



# Newsletter Extension

## Fruit ICM News

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## Calendar

**Sept. 17-19: Farm Science Review**, Molly Caren Agricultural Center, London, OH. Crops are ready to harvest and exhibitors are waiting in line for Ohio State University's 2002 Farm Science Review. The Review, an agricultural trade show, sold out of exhibitor space far in advance, with 574 commercial exhibitors featuring everything from machinery to seed to work clothes. The Review also showcases education experts and farm and conservation agencies.

## Keeping Fruit Trees Clean - NRSP 5

*Source: Bill Shane, District Fruit Agent, SW Michigan Research and Extension Center, Fruit Crop Advisory Team Alert, Vol. 8, No. 17, September 10, 2002*

Virus, viroid, and phytoplasma diseases are problems that plague tree fruit unless nurseries and growers are continually vigilant. An important ally in this battle is the National Research Support Project 5 (NRSP5). Located in Prosser, Washington, this service helps nurseries, plant breeders, and researchers maintain virus-free fruit trees. The NRSP5 tests and eliminates viruses, viroids, and other serious diseases from fruit trees. Most of the trees entering the U.S. are tested at Prosser for exotic diseases before being used by the nursery industry.

Diseases such as tomato ring spot virus, prune dwarf virus, and prunus necrotic ring spot will build up in orchards and nursery stock and cause tree decline, poor fruit yields and quality. The NRSP5 service

allows nurseries to start with clean material that they can then keep clean by isolation from other contaminated trees and weeds. Annual inspection by experts from the state Department of Agriculture helps insure that high quality is maintained by nursery operations.

Money to support the NRSP is obtained from the state agricultural experiment stations (46%), Washington State University (14%), and user fees (14%). The budget of the NRSP is currently approximately \$250,000 per year. According to Bill Howell, manager of the NRSP5, this amount is small compared to the potential losses that contaminated fruits can cost the industry. For example, the plum pox introduction into Pennsylvania has cost an estimated 40 million dollars, enough to fund the NRSP5 for 140 years at the current level of funding. The NRSP5, in partnership with nurseries, state department of agriculture, universities, and growers has helped to improve orchard productivity.

These are examples of virus and viroid disease challenges facing Michigan tree fruit growers. Plum pox virus, recently discovered in Ontario and in Pennsylvania could be devastating to the Michigan peach industry. Over 1,158 acres of stone fruit have or will be destroyed in Pennsylvania since this virus was detected there a few years ago. Monitoring programs for plum pox are critical for the Michigan industry.

Apple union necrosis and decline, caused by tomato ringspot virus (TmRSV) and spread by the dagger nematode, is the same virus-causing, stem-pitting disease in stone fruit. The virus is naturally found in many broadleaf weeds and is transmitted to fruit trees by the dagger nematode. The virus is common in Michigan, and many apple orchards are at risk of infection. Cleaning up this disease is an important task facing the Michigan industry.

Several new cherry rootstock hybrids have been introduced from breeding programs in Europe. The cherry industry has been very interested in these rootstocks because they result in cherries with early, heavy fruit production. The best dwarfing was found in new rootstock obtained from crosses involving wild *Prunus fruticosa*. Unfortunately, the dwarfing selections are readily killed by infection with *Prunus* necrotic ringspot or prune dwarf viruses, both of which are very common in cherry growing areas. Collaborative research at NRSP5 with Dr. Amy Iezzoni of the cherry-breeding program at Michigan State University indicates that several *P. fruticosa* hybrids in that program are tolerant of these viruses.

Peach latent mosaic viroid was shown to be widespread in U.S. peach and nectarine orchards. Work in collaboration with the NRSP5 has confirmed that this viroid is likely spread from infected trees by the green peach aphid. The impact of this viroid on the Michigan industry, particularly in combination with other diseases, is not known.

