



# Newsletter Extension

## Fruit ICM News

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### In This Issue:

#### [Calendar](#)

[MAAHS Piloting Ohio Ag and Hort Human Resource Managers' Forum](#)  
[Phytophthora Root Disease Management in Berry Crops Begins in the Fall](#)  
[Improved Crop Insurance Program Available to Apple Growers](#)  
[Fruit Observations & Trap Reports](#)  
[Terminal Market Wholesale Fruit Prices September 27, 2004](#)

## Calendar

**October 14-15: Midwest Fruit Workers Meeting**, Marion County Extension Office, Indianapolis, IN. Contact John Strang by e-mail at [jstrang@uky.edu](mailto:jstrang@uky.edu).

**November 3: Ohio Vegetable and Small Fruit Research and Development Program Board Meeting**, Waterman Research Lab, Wittmeyer Conference Room. Contact Tom Sachs at 614-246-8292 or e-mail [growohio@ofbf.org](mailto:growohio@ofbf.org) or click on <http://www.ohiovegetables.org>.

**November 9: Ohio Ag and Hort Human Resource Managers' Forum**, Hilliard, OH. See article following calendar for details and contacts.

**November 11: Ohio Fruit Growers Society Board Meeting**, Dutch Heritage, Bellville. Contact Tom Sachs at 614-246-8292 or e-mail [growohio@ofbf.org](mailto:growohio@ofbf.org) or click on <http://www.ohiovegetables.org>.

**November 18: Ohio Fruit Growers Society Research, Extension/Education, and Ohio Apple Operating Committee Meetings**, Dutch Heritage, Bellville. Contact Tom Sachs at 614-246-8292 or e-mail [growohio@ofbf.org](mailto:growohio@ofbf.org) or click on <http://www.ohiovegetables.org>.

**January 19-21, 2005: Ohio Fruit and Vegetable Growers Congress / Ohio Direct Marketing Conference**, Toledo SeaGate Centre. Contact Tom Sachs at 614-246-8292 or e-mail [growohio@ofbf.org](mailto:growohio@ofbf.org).

**February 10-12, 2005: North American Farmers' Direct Marketing Conference and Trade Show**, Boston Park Plaza Hotel, Boston, MA. Contact 413-529-0386, e-mail [info@nafdma.com](mailto:info@nafdma.com), or click on <http://www.nafdma.com>.

**February 16-19, 2005: North American Berry Conference**, Nashville, Tennessee. Combined

conference of North American Bramble Growers and North American Strawberry Growers. See the following article for more information.

## **MAAHS Piloting Ohio Ag and Hort Human Resource Managers' Forum**

*Source: John Wargowsky, Executive Director, Mid American Ag and Hort Services, Inc.*

Do you have ag or hort human resource (HR) responsibilities? Would you like to interact with ag and hort HR people from across the state? Would you benefit from knowing how other HR people tackle some of the same problems you face? Do you face some tough HR problems that occur over and over?

Mid American Ag and Hort Services (MAAHS) is pleased to announce the first Ohio Ag and Hort Human Resource Managers' Forum for people who answered yes to one or more of these questions.

The Forum will be held Tuesday, November 9, in Hilliard from 10:00 a.m. to 2:30 p.m. This opportunity will provide a forum for fostering professional development and advancing effective human resource practices for human resource managers in agricultural and horticultural businesses.

"I am interested in learning how other agricultural businesses handle HR issues when the task is compounded by the seasonal, migrant, and language barrier factors," said a wholesale nursery HR manager in western Ohio who will attend the pilot forum.

The featured topic will be "making motivation an employer/employee partnership." Bernie Erven of Erven HR Services LLC, a well-respected human resource expert, will develop a case study and facilitate this two-hour portion of the program. John Wargowsky, Executive Director of MAAHS, will review how the U.S. Department of Labor's new overtime pay regulations affect agricultural and horticultural businesses. The program will conclude with an open discussion on continuing such a forum and how it should be structured.

