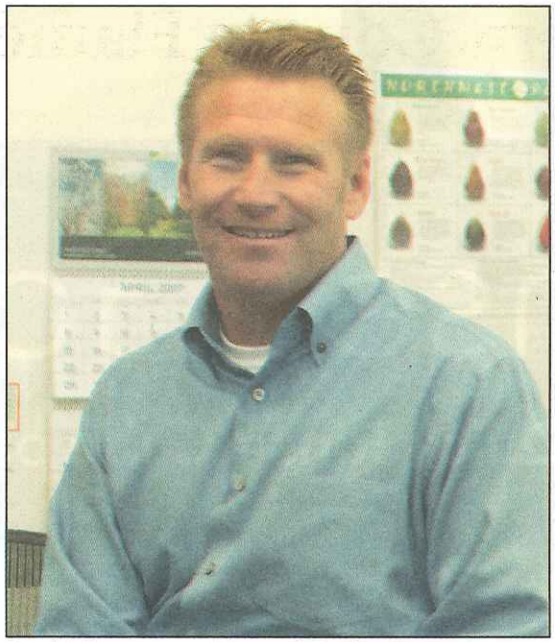
Purfresh ozone technology lowers botrytis in grape storage

By Rand Green

Purfresh Inc. in Fremont, CA, has been providing "cold storage solutions that reduce decay" on grapes and other products "for many, many years" in California's Central Valley as well as in Australia and Chile, according to David Cope, president and chief executive officer.

This year, there are "a lot of new additional things," he said.

"First of all, for grapes we have both cold storage and transportation applications that use an activated form of oxygen." Ozone is an important component of the product



David Cope, president of Purfresh.

and the one "we all tend to talk about, but it is really an electrified soup of oxygen species" that effectively accomplish "a couple of things in particular for grapes," he said.

"They kill airborne and surface molds, bacteria and virus that lead to decay — things like botrytis, which grape growers worry a lot about. Especially in wet years like this, it is a particular concern." They also "enhance food safety" which, for buyers and retailers, is "a huge issue."

The Purfresh systems "integrate with existing cold storage rooms, and we micro-dose the atmosphere with these active oxygen species" to kill airborne and surface molds such as botrytis, Mr. Cope explained. That allows growers to "extend storage time if they would like to, or just simply store [the grapes] for the same amount of time but reduce losses due to decay."

But many growers have expressed concern that when the product ships, they lose the ability to control conditions in the shipping container. "So about two years ago, we developed a transportation product that snaps into refrigerated shipping containers." As in the cold storage systems, the shipping container product "micro-doses the atmosphere with these active oxygen species" controlling decay and enhancing food safety "while the fruit is in transit."

Purfresh recently paid to have a study done by the National Food Laboratory on the efficacy of the process for both cold storage and shipping container applications. "Especially in transportation, we are able to get ... about a 99.9 percent kill" on *E. coli*, *Salmonella* and other pathogens, both on the surface of the grapes and on the surface of pieces of container material used in the test. That is important because "the container surface itself is often a source of foodborne pathogens," he said.

The transportation application and the cold storage application are "our two big offerings" for the grape industry, Mr. Cope said. "They were very successful last year." Toward the end of the season, "we were getting very aggressive in shipping table grapes from California to Europe and to other parts of the world."

Initially, the transportation application focused on ocean shipping containers because of the length of time the grapes were involved in transit. It was not clear how beneficial the technology might be for the shorter transit times involved in truck transportation. But a control test showed that "just after seven days, we were able to get pretty much the maximum kill rate" and "we now see that we are adding value in that short a time." In the near future, "you can absolutely expect" to see Purfresh systems used in trucks and trailers and also in railcars, Mr. Cope said.