

## Storage Control Systems grows in larger quarters

The Sparta manufacturer is a major source of controlled atmosphere storage equipment around the world.

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Some may opine that Cheese Kurls and apples don't have a lot in common, but both are tasty snacks that originate in West Michigan — and both stay fresh far longer in storage with the help of equipment manufactured in a small factory in Sparta and used around the world.

Storage Control Systems Inc. of 100 Applewood Drive has recently been manufacturing controlled atmosphere equipment for customers in Australia, India and Mexico, according to company owner and president Jim Schaefer.

The company also installs its machinery at customer locations in every state in the U.S. where apples are grown.

Founded in 1982, Storage Control Systems moved in the fall of 2009 from its previous 6,600-square-foot facility in Sparta to a new plant on the west side of town. The new quarters are about 34,000 square feet and include manufacturing areas, experimental storage chambers and office space. SCS employs about 13 full-time, but seasonal workers in the busy summer months bring the roster up to about 20.

"Every year we seem to tack on a few more full-time positions," said controls engineer Mike Laraway.

SCS supplies nitrogen generators for reducing the oxygen content in sealed cold storage chambers, plus gas analyzers and controllers and carbon dioxide scrubbers to remove accumulated CO<sub>2</sub>.

Schaefer said about 85 percent of the business is controlled atmosphere equipment for storage of apples and other agricultural produce, but such equipment is

also increasingly used in storage of processed foods, such as the pre-packaged refrigerated lunches kids take to school, and Cheese Kurls, a cheese-and-cornmeal snack baked in Walker.

Newly picked ripe apples will keep for a few weeks in regular cold storage, but controlling the atmosphere in the cold storage to reduce oxygen and carbon dioxide each to about 3 percent allows those apples to retain their crispness for many months, so that now, excellent-quality apples are available virtually year-round.

Schaefer noted that the air we breathe contains 21 percent oxygen; in a controlled atmosphere with very low oxygen content, apples "hibernate and don't rot."

Extending the marketability of food products is a niche that offers some protection from an unstable economy "because people need food," Schaefer said.

"I wouldn't say it's recession proof, but it has held up well in the last few years, and we do see growth right now."

Schaefer said controlled atmosphere storage of food has "always been around," but it hasn't been as "high tech" as now.

Denise Donohue, executive director of the Michigan Apple Committee, said she has heard that Roman grain elevators built in the first century A.D. incorporated a form of controlled atmosphere. According to the University of Wisconsin, British scientists began experiments with controlled atmosphere storage of food about 90 years ago, but Donohue said the C.A. process that is increasingly in use today was developed mainly by researchers at Michigan State University after World War II.

"C.A. storage is absolutely vital, not only to Michigan but to any U.S. apple-producing state," said Donohue. "We are trying to sell apples grown in the U.S. nearly year-round, and that would not be possible without C.A. storage."

Sparta is Michigan's hot spot for controlled atmosphere equipment manufacturing because it is in the

heart of the West Michigan apple industry.

"My grandpa actually had one of the first C.A. rooms," beginning in the 1950s, said Schaefer. That was in the Sparta area at the A.J. Schaefer & Sons orchard.

Storage Control Systems was founded by A.J. Schaefer's son Caryl, who sold the business to his son, Jim, in 1996.

Jim Schaefer, 45, is now sole owner of the company. He does not reveal its annual sales revenue but indicated that revenues have increased every year for the last 10 years or so.

Schaefer said there are "very few" companies in the U.S. that assemble C.A. systems, and he believes SCS is the leading company. "We have equipment (installed) all over the world," he said.

Other states where apples are produced stretch from Washington to New York. Both Schaefer and Laraway are often far from Michigan, making sales calls in Schaefer's Mooney Acclaim Type S airplane, said by some to be the fastest single-engine propeller aircraft on the market today.

Recently, SCS found a new customer close by. Cheese Kurls Inc., which moved into a former Lear Corp. auto parts plant on Walker Drive in Walker early in 2009, uses Storage Control Systems equipment to flush bags of Cheese Kurls with nitrogen, driving out the oxygen.

Jim DeDinas, president of Cheese Kurls, said his company had been using large tanks of nitrogen but that the storage equipment entails loss of nitrogen on hot summer days. The SCS equipment takes nitrogen directly from the air.

Cheese Kurls, mostly sold under store brand names, are shipped "coast to coast" and to Mexico and Canada, said DeDinas. Controlling the atmosphere in the bag can give the product a shelf life of up to a year.

"He's done a good job at diversifying," said DeDinas, in reference to Schaefer.

But fresh apples are at the core



STORAGE CONTROL SYSTEMS INC. owner and president Jim Schaefer is shown inspecting the circuitry of a storage control system with controls engineer Mike Laraway. Photo by Jim Gebben

of SCS business. Donohue said the Michigan Apple Committee monitors 116 storage facilities in Michigan each year, and they believe about 80 percent of those are controlled atmosphere storage. The MAC has 12 fresh apple shippers and 15 apple processors on its active list, and both types of businesses rely on C.A. storage.

Donohue noted that apple processors typically also process asparagus, cherries, peaches, blueberries, string beans, squash and other produce during the spring and summer. Their ability to process high-quality apples that have been in C.A. storage throughout the winter and spring "is what allows them to get a return on their capital investment for the rest of the year. So C.A. is very important to sustain-

ing fruit and vegetable (processing) in Michigan all winter."

The 2009 apple harvest in Michigan was "huge," according to Donohue — estimated by the USDA at about 27 million bushels. She said the average harvest is about 19.3 million bushels. The MAC data indicates that as of Nov. 1, about 8.6 million bushels from the 2009 crop were in C.A. storage. About 30 percent of that was destined for processing, and the rest for the fresh market.

The annual Michigan apple crop is typically worth about \$100 million to the 950 growers. However, the total economic impact of the annual apple crop throughout the state is somewhere between \$700 million and \$900 million in a normal year, she said.

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