"This forum is a way for me to find out how other HR managers are effectively dealing with the day-to-day people issues and complying with the ever-increasing labor laws and regulations that face our industry," said a vegetable HR manager in northeast Ohio. An HR manager with a poultry firm in northwest Ohio said she will attend the forum to interact with other HR managers in the agricultural field and to benefit from sharing experiences.

The registration fee of \$50 for MAAHS members and \$70 for non-MAAHS members includes lunch and materials. Participation in the pilot Forum is limited to the first 40 registrants and reservations are requested by November 1. Contact MAAHS at 614-246-8286, [labor@ofbf.org](mailto:labor@ofbf.org) or <http://www.midamservices.org>. (Click on "Events" for more information.)

## **Phytophthora Root Disease Management in Berry Crops Begins in the Fall**

*Sources: Adapted from Michael Celetti, Plant Pathologist, Horticultural Crops/Ontario Ministry of Agriculture and Food, and 2004 Midwest Commercial Small Fruit and Grape Spray Guide*

The wet and cool conditions experienced earlier this year were ideal for infection and development of *Phytophthora* spp. root diseases in berry crops. Red stele of strawberries and *Phytophthora* root rot of raspberries are two diseases that thrive in cool, wet soils.

*Phytophthora* spp. are sometimes referred to as water molds; however, they are not classified in the "Mold" family. They survive as resistant oospores (persistent sexual resting spores) in soil for long periods or as mycelium (mold) in recently infected plant debris. During favorable conditions, the mycelium and oospores germinate to produce a structure called a sporangium. Under moist but not wet conditions, roots can become infected if they come in contact with the sporangium. However, when soils become saturated for a sustained period of time (30 minutes to 6 hours), the sporangium produce and release many zoospores with tails that swim toward and infect the root tips of berry plants. This is why plants growing in heavy, wet, poorly-drained soils are at increased risk of becoming infected by *Phytophthora* spp.

Berry plants infected with *Phytophthora* spp. frequently appear stunted during the second or third year of growth. They wilt very quickly under hot weather conditions because the root systems have been compromised by the disease. Symptoms are first noticed in low areas of a field or row where water accumulates for extended periods after irrigation or a heavy rain. Eventually the disease moves along the row from the initially infected plants.

It is relatively easy to diagnose red stele (*Phytophthora fragariae*) in strawberries by digging up the roots of infected strawberry plants and slicing them longitudinally. The vascular tissue (sometimes called the stele) of infected roots will appear blood red surrounded by white cortex tissue hence the name "red stele."

The secondary roots are often pruned significantly by the root pathogen, giving the root system a "rat tail" appearance. Healthy roots should appear white throughout, whereas other root diseases such as black root rot or Verticillium wilt will not cause the blood red core.

Raspberry plants infected with *Phytophthora* root rot may be a little more difficult to diagnose. Infected plants produce few primocanes. The few floricanes and primocanes that are produced often appear wilted with leaves looking scorched along the margins and between veins. Eventually the leaves turn

completely yellow as the disease progresses over the seasons. Scraping the epidermis of infected raspberry roots will reveal a reddish-brown tissue with a distinct margin where diseased tissue meets the healthy white tissue. This reddish-brown tissue may also extend into the crown. For confirmation of the disease, suspected diseased plants should be sent to a pest diagnostic lab.

Managing root disease caused by *Phytophthora* requires an integrated approach including good site selection, growing resistant or tolerant cultivars, planting in raised beds, planting disease free nursery stock or transplants, and applying a registered fungicide when necessary. Ridomil Gold EC is labeled for control of *Phytophthora* root rot on raspberries. The label reads as follows: "Apply 1/4 pt. per 1000 linear feet of row to the soil surface in a three-foot band over the row. Make one application in the spring and another in the fall, after harvest. Use the formula in the General Information section of this label to calculate the amount of Ridomil Gold EC needed per acre. Note: Do not apply Ridomil within 45 days before harvest or illegal residues may result." See the label for more detailed information.

