

# Farmland Foods

CASE  
SUMMARY

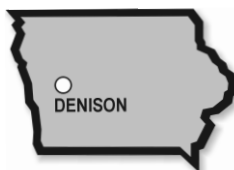
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## FARMLAND FOODS

Denison, Iowa  
Crawford County

Intern: John Schemmel  
Major: Agricultural Engineering  
School: Iowa State University



### The Company

Farmland Foods in Denison is a pork slaughtering and processing facility. It currently employs 1,450 people and kills about 8,300 hogs per kill day.

### Project Background

Farmland Foods in Denison is in the process of implementing an Environmental Management System (EMS). They currently have a policy statement and much of the legwork completed for setting up the EMS. Recycling programs are already in place for paper, cardboard, and scrap metal. The pallets are reused and are fixed on-site when needed. Junk pallets are given to a local pallet company. As with all meat processing plants, water usage is high. The wastewater is partially treated on-site before it is sent to the Denison Municipal Wastewater Treatment Plant for complete treatment.



### Incentives to Change

Farmland Foods in Denison has recently expanded production. They would like to remain at the levels of water usage before the expansion or even reduce water usage. Organic load going into the wastewater is also important to monitor and reduce so that the plant remains in compliance with the city's pretreatment standards. The EMS also needs to be developed further so that the benefits can start to be realized throughout the plant.

### Results

The three major water saving projects that were investigated are a hot water storage tank, casing water recycle system, and knee pedals on the gut table. The installation of a hot water storage tank would allow for hot water to be stored until it can be used instead of just running down the drain. A casing water recycle system would remove grease from the water allowing it to be reused in the system. Knee pedals on the gut table will prevent water from running continuously during processing operations.

Other projects consisted of looking at challenge tumbler washouts, researching a composting operation, efficiency testing of a dissolved air flotation (DAF) unit, putting together an annual waste summary sheet, and working on EMS projects. The investigation of the washouts could lead to substantial product loss reductions as well as some water savings. The composting project can be started in the future with the use of the research. The DAF efficiency testing will help determine if the unit should be upgraded or replaced. The annual waste summary sheet organizes the plant's waste, including tonnage, and recycling costs and credits into a simple report. This will allow the plant to see if it is getting better or worse in terms of waste generation from

year to year. The EMS projects consisted of a gap analysis of the plant's EMS manual and putting together a training presentation for use by the Environmental Coordinator.

The annual waste reductions and savings are shown below in the table as well as the status of the projects.

Project Summary Table

P2/Waste Reduction Option	Waste Reduced	Raw materials saved	Cost savings	Status
Composting	10 tons/year	—	—	Recommended in the future
Hot water storage tank	4.5 million gallons/year	4.5 million gallons/year	\$11,250/year	Recommended: further investigation
Knee pedals on gut tables	5 million gallons/year	5 million gallons/year	\$12,500/year	Implemented: future tracking
Casing water recycle system	5 million gallons/year	5 million gallons/year	\$12,500/year	Further investigation
Challenge washouts	Future monitoring	Future monitoring	\$50,000	In progress