



Green Technology Accelerator Center

New York State Pollution Prevention Institute (NYSP2I) helps companies accelerate their introduction of green technologies into the market by identifying emerging market opportunities and providing assistance in a variety of areas.

CiderSure™ Performance Validation Study

Client

Complemar Partners, Inc. (Rochester, NY) manufactures and sells a line of cider purification equipment to apple cider processors across the country, including states where purification is not mandated by law. The CiderSure process utilizes ultraviolet (UV) light to purify cider by eliminating E. coli, controlling cryptosporidium and Salmonella. The CiderSure UV light cider purification process is an alternative to thermal pasteurization.

Opportunity Areas

Complemar believes that the CiderSure process consumes less energy than thermal pasteurization. Complemar also feels that CiderSure equipment represents the most cost effective purification technology available when considering the total cost of ownership per gallon of cider processed. Complemar wants to provide potential customers with data supporting that the CiderSure process is the lowest cost and most energy efficient food safety option available for apple cider producers. Marketing on key business metrics will allow the total sales and service revenue associated with the CiderSure product line to grow by 20% and create one new job through the end of 2013.



Objectives

Complemar approached NYSP2I's Green Technology Accelerator Center to obtain a third party comparative evaluation of their most popular CiderSure model. The objective of the project was to evaluate a CiderSure unit in operation and compare the operational costs to a typical or common thermal pasteurization process used for cider purification. This data would be used in a total cost of ownership comparative analysis including energy, maintenance, calibration, and other cost elements.



CiderSure 5500

Work Performed

Operation, labor and electrical use data were captured for a CiderSure 5500 during operation at a current customer site. A flash thermal pasteurization unit used for cider purification by another cider producer was benchmarked and modeled, for comparison against the CiderSure unit, using common labor and energy rates and other assumptions.

Results

The comparative evaluation showed that applying UV purification technology is a much greener and cost effective way of improving cider food safety. A CiderSure unit consumes 99% less energy per gallon purified than a typical flash thermal pasteurization unit. Based on cider producer input, the CiderSure unit was between 44.8% and 68.3% less costly to own, than a comparable flash thermal pasteurization unit, depending on annual equipment run time, chiller efficiency, labor rates and energy cost assumptions.

