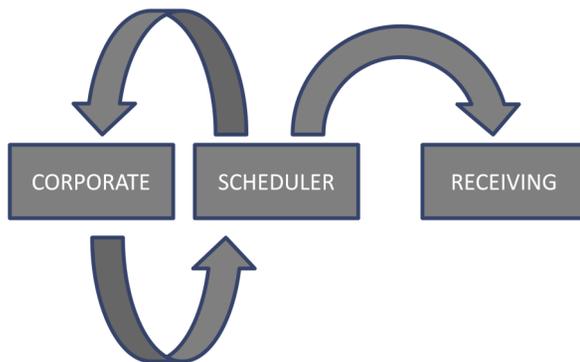


Conclusion

IPRO teams in the future can continue investigating new solutions to the problems we have identified, as well as identify new problems. We were not able to research every idea we had or identify every problem present. There is more work to be done to help the formulation process at Land O' Frost.



IPRO Team at work



Partial process map

Team Members:

- ◆ Edgar Torres
- ◆ Michael Hogan
- ◆ Matti Alemayehu
- ◆ Pierre-Paul Amegasse
- ◆ Emily Mick
- ◆ Mitchell Isoda

Faculty Advisor:

- ◆ Philip Lewis

IPRO 345



Great Taste, Low Cost



Improving food processing with process mapping techniques.

Land O' Frost is a family-owned company that has been in the meat industry for over 50 years. In particular, our IPRO is working with the plant in Lansing, IL. The managerial staff at the Lansing plant is geared towards improvement and has asked our team to help them identify inefficiencies and bottlenecks in their formulation process. Since this is the first semester working with Land O' Frost, we have been asked to focus our attention on the formulation process and leave the packaging side of the plant for future semesters. The formulation process consists of everything from receiving ingredients to grinding the meat and ends with the emulsion being placed in the ovens.

Purpose

The purpose of this IPRO is to better understand the interdependent relationship of the formulation process and its impact upon throughput, productivity, and quality. We seek to suggest improvements to Land O' Frost in order to optimize their formulation.



Land O' Frost truck

Objectives

- ◆ Identify all inputs, outputs, assets, & process parameters
- ◆ Map production process
- ◆ Observe activities and workings
- ◆ Identify bottlenecks
- ◆ Evaluate performance
- ◆ Suggest improvements to formulation

Our approach

The IPRO team tackled the problems Land O' Frost is facing through collaboration with experts from different fields such as electrical and mechanical engineering. The first approach to analyzing the problem was observation. Pictures and videos of the process were taken for close inspection by the IPRO team. Some of the problems were solved through careful observation of the process. The IPRO team visited the plant three times. In addition, the IPRO team communicated via conference calls and emails to better understand how the company operates.

Recommendations

Our team has taken time to understand the formulation process at Land O' Frost. Through conversations and research, we have been able to compile many suggestions to improve the process. Some of these are not feasible or have been previously tried without success and been rejected. Others have already been considered and are in the process of being implemented. Our final suggestions to the company are as follows:

- ◆ Install an electric eye device, like in garage doors, to respond when materials are placed too close to the wall.

- ◆ Explore the capabilities of magnets more thoroughly to resolve the issue concerning closures that hold the logs of deli meat together
- ◆ Using fewer tools in the plant. Every tool should be welded. Policies concerning tools should be implemented requiring tools be examined before they are used, tool breakages should be tracked, and tools should be discarded preventatively according to these records.
- ◆ Use a cleaning device, wrapping process, or cover to better monitor the material when it is being dumped into the grinding machine.
- ◆ Create a quiz to ensure workers understand the information presented to them in training.
- ◆ Create a new system for scheduling, such as a computer program.
- ◆ Use a computerized tracking system when arranging the curing room.
- ◆ Replace outdated equipment. Including purchasing new machines that are faster, as well as searching for automated alternatives.
- ◆ Revise the plant layout by organizing according to product or line rather than process.
- ◆ Measure efficiency based on equipment capacity rather than man hour potential.