

Tone Brothers

CASE
SUMMARY

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TONE BROTHERS, INC.

Ankeny, Iowa
Polk County

Intern: Anna Forkan
Major: Industrial Engineering
School: The University of Iowa



The Company

Tone Brothers, Inc., located in Ankeny, Iowa, is the largest spice manufacturing plant in the world. In 1994, Tone's was sold to Burns Philp Food, Inc., which is based in Sydney, Australia. In 1995, Burns Philp consolidated all its spice operations in North America at the Ankeny facility, with 10 processing centers and 39 packaging lines. Tone's distributes product with its own label, as well as the Durkee, Spice Islands, Dec-A-Cake, and French's labels.

Project Background

Currently, Tone's experiences approximately a 4 percent loss of spices and 3 percent loss of packaging components during the packaging process. The scrap costs the company nearly \$2,000,000 per year. A 1 percent reduction in scrap would save the company \$500,000 in material costs and reduce waste volume by 500,000 pounds. In addition to reducing scrap, a comprehensive assessment of the recycling program was needed.

Incentives to Change

Tone's loss of product and packaging in the production process amounted to a cost that was too great to ignore.

Results

Resource Management Program

Through the P2 Internship program, the foundation of a Resource Management program has been developed.

Local recycling and waste hauling contractors, Mid-America Recycling and Waste Connections, will work with the company as part of a Resource Advisory Committee, formed to develop a solid waste management program that provides financial incentives to both the contractors and the company. With no cost to Tone's, it is estimated that savings for the company will total \$15,000 a year.

Under this program, both the recycling and waste hauling invoices are consolidated into one report, providing the data necessary to track and manage solid waste handling practices in the plant. Utilizing a debit/credit system, Tone's would be reimbursed for recycling revenues less the cost of waste hauling.



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Standardizing Machine Operations

The intern evaluated both scrap product and packaging losses on main production lines and generated a series of improvement projects based on cause-effect mapping of the processes. Suggestions included mechanical adjustments to production equipment and standardizing

operating procedures. These steps could save the company \$50,000 annually and divert 50 tons of material from the waste stream.



Cardboard Recycling

A simpler method of handling cardboard was sought to reduce the labor involved in recycling. To justify the cost of purchasing a baler, a time study of the sanitors was performed and the percentage of a shift spent loading and operating the cardboard baler was determined. Because the plant generates approximately 40 tons of cardboard monthly, there was considerable interest in reducing handling costs. With the installation of a new baler, labor savings will total \$40,000 a year.

Reusable Cafeteria Dishes

Often times, the plant cafeteria is overlooked as a possible source of cost savings. An evaluation of cafeteria practices revealed that Tone's landfills approximately 8,000 pounds of Styrofoam a year. Switching to reusable dishes should be simple, as the dishwasher is capable of handling the projected volume of dishes. With a minimal capital investment in dishes and utensils, eliminating Styrofoam will result in cost savings of \$10,000 annually.

Energy Audit

An energy audit was provided by Iowa State University's Industrial Assessment Center at no cost to the company. The in-plant survey, performed by a team of students and led by Dr. Daniel Bullen, evaluated energy efficiency and waste reduction opportunities. A technical report including the expected savings, detailed calculations, implementation costs, and payback analyses for all suggestions will be provided. The IAC proposed savings totaling approximately \$30,000 a year.

Project Summary Table

P2/ Waste Reduction Opportunities	Waste Reduced	Raw Material Saved	Cost Savings	Status
Resource management	400 tons/year	---	\$35,000/year	Implementation in progress
Standardizing machine operations	---	50 tons/ year	\$50,000/year	Recommended
Horizontal baler - labor savings in recycling	---	---	\$40,000/year	Implementation in progress
Converting cafeteria to reusable dishes	4 tons/year	---	\$8,000/year	Recommended
Energy audit and proposed improvements	---	---	\$30,000/year	Implementation in progress