



## Fruit ICM News

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### In This Issue:

[Calendar](#)

[Ohio Tree Fruit Strategic Plan](#)

[Posting of Ohio Fruit and Berry Acreages](#)

[Plum Pox Virus - Are We Ready?](#)

[Where Does Ohio Fit Into the Picture](#)

[Additional Plum Pox Information](#)

[February Preliminary Climatological Report](#)

### Calendar

**March 14: Update Meeting on Worker Protection Standards**, Sandusky Co. Jobs & Family Services Bldg., 2511 Countryside Drive, Fremont, Ohio, 9:00 a.m. to noon. Robert DeVany, Pesticide Control Supervisor for the Ohio Department of Agriculture, will discuss grower obligations under the WPS Act. Further details are available from the Sandusky County Extension Office at (419) 334-6340.

**March 16:** Paul Wright, Attorney at Law, will be in Northeast Ohio to explain business organizational forms (partnership, corporation, limited liability corporation, etc.) This subject applies to horticultural, farm, and non-farm businesses. See later article.

**March 29:** North Central Ohio Fruit Crops Breakfast, featured speaker: Dr. Mike Ellis, Ohio State University Plant Pathologist. Vanson's Restaurant, Monroeville, OH. Breakfast at 8:00 a.m., meeting at 8:45 a.m.

### Ohio Tree Fruit Strategic Plan

During a session at the recent Ohio Fruit and Vegetable Congress, Dave Patterson of the Patterson Fruit Farm, Chesterland, Ohio outlined the progress in developing the Ohio Tree Fruit Strategic Plan. He expressed the appreciation of his committee for the Ohio Fruit Marketing Association, Ohio State University Extension, and the Midwest Apple Improvement Association for their continuing work in improving Ohio's apple industry.

Challenges shared by many Ohio growers:

1. Labor issues of supply and quality
2. Regulatory issues related to the local question "what is agriculture?"
3. The future of crop protection materials.

Dave concluded with these two ideas. Interstate research teams such as the Midwest Apple Improvement Association need the financial support and encouragement of growers to assure that productive breeding programs can continue. Secondly, the number of Ohio State's fruit specialists must be maintained if Ohio growers are to remain competitive..

## Ohio Fruit and Berry Acreage by County

Bruce Eisley, OSU Entomology Research Associate, has posted the complete ranked county listings for acreages of Ohio tree fruit and small fruit at <http://www.ag.ohio-state.edu/~ipm/fruit/census.htm>. Additional state and national apple production information is available in OSU Bulletin 1188, co-authored by Dr. Richard Funt, at <http://ohioline.ag.ohio-state.edu/rb1188/index.html>.

## Plum Pox Virus - Are We Ready

The American Phytopathological Society presented a virtual teleseminar February 29<sup>th</sup> to explain the identification of plum pox virus (PPV) in Adams County, Pennsylvania. Ohio sponsor Mike Ellis hosted a group of growers, specialists, and crop protection representatives for the live presentation via telephone and computer projection equipment.

Vern D. Damsteegt, Agricultural Research Service (ARS) Plant Pathologist, Fort Detrick, MD, explained the spread from the first observation in plums in Bulgaria about 1915. It was reported as a viral disease by Atanosoff in 1932, called "Sarka po slivite" (Sharka) Pox of Plum. It was then observed on apricots in Bulgaria in 1933. The first report on peaches was in Hungary early in the 1960's after which it became common in eastern European peaches.

The disease was then reported in sour cherries in Moldova in the 1980's but not confirmed in nature until 1990's. Further spread in the 1990's lead to reports of infected sweet cherries in Italy and then to peaches in Chile. The spread to our country was confirmed on peaches and plum in 1999. (The source of the Adams County infected has not been identified). It is also know to affect almonds.

The host range of PPV is extensive, including commercial fruiting *prunus*, flowering *prunus*, wild *prunus*, and a variety non-*prunus* plants. Transmission over long distances is thought to be through budwood, nursery stock, and seed. Short distance spread is through at least 20 species of aphids.