Aliette 80 WDG is registered for control of *Phytophthora* root rot on caneberries (raspberry and blackberry). The label recommendation reads as follows: "Begin foliar sprays (5 lb./acre) in the spring after bud break (1-3 inches new growth) and continue spraying on a 45-60 day schedule, up to a

maximum of four (4) sprays during the growing season. Do not apply Aliette within 60 days of harvest."

Phosphorous acid (Agri-Fos) is registered for control of root rot on brambles. It has essentially the same active ingredient as Aliette. See label.

For *Phytophthora* management in strawberries, Ridomil is labeled for control of red stele (caused by *Phytophthora fragariae*) and leather rot (caused by *Phytophthora cactorum*). The label for perennial strawberries reads as follows: "Established Plantings: Apply Ridomil Gold EC at 1 pt. per treated acre in sufficient water to move the fungicide into the root zone of the plants. Make one application in the spring after the ground thaws and before first bloom. A second application may be applied after harvest in the fall. For supplemental control of leather rot, an application may be made during the growing season at fruit set. Use sufficient water to move the Ridomil into the root zone. For banded applications, a 12-inch band is recommended. Use the formula in the General Information section of this label to determine the amount of Ridomil needed per acre. **Note:** To avoid possible illegal residues, do not use more than a total of 1 1/2 qt. Ridomil Gold EC per acre on strawberries per year."

Aliette is labeled for control of red stele and leather rot. For red stele it is labeled for use as a dip (before planting) or as a foliar spray. **Dip:** Use 2.5 lb. per 100 gallons of water. Apply as a pre-plant dip to strawberry roots and crowns for 15-30 minutes. Plant within 24 hours after dipping. **Foliar:** Apply 2.5 to 5 lb./A. Apply as a foliar spray in the spring when plants start active growth. If disease conditions persist or reoccur, make additional applications at 30- to 60-day intervals.

For leather rot, apply 2.5 to 5 lb./A. Apply as a foliar spray between 10% bloom and early fruit set, and continue on a 7-14 day interval as long as conditions are favorable for disease development. Applications can be made the same day as harvest (PHI=0 days). Do not exceed 30 lb. product per acre per season.

Phosphorous acid (Agri-Fos) is labeled for control of red stele and leather rot on strawberries. This material has essentially the same active ingredient as Aliette, and the use recommendations for red stele and leather rot are very similar to those of Aliette; however, Aliette is a wettable powder and Agri-Fos is a liquid. Refer to the *2004 Midwest Commercial Small Fruit and Grape Spray Guide* for spray recommendations.

For red stele, first treatment is made during spring growth flush, and treatment is repeated at 1 to 2 month intervals as needed. Several phosphorous acid fungicides are currently being registered for use on several crops in the U.S. and others will probably be registered for use on strawberry.

Although both Aliette WDG (Fosetyl-Al) and Ridomil Gold 480 EC (metalaxyl-M) are effective against root diseases caused by *Phytophthora spp.*, they are very different in the way they control these pathogenic fungi and the way they move in plants. Ridomil was originally targeted to protect crops from foliar diseases; however, it is now widely used for controlling many soil borne diseases as well. Ridomil acts on susceptible fungi by inhibiting RNA synthesis. The end result is that Ridomil interferes with the development and germination of *Phytophthora spp.*

Ridomil is very soluble in water and moves systemically up from roots to stems and then leaves with the transpiration stream of plants. There is very little movement in the opposite direction in plants, and therefore it is important to apply this fungicide as a soil drench for best results against *Phytophthora* root diseases. Fall is the time to apply Ridomil to control red stele in strawberries and *Phytophthora* root rot in raspberries. For best control of red stele in strawberries, Ridomil 480 EC should be applied during early September and again at the end of October before freeze up.

