

## Implementation Programs

### A Systems Approach Alternative to Methyl Bromide Fumigation for the Export of Apricots, Nectarines and Peaches to British Columbia, Canada

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Postharvest fumigation with methyl bromide (MeBr) is a commonly used treatment to provide security against the movement of quarantine pests when exporting agricultural products. However, the use of MeBr can present problems.

On a global scale, MeBr has been implicated as an ozone-depleting substance, with many uses scheduled for elimination under the terms of the Montreal Protocol. Under this agreement postharvest commodity treatment uses will be retained in some form. Until its amendment last year in the 105th Congress, the U.S. Clean Air Act was even more restrictive, eliminating all uses of methyl bromide by 2005. MeBr restrictions under the amended Clean Air Act are in line with current Montreal Protocol requirements regarding postharvest use of the product.

#### **The British Columbia Market**

For soft fruit growers in the Pacific Northwest, British Columbia, Canada, is an important market. In 1997, approximately 1370 tons of apricots, peaches, nectarines and prunes were exported to that province out of a total crop of 38,479 tons, making it one of our industry's largest export markets. However, based on official survey information, a key stone fruit pest, Oriental fruit moth (*Grapholita molesta* Busck) (OFM), does not exist in British Columbia. This insect is found in the Northwest states of Idaho, Oregon and Washington as well as California. Prior to 1999, all soft fruit exported to British Columbia was required to be fumigated with MeBr.

In spite of its relative importance, the absolute size of the British Columbia market precludes Northwest growers from making unjustifiable investments in fumigation and cooling facilities. Fruit kept at lower pulp temperatures must be fumigated with higher rates of MeBr, risking phytotoxicity, or warmed for fumigation at lower MeBr rates, risking product quality deterioration. Northwest soft fruit shippers would prefer not to fumigate.

In late summer 1998, the Canadian Food Inspection Service (CFIA) approached USDA's Animal and Plant Health Inspection Service (APHIS) seeking to determine if the U.S. would be interested in developing an alternative to fumigation of soft fruit exported to British Columbia. This request was driven by that region's retail produce industry concerns about the loss of soft fruit supplies should postharvest quarantine uses of MeBr be eliminated in the U.S. On behalf of its potentially affected industries, APHIS responded positively. The Northwest Horticultural Council represented the Northwest industry in developing a protocol, assisted by a subcommittee of the industry's growers and shippers.

### **A Systems Approach as an Alternative**

No direct treatment alternative to MeBr that would provide quarantine security for OFM has been shown to be effective for use on soft fruit. However, in 1997 the California stone fruit industry developed a systems approach alternative to MeBr fumigation for the export of peaches to Mexico. Again the pest of quarantine concern is OFM. Since 1997, APHIS has operated a pilot program, qualifying a percentage of their shipments to Mexico. The balance is fumigated.

Systems approaches integrate biological, physical, and operational factors that can affect the incidence, viability and reproductive potential of a pest into a system of practices and procedures that together provide quarantine security. Because an approach such as this requires two or more components to provide quarantine security, systems approaches can be more difficult to manage and costly. On June 26, 1999 CFIA approved an OFM certification pilot program for the states of Idaho and Washington based on the Mexico systems approach concept. A separate program with slightly different requirements was approved for California. Nineteen loads a week were approved for all three states.

The specific components of the Pacific Northwest OFM systems approach in 1999 were:

- Low prevalence of OFM in production areas.
- Orchard monitoring for OFM.
- Control in the orchard: Mating disruption or insecticides.
- Recordkeeping: Monitoring and treatment records.
- Fruit inspection in the orchard, from the cull bin and from packed boxes.
- Inspection upon arrival in British Columbia.

### **1999 Results and Considerations for 2000**

Approximately 15 loads of soft fruit from the state of Washington were shipped to British Columbia from July through September 1999. No quarantine pests were detected in any load. Systems approach shipments were limited by importer concerns regarding delays in clearing loads when insects were detected upon import inspection. All suspect insects were shipped to Ottawa for identification. Although the official CFIA report has not yet been released, the predominant insects detected were peach twig borer and leafrollers. Most exports to British Columbia were fumigated. We plan to request that CFIA explore ways to reduce the identification delay. Other issues are reducing the amount of fruit cut from the orchard and cull bin; eliminating the shipment quota, completing the pilot program agreement well in advance of anticipated program initiation in early April and including plums and prunes in the directive.