant efficiency. Contact us today and learn how the revolutionary Q5i can work for you.

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**Optimizing the Process.**  
*Maximizing Your Profits.*

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