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Washington

Promising fumigation alternative studied

Tree fruit industry seeks options as opposition mounts

By **DAN WHEAT**
Capital Press

Replacing chemical fumigation of apples and cherries for export with low-pressure treatment is the focus of a new study by a Washington State University assistant research professor.

Professor Shaojin Wang is looking at a method of postharvest pest control that he says

has worked with mangoes and nuts.

It maintains a low pressure and reduces oxygen content, eliminating ethylene and creating nearly 100 percent relative humidity at optimal temperatures, Wang said. Under these conditions, insect pests could be controlled and fruit quality maintained, he said.

On Oct. 1, Wang began a two-year study funded by a grant from the USDA's Na-



Research

tional Institute of Food and Agriculture. Co-investigators are Tom Davenport, a horticulturist at the University of Florida, and Judy Johnson, a USDA-ARS entomologist in Parlier, Calif.

The project is supported by Atlas Technologies, a low-pressure equipment company in Port Townsend, Wash.

Chemical fumigation of apples and cherries before export is being phased out by international agreements over concern of harm to human health and the environment, especially the ozone layer,

Wang said.

For more than a decade, he has studied radio-frequency technology as an alternative. That worked with dry products such as nuts and legumes but hasn't worked well with fresh fruits because of their heat sensitivity, he said.

Jim McFerson, manager of the Washington Tree Fruit Research Commission in Wenatchee, said the radio-frequency technology often has been detrimental to fruit quality and hasn't been affordable.

Methyl bromide as a fumigant is safe when used properly but too long a treatment can ruin cherries, McFerson said.

"We've looked at various approaches to control pests and diseases in tree fruit and supported such work, none of which has achieved commercial application because of issues of efficacy, cost and product quality," he said.

"If this makes progress, we will be excited," he said.

Eugene Kupferman, postharvest specialist at the WSU Tree Fruit Research and Extension Center in Wenatchee, said the low-pressure or hypobaric approach was tried 30 years ago but was uneconomical and required chambers to withstand pressure. Atlas Technologies has developed technology to treat fruit on a commercial scale, he said.

"It will be interesting to see what comes of it," he said.

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