Aliette WDG, on the other hand, is one of the first fungicides developed that can move both up and down in plants. On berries Aliette is only registered for foliar applications. Once inside the plant, the active ingredient is broken down rapidly into phosphorous acid, which is extremely soluble in water and toxic to many *Phytophthora* species. Aliette works in two ways. It acts directly on the invading fungus to stop its growth and sporulation. It also acts indirectly by stimulating the plant to activate its own defense system, thus helping preventing future infections from taking place. Plants that have their defense system already activated prior to invasion by a pathogen can defend much more effectively than plants that do not have their defense system pre-activated.

If making applications of Aliette in the fall, be sure the last application is made at least 30 days prior to leaf drop to allow the product to convert to the active phosphorous acid and move to the roots. In the spring, be sure to apply Aliette within 60 days of harvest. A maximum of four applications per season, 2 in the spring and 2 in the fall are allowed.

Regardless of the way these two effective fungicides work, they should never be used exclusively to control either red stele in strawberries or *Phytophthora* root rot in raspberries. Ridomil and Aliette should be alternated and included as part of an integrated disease management system to reduce the potential of resistance developing. As with any pesticide, always read and follow the product label carefully prior to use.

## Improved Crop Insurance Program Available to Apple Growers

Source: <http://fruitgrowersnews.com/>

Growers will have the opportunity to insure 2005 crop apples under a new, improved crop insurance policy, but it is important that decisions are made quickly, as the sign up deadline is November 20. The new provisions, the result of a joint effort by the U.S. Apple Association (USApple) and the USDA Risk Management Agency (RMA), will give growers access to better risk management options.

The apple-crop insurance policy will now cover all major weather-related risks. Apple growers will be protected from common perils without having to select additional optional coverage. The new provisions allow claims for apples failing to meet U.S. No. 1 processing grade instead of U.S. cider grade. Without this change, growers with the basic policy wouldn't be able to count apples as a loss as long as they were cider grade or better.

But despite these and other improvements in the policy, additional work needs to be done to further improve the policy. From a sales date too close to the end of the harvest to allowing the creation of smaller orchard units and allowing options for additional apple grades, USApple will continue to press for ways to make the policy an even more effective tool.

While it's an improvement, the revised policy is not fully adequate as a risk management tool for apple growers as long as these additional options are absent. USApple strongly urged USDA to revise the policy in a way that would allow apple growers to divide their orchards into separate units, using public rights-of-way and other discernible breaks. This move would help growers establish more reasonably-sized orchard units and result in more equitable treatment of weather-related claims. USApple was one of several groups calling for such a change.

This recommendation isn't part of the final changes to the policy at this time, but the door has been left open for adjustments in this area. USDA officials said the change would need to be consistent across all perennial crops. Additionally, RMA is evaluating optional units and what rates would be appropriate.

Changes that created smaller units than are allowed now would "not be appropriate" until that evaluation is completed, USDA officials said.

A change in the sale dates is needed as well. It's important to extend the sales closing to a reasonable time after the apple harvest. The current sales closing date is too close to the harvest.

It's vital to the success of the industry that USDA continue to work on a way to allow optional coverage for U.S. No. 1 Fresh and U.S. Extra Fancy grades to the apple-crop insurance policy by the 2007 season. USApple urged USDA to make this issue a high priority in its ongoing plans to improve the apple crop insurance policy.

## Fruit Observations & Trap Reports

Insect Key	
AM:	apple maggot
CM:	codling moth
ESEM:	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 9/15 to 9/22/04	
Redbanded leafroller	7 down from 21
San Jose scale	13 up from 8
Codling moth	2.7 up from 2.3
Lesser appleworm	7 down from 8
Tufted apple budmoth	3 up from 0
Variegated leafroller	3 down from 4
Obliquebanded leafroller	1 down from 0
Apple maggot (sum of 3	3 down from 8

traps)

## Terminal Market Wholesale Fruit Prices September 27, 2004

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)