## Gray Mold Control in Fall Raspberries

*Source: Annemiek Schilder, Plant Pathology, Fruit Crop Advisory Team Alert, Vol. 8, No. 17, September 10, 2002*

Gray mold, caused by the fungus *Botrytis cinerea*, is one of the most important diseases affecting fall raspberries. Fall raspberries are usually at greater risk of infection than summer raspberries because of the prevailing weather conditions, such as lower temperatures, heavy dews, and frequent precipitation. Cool, wet weather is conducive to development of the fungus and infection of the fruit.

Typical symptoms include a brown discoloration of the fruit and the presence of a gray, fuzzy mold, which can rapidly develop and spread to neighboring healthy berries. Symptoms tend to be more severe

inside the canopy and on clusters closer to the ground. Even if berries look perfectly healthy at harvest, they can change to a moldy mass within 24 to 48 hours.

*Botrytis cinerea* is a ubiquitous fungus, which is able to grow and sporulate profusely on dead organic matter. It overwinters in old, infected canes and plant debris. The spores are airborne and can travel long distances on the wind. When the spores land on plant surfaces, they germinate and can invade the plant tissues directly or through wounds. Overripe berries and bruised berries are particularly susceptible to infection.

Cultural methods are very important for control of Botrytis gray mold. Choosing a site with good air flow can reduce humidity in the canopy considerably. Low-density plantings/narrow rows and trellising can also reduce a buildup of humidity. Good weed control and moderate fertilizer use to avoid lush growth are also important. Selecting a resistant cultivar or, at the minimum, avoiding highly susceptible cultivars will help to reduce the need for control measures. During picking, avoid handling infected berries, since spores can be transferred on hands to healthy berries. Timely harvesting and rapid post-harvest cooling can also help to reduce losses to Botrytis gray mold.

Several fungicides are labeled for control of Botrytis in raspberries. Fungicide sprays during bloom are important to prevent pre-harvest infections, while post-harvest infections can be reduced by sprays closer to harvest. Elevate is a relatively new, reduced-risk, protectant fungicide with a zero-day PHI that provides good control of pre- and post-harvest gray mold. Since only four applications may be made per season (and only two consecutively) because of the risk of resistance development, Elevate should be alternated with fungicides with a different mode of action, e.g., Captan. My recommendation is to save Elevate for critical sprays, e.g. during wet periods at bloom and for sprays closer to harvest. Other fungicides that may be used in the spray program are Benlate (if any stocks are left, tank-mixed with Captan), which has a three-day PHI, Rovral, which has a zero-day PHI, or Nova, which has a zero-day PHI. Some growers have experienced poor control with Rovral, which may indicate that Rovral-resistant Botrytis strains are present in their fields.

## Ohio Drought Watch: September 7, 2002

Source: [http://www.cpc.ncep.noaa.gov/products/analysis\\_monitoring/regional\\_monitoring/palmer.gif](http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/regional_monitoring/palmer.gif)

State District	Situation
Northwest	Moderate drought
North-central	Moderate drought
Northeast	Moderate drought
Central Hills	Moderate drought
Eastern Hills	Severe drought
South	Moderate drought
Southwest	Moderate drought
Central	Moderate drought
Southeast	Moderate drought

The USDA Topsoil Moisture chart indicates that 84% of the state is experiencing short to very short topsoil moisture conditions as of September 8, 2002.

Source: [http://www.cpc.ncep.noaa.gov/products/monitoring\\_and\\_data/topsoil.html](http://www.cpc.ncep.noaa.gov/products/monitoring_and_data/topsoil.html)

## IR-4 New Products Now on the Web

Source: [http://pmep.cce.cornell.edu/ir4/chemical\\_list\\_702.html](http://pmep.cce.cornell.edu/ir4/chemical_list_702.html)

[Issue 29 \(August 29, 2002\)](#) of this Ohio ICM Fruit News contained a partial list of IR-4 new products and transitional solution materials. A complete list is now available at the above website.