Laurene Levy, Animal Plant Health Inspection Service (APHIS) Plant Pathologist described symptoms and the four major strains of PPV which have been isolated and presently associated with apricot, peach, plum, sweet and sour cherries. Peach is a natural host for strain PPV-M (Marcus) which is the epidemic form of PPV and is readily vectored by aphids. She explained six laboratory detection methods and the importance of visual orchard surveys. The costs, reliability, difficulties, speed, and adaptability for each method to routine testing were explained and ranked. The costs ranged from approximately \$.70 to \$90 per sample.

Her suggestions for PPV **prevention** were:

- Regulations regarding importation and movement of propagative materials and commercial propagants.
- Production of virus-free trees by indexing mother trees and selecting virus-free budwood and rootstocks.
- Index germplasm in quarantine (testing and therapy).
- Production and use of resistant cultivars.
- Annual visual inspection and surveys

Suggestions for PPV **control** were:

- Early detection in surveys, removal, and destruction of infested trees.
- Use of resistant rootstocks and cultivars.
- Inter-cropping sensitive cultivars with resistant cultivars, or use of non-host barriers (tree buffers).
- Chemical control of migratory or over-wintering aphids.
- Development of resistant cultivars through genetic engineering and/or conventional breeding.

Ralph Scorza, ARS Research Horticulturalist, explained the need for resistance to PPV in *prunus* as the way of dealing with a worst case scenario involving the potential for establishment of PPV in the U.S. Resistance is the third component for dealing with PPV in the long-term - the others being sanitation and inspection along with control of insects, weeds, and other alternate hosts. He described resistance as being dependent upon host genetics, virus strains, and the environment. Additionally, various levels of resistance are used for measuring plants' susceptibility. Unless levels of resistance are very high or immune plants are used, the virus will likely continue to be spread by aphids.

Transgenics will be considered for creating resistance in *prunus*. Some points to consider:

- The PPV work will be specific and not for viruses in general.
- A very high level of resistance is possible but not total immunity.
- A single gene is involved, making it quick and easy to move into new hybrids.
- Resistance can be transferred to existing varieties.
- Public acceptance of transgenics is a big question.

Why should we consider transgenics? Typically, it takes 15 - 25 years to release a new stone fruit from a conventional breeding program. Transformation could considerably shorten that time if we assume that "up-front" work is conducted to fully develop the technology for fruit trees.

**Where Does Ohio Fit Into the Picture?**

Tom Harrison, Plant Pathologist with the Ohio Department of Agriculture, has sent word that USDA is asking ODA to survey stone fruit trees this year. USDA also expects sampling of "25% of the trees (in four tree blocks) on approximately 1000 acres." Tom is concerned about the possible large number of samples and the costs of testing without a clear proposal as to who will bear those costs. We will keep you informed as this new challenge is addressed.

### **Additional PPV information web sites:**

#### **American Phytopathological Society Plum Pox site**

<http://www.scisoc.org/feature/PlumPox/Top.html>

#### **Canadian Food Inspection Agency, Plant Health Risk Assessment Unit Factsheet on Plum Pox Potyvirus:**

<http://www.cfia-acia.agr.ca/english/ppc/science/phra/plumpox/plumpox-fs.html>

#### **West Virginia University's Kearneysville Tree Fruit Research and Education Center and specifically for plum pox:**

[http://www.caf.wvu.edu/kearneysville/disease\\_descriptions/ppvresources.html](http://www.caf.wvu.edu/kearneysville/disease_descriptions/ppvresources.html)

#### **Pennsylvania Department of Agriculture Plum Pox Update:**

[http://www.state.pa.us/PA\\_Exec/Agriculture/plum\\_pox/](http://www.state.pa.us/PA_Exec/Agriculture/plum_pox/)