	<b>Chicago</b>	<b>Detroit</b>	<b>Pittsburgh</b>
<b>Apples</b> , cartons 12 3-lb film bags U.S. ExFcy (unless noted)	<b>IL</b> U.S. Fancy Jonathan 2¼" up 14.00 <b>MI</b> U.S. Fancy Golden Delicious 2¼" min 12.50 Red Delicious 2¼" min 12.50	<b>MI</b> Empire 2½" min 12.00 Gala 2½" min 12.00- 16.50 G. Delic 2½" min 12.00- 14.50 Honeycrisp 2½" min 14.00 Jonamac 2½" min 12- 12.50 Jonathan 2½" min 13.50-14.50 McIntosh 2½" min 12.00-14.50 R. Delic 2½" min 12.00- 14.50  <b>NY</b> McIntosh 2½"min 17-18.50 R. Delic 2½" min 17.00- 18.50 <b>MI</b> U.S. Fancy Empire 2½"up 11.50- 12.00 Gala 2¼" min 11.50- 12.00 G. Delic. 2¼" min 10.50-11.00 McIntosh 2½" min 12.00  2¼" up 10.50-11.00 R. Delic. 2¼" min 10.50-11.00	<b>NY</b> Jersey Mac 2¼" up 16.00 Fancy Paula Red 2½"up 13.00 <b>PA</b> U.S. One Empire 2¼" min 13.25 Gala 2¼" min 16.75 G. Delic. 2¼"min 15.25 Jonathan 2¼" min 13.75 R. Delic. 2¼"min 15.25
<b>Apples</b> , cartons tray pack, U.S. ExFcy (unless noted)		<b>MI</b> Honeycrisp 64s-72s 50.00 88s 50.50 Jonamac 113s 16.50	<b>WV</b> Comb ExFcy-Fcy G. Delic. & R. Delic. 88s 17.25 125s &138s 15.75

		138s 15.50	
<b>Apples</b> , cartons cell pack U.S. ExFcy (unless noted)	<b>NY</b> McIntosh 80s 24.00, 96s 22.00, 100s 13-13.50, 120s 12.00	<b>NY</b> U.S. ExFcy Mcintosh 80s 23.00-24.50 100s 21.00-22.50	<b>NY</b> McIntosh 100s 22.00 Paula Reds 80s-100s 14.00 Comb U.S. ExFcy-Fancy Mcintosh 100s 18.00
<b>Apples</b> , bushel cartons loose U.S. Fancy (unless noted)	<b>IL</b> Red Del. 14.00	<b>MI</b> U.S. ExFcy Gala 2¾" up 15 Empire 2½" up 10, 2¾" up 12 3" min 15.00 G. Delicious 2¾" up 15.00 McIntosh 2¾" up,15; 3"min 15 R. Delicious 3" min 14.00 U.S. Fcy Cortland 2¾" up 15 2½" 12.00, 3" min 15.00  Gala 2½" up 12.00 McIntosh 2¾" up 12.00	<b>PA</b> No grade or size marks Empire 12.75 Gala 16.25 G. Delic. & R. Delic 13.75 Jonathan 12.75
<b>Blueberries</b> , 12 4.4-oz cups/lids	<b>MI</b> 22.00-26.00	<b>MI</b> med 23.00-24.00	<b>MI</b> med-lge 25.00
<b>Blueberries</b> , 12 6-oz cups/lids		<b>MI</b> med 24.00-27.00	
<b>Blueberries</b> , 12 1-pt cups/lids		<b>MI</b> med 34.00-36.00	
<b>Grapes</b> , cartons 2 8-qt baskets			<b>PA</b> Niagara 16.00
<b>Grapes</b> , cartons 12 1-pt cont/lids		<b>MI</b> U.S. One Concord med 18	<b>NY</b> Concord 16.00-18.00
<b>Prune Plums</b> , 30 lb cartons	<b>MI</b> Bluefire 1¼" up 12-12.50	<b>MI</b> U.S. One Stanley 1¼" min 16.00-16.50	U.S. One Stanley <b>MI</b> 1¼" min 16.00, <b>WV</b> 12.75

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; consideration must be given to other marketing costs, i.e. 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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| [Back](#) |