



Faribault Woolen Mill: Water Conservation & SOPs

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Driven to DiscoverSM

Faribault Woolen Mill History

Faribault Woolen Mill is

- a vertically integrated mill which processes raw wool into blankets
- one of the few vertical mills left in the U.S.,
- has produced woolen products for over 150 years
- located in Faribault, MN and has about 90 workers with decades of experience & intergenerational ties
- increasing production over the last decade through guidance from new management in 2011

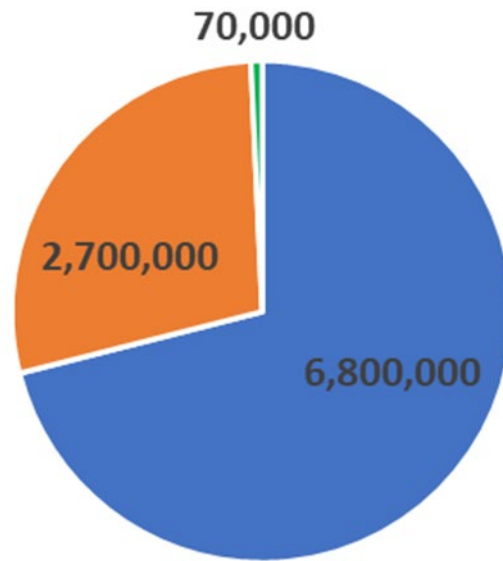


Incentives

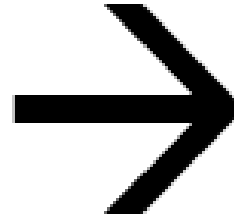
- **Optimize water use**
 - Lower production time
 - Decrease material waste
 - Reduce costs
 - Water
 - Heat
 - Chemicals
- **Reorganize standard operating procedures:**
 - Preserve procedure accessibility
 - Improve worker efficiency
 - Standardize quality and accuracy

Water Balance & Wet Process Elements

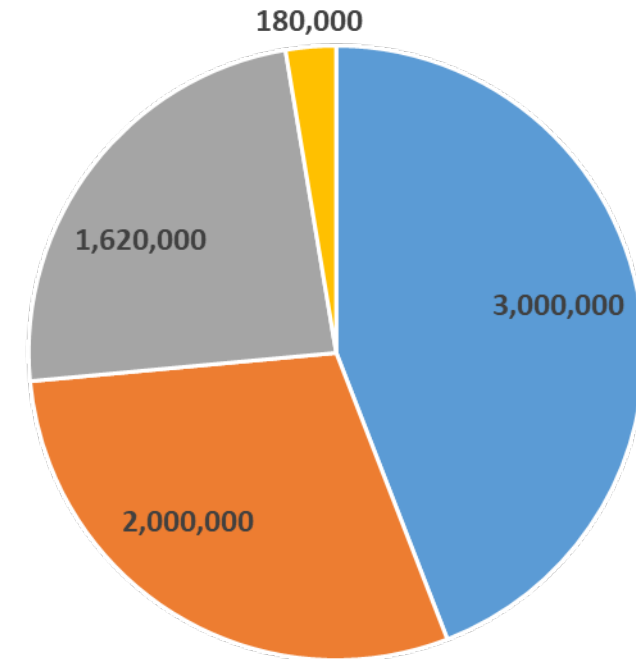
Faribault Municipal Water (GPY)



■ Standard Water Heating ■ Boiler Water Heating
■ Irrigation



Standard Water Heated Processes (GPY)



■ Washers (2) ■ Fulling ■ Piece Dye Kettles (4) ■ Acid/Alk Tks

Washing and Fulling



Insert

large fabric cuts

Saturate

with soap

Clean

through washing
or fulling

Rinse

until soap
dissipates

Add

softener and
finish rinsing

The less soap needed, the lower the
rinse time, saving water and time.

Water Reduction through Soap Optimization



- Washing and fulling use 5M GPY
- Reducing soap directly reduces rinse time
- This saves
 - \$33,000 in soap
 - \$11,000 in water heating
 - \$10,000 in water costs
 - ~2.0 million GPY

Personal Benefits

Applied studies in water use and conservation

Honed my skills in data collecting and system organization

Improved understanding of textile production and industry

Developed projects to completion and see their benefits

Improved communication and research skills

Acquired some comfy products