## Fruit Observations & Trap Reports

Insect Key	
AM:	apple maggot
CM:	codling moth
ESBM:	eye-spotted budmoth
LAW:	lesser apple worm
LPTB:	lesser peachtree borer
OBLR:	obliquebanded leafroller
OFM:	oriental fruit moth
PTB:	peachtree borer
RBLR:	redbanded leafroller
SJS:	San Jose scale
STLM:	spotted tentiform leafminer
TABM:	tufted apple budmoth
VLR:	variegated leafroller

Site: Waterman Lab, Columbus  
Dr. Celeste Welty, OSU Extension Entomologist

### Apple: 9/04 to 9/11/02

RBLR: 13 (down from 88)  
STLM: 107 (down from 138)  
CM (mean of 3 traps): 7.3 (down from 10.3)  
TABM: 3 (down from 9)  
SJS: 21 (up from 12)  
VLR: 4 (up from 2)  
OBLR: 4 (down from 6)  
AM (sum of 3 traps): 6 (down from 7)  
LAW (mean of 3 traps): 10.7 (down from 13.3)

### Peach: 9/04 to 9/11/02

OFM: 11 (up from 0)  
 LPTB: 4 (up from 1)  
 PTB: 0 (down from 2)

## Terminal Market Wholesale Fruit Prices September 11, 2001

Source: Chicago [http://www.ams.usda.gov/mnreports/HX\\_FV010.txt](http://www.ams.usda.gov/mnreports/HX_FV010.txt)

Detroit [http://www.ams.usda.gov/mnreports/DU\\_FV010.txt](http://www.ams.usda.gov/mnreports/DU_FV010.txt)

Pittsburgh [http://www.ams.usda.gov/mnreports/PS\\_FV010.txt](http://www.ams.usda.gov/mnreports/PS_FV010.txt)

	Chicago	Detroit	Pittsburgh
<b>Apples</b> , cartons, 12 3-lb filmbags, U.S. Fancy Gala	<b>MI</b> 2¼" min 15.00	<b>MI</b> 2½" min 16-16.50	
U.S. Fancy Ginger Gold		<b>MI</b> 2½" min 15-15.50	
U.S. Fancy Jonathan	<b>IL</b> 2½" min 16.00 <b>MI</b> 2¼" min 15.00		
U.S. Fancy McIntosh			<b>NY</b> 2½" min 17-18.00
U.S. Fancy Paula Red			<b>MI</b> 2½" min 15-16.00
<b>Apples</b> , bu cartons, loose, no grade or size marks, Gala			<b>WV</b> 17.25
<b>Apples</b> , bu cartons, loose Jonathan	<b>IL</b> 2¼" min 14-16.00		
<b>Blueberries</b> , 12 1-pt cups	<b>MI</b> 16.00-18.00	<b>MI</b> 16.00-19.00	No offerings
<b>Peaches</b> , 25 lb cartons, loose U.S. ExOne, various yellow flesh varieties	<b>NC</b> 2¾" up 14-15.00 <b>NJ</b> 2½" min 12-13 few best 15.00		
<b>Peaches</b> , ½ bu ctns, no grade marks, various yellow flesh varieties		<b>NJ</b> 2¾" up 12-14.00 2½" up 10.50-11.00	
<b>Peaches</b> , ½ bu ctns, U.S. ExOne various yellow flesh varieties		<b>NJ</b> 2¾" up 18-20.00 2½" up 16-18.50 2¼" up 12-13.00	<b>NJ</b> 2½" up 18-22.00 <b>WV</b> 3" up 21.25 2½" up 18.75
<b>Prune Plums</b> , 30 lb ctns U.S. One Bluefire		<b>MI</b> 1¼" min 17.00	
<b>Prune Plums</b> , 30 lb ctns U.S. One Stanley		<b>MI</b> 1¼" min 15.00	

The intent of listing terminal market prices is to provide information available in the public domain. It is not intended for price setting, only to assist growers in evaluating the value of their crops. Producers need to remember that the prices listed are gross, and consideration must be given to marketing costs, including commission, handling charge, gate fees, and possible lumper fees.

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Information presented above and where trade names are used, they are supplied with the understanding that no discrimination is intended and no endorsement by Ohio State University Extension is implied. Although every attempt is made to produce information that is complete, timely, and accurate, the pesticide user bears responsibility of consulting the pesticide label and adhering to those directions.

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