



Case Study

Recycle Improvement Saves \$4 Million Annually

The Opportunity

A paper recycle plant had just begun operation. Its mission was to supply recycled fiber to a large paper machine scheduled to come online within the next three months. This paper machine represented a huge capital investment, and in order for it to meet the corporation's objectives, the recycle plant would need to significantly improve its quality and almost triple the amount of fiber it was able to produce.

The project participants focused on increasing tons of production and decreasing the amount of dirt remaining in the fiber.

The Approach

The process improvement effort was undertaken by self-directed project participants that had 100% management commitment and support. They used QualPro's 12-Step MVT Process[®] to dramatically improve the measurement system. This helped them to determine sources of dirt in the process and from suppliers. While stabilizing the process, the team performed a small experiment that provided evidence leading to a major source of dirt. But even then, the plant was still operating at a level far from what was needed to support the new paper machine.

The Test

Project participants brainstormed with many associates throughout the plant and came up with 124 ideas to increase production and improve quality. Of these, 13 ideas were quick, easy, and inexpensive to use and were included in the MVT[™] experiment.

<i>Idea</i>	<i>Old</i>	<i>New</i>
Surfactant	Recipe A	Recipe B
Chelant	Product A	Product B
Material A	Don't Use	Use 90 lbs/ton
Peroxide	Not used	Used
Surfactant Supplier	Supplier A	Supplier B
Microscreen Type	Product A	Product B
Use Material B	Don't Use	Use 20 lbs/ton
Use Material C	Use 16 lbs/ton	Don't use
Pulping Time	30 minutes	20 minutes
Caustic in Pulper	4 lbs/ton	2 lbs/ton
Water Loops	Same	Change
Machine A Kneader	60 kwh	40 kwh
Stock Temp	135°F	115°F

The Results

The plant was able to increase production 110% while decreasing cost and improving quality. The company saved \$300,000 in equipment modifications that had been planned but were shown to be unneeded, and saved \$500,000 per year in reduced surfactant cost and reduced energy consumption. The team determined that the surfactant from supplier B reduced the amount of dirt remaining in the fiber and was cheaper than supplier A and that the stock temperature could be lowered to 115° with no adverse effects. The increase in production was worth \$3.5 million savings per year in fiber the plant did not have to buy from outside sources. This was a total of \$4 million annual savings from the plant's first use of QualPro's 12-Step MVT Process!