#### **Penn State Plum Pox site: includes a collection of images, virtual seminar videos, and a plum pox factsheet.**

<http://sharka.cas.psu.edu/>

#### **USDA Animal and Plant Inspection Service information on Plum Pox:**

<http://www.aphis.usda.gov>

#### **The UN Food and Agriculture Database:**

<http://pppis.fao.org>

#### **For articles published on the PPV in Pennsylvania search the following archives:**

<http://www.gburgtimes.com/archives>

Search using the phrase plum pox virus, and scroll through the on-line news (about 17 articles published from Oct 1999-Jan 2000 on every aspect of the Pennsylvania situation)

#### **Science News Online article, "First plum pox turns up in North America"**

[http://www.sciencenews.org/sn\\_arc99/11\\_20\\_99/fob3.htm](http://www.sciencenews.org/sn_arc99/11_20_99/fob3.htm)

## Preliminary Monthly Climatological Data for Selected Ohio Locations February 2000

| Weather Station Location | Monthly Precip | Normal Monthly Precip | Year-to-Date Precip | Normal Year-to-Date Precip | Average High | Normal High | Average Low | Normal Low | Mean Temp. | Normal Mean |
|--------------------------|----------------|-----------------------|---------------------|----------------------------|--------------|-------------|-------------|------------|------------|-------------|
| Akron-Canton             | 2.46           | 2.23                  | 4.97                | 4.39                       | 41.2         | 36.1        | 25.7        | 19.0       | 33.5       | 27.6        |
| Cincinnati               | 5.71           | 2.69                  | 10.16               | 5.28                       | 50.0         | 41.0        | 30.7        | 22.9       | 40.3       | 31.9        |
| Cleveland                | 2.05           | 2.19                  | 4.69                | 4.23                       | 42.2         | 35.2        | 26.3        | 19.4       | 34.3       | 27.3        |
| Columbus                 | 2.79           | 2.24                  | 6.32                | 4.42                       | 45.5         | 38.2        | 29.4        | 21.4       | 37.5       | 29.8        |
| Dayton                   | 2.15           | 2.17                  | 5.35                | 4.30                       | 44.6         | 38.2        | 28.8        | 20.9       | 36.7       | 29.6        |
| Elyria*                  | -              | 2.05                  | -                   | 4.09                       | 44.5         | 37.2        | 24.3        | 19.4       | 34.4       | 28.3        |
| Fremont                  | 2.13           | 1.66                  | 3.29                | 3.45                       | 40.9         | 35.2        | 22.6        | 18.6       | 31.7       | 26.9        |
| Mansfield                | 2.58           | 2.02                  | 5.61                | 4.00                       | 41.2         | 35.2        | 26.2        | 19.0       | 33.7       | 27.1        |
| Norwalk**                | 2.75           | 1.73                  | 5.20                | 3.63                       | 43.3         | 34.6        | 24.6        | 17.1       | 33.9       | 25.9        |
| Toledo                   | 1.23           | 1.73                  | 2.78                | 3.48                       | 41.1         | 33.6        | 25.5        | 17.1       | 33.3       | 25.4        |
| Wooster                  | 2.25           | 1.97                  | 4.67                | 3.92                       | 43.5         | 37.1        | 26.0        | 19.2       | 34.8       | 28.1        |
| Youngstown               | 1.82           | 2.03                  | 4.17                | 4.16                       | 40.8         | 34.2        | 24.3        | 18.0       | 32.6       | 26.1        |

Temperatures in degrees F, Precipitation in inches

Records set: *Highs - 23<sup>rd</sup>; Cleveland 66, Toledo 65, Youngstown 62; 24<sup>th</sup> - Toledo 61, 25<sup>th</sup> - Akron-Canton 68, Cincinnati 75, Columbus 74, Mansfield 69, Wooster 73; 26<sup>th</sup> - Akron-Canton 72, Cleveland 74, Columbus 75, Mansfield 71, Wooster 76, Youngstown 73*

Elyria\* - data unavailable, data from orchard monitor in Berlin Heights, Norwalk\*\* - data unavailable, data from farm monitor in Milan

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| [Back](#) |