



# Newsletter

Extension

## Fruit ICM News

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## Calendar

**August 7: Pumpkin Field Day**, Western Branch Research Station in South Charleston, 4:00-6:00 p.m. OSU researchers Mac Riedel, Bob Precheur, Celeste Welty, Jim Jasinski, and Andy Wyenandt will talk about their work at the station and help answer any questions you might have. The field day will be informal, but will cover many topics, including the use of Sandea and Strategy herbicides in pumpkins, fungicide and variety plot work, giant pumpkin production, the use of Admire, perimeter trap crops, Kairomone traps to reduce cucumber beetles, and cover crops used in pumpkin production. There are nearly 8 acres of pumpkin research at the farm. This is one of the greatest concentrations of pumpkin research in the state; don't miss your chance to see it all!

**Directions:** The Western Branch is located on the south side of S. R. 41, between I-70 and the town of South Charleston. For more details, please contact Jim Jasinski, 937-454-5002 or email: [jasinski.4@osu.edu](mailto:jasinski.4@osu.edu).

**August 8: Field Day at Waterman Lab**, northwest corner of Lane Avenue and Kenny Road, OSU Columbus Campus, 4 to 8 p.m. The new Waterman Lab Headquarters building will be featured. Dr. Celeste Welty will explain mite control strategies in Red Delicious apples and insect control in pumpkins.

**August 15-17: North American Strawberry Growers Association Summer Tour**, southern Michigan and northern Indiana. Participants will tour a variety of sites, including the latest technology in fruit

production, a local fair, and Amish produce markets. For more information, contact Erin Griebe at 810-229-9407, or [NASGAHQ@aol.com](mailto:NASGAHQ@aol.com).

## Weather and Ohio Berry Production

*Source: Richard C. Funt, Department of Horticulture and Crop Science, The Ohio State University*

Winter and spring temperatures have affected Ohio berry production. The record warm temperatures of November and December 2001 and January 2002 were of little concern for Ohio berry growers. However, long term records for thornless blackberry production indicate that early warm winter 2002 temperatures could have resulted in one of the best yields in as many as 40 years. March temperatures dropped below 5 °F and are believed to have caused cold damage to red and black raspberries. Summer type red raspberries were most affected, while fall type red raspberries are normal.

In April, a week of unusually warm temperatures and advanced plant growth was observed, particularly in raspberry, strawberry, and blackberry. Early May brought advanced blooms. On May 22, record low temperatures froze 80% of the exposed strawberry and some raspberry and thorny blackberry blooms. However, developing fruit were not damaged. Frozen black raspberry blossoms were observed for the very first time in over 50 years. However, this was less than one percent of all flowers in Columbus. The frozen blossoms were due to the warm April temperatures and then the May 22 freeze.

In July thornless blackberries have more fruit ready for harvest than ever observed in Ohio. These berries bloomed after May 22 and now have more berries than leaf surface. Some growers indicate less sweetness than last year. Sugars are improved with a balance of fruit to leaf ratios, full sunlight, and cool morning temperatures 3 to 5 days before harvest. Some blackberry fruit need an extra 1 or 2 days after turning black to achieve full flavor. Therefore, to detect a difference in fruit sweetness one needs to compare an equal level of fruit maturity.

Ohio strawberries were severely affected by the May 22 freeze. It is projected that 2002 yields will be 50% below those of 2001. Many growers did not expect temperatures to reach 27<sup>0</sup> F and did not protect blooms with overhead irrigation. The low temperature was a 100-year record.

Ohio black raspberry plants were affected early in March, and yields were lower in some cultivars due to cold temperature damage after the plants came out of dormancy. Both black raspberry and strawberry plants have recovered and should grow normally. However, with the recent drought from Route I-70 north, plants need irrigation to produce a full crop for 2003. Many water sources are now stretched beyond their capacity to irrigate without considerable rainfall on a weekly basis.

All berry plants that were set in 2001 and 2002 suffered from being planted late or sitting in water-soaked soils in May of 2001 and May of 2002. Root growth was severely restricted, due to low soil oxygen. In both years, the weather turned hot and dry and root growth was again affected if no irrigation was available. Therefore, some fields will be abandoned in 2002, particularly where irrigation was not available or an insufficient amount of stored water was not on hand.

Ohio berry growers should consider irrigation for all berry types, and particularly where raised beds are used. Secondly, growers need to design a system that can be irrigated over a period of several weeks. July and August have been the two most important months for berry plant development and fruit size over the past 10 years. Ponds should have enough water to irrigate berry crops for at least 28 days without

significant rainfall (recharge the supply). In recent years, more than 35 days have been needed between sufficient rainfall to recharge ponds.

## **Custom Apple Cider Processing and FDA Juice/Labeling Rules**

*Source: John Wargowsky, Ohio Farm Bureau Director of Labor Services, reviewed by Ohio Department of Agriculture, Division of Food Safety*

The increased regulation of juice processing that is designed to ensure public health and safety has led to a number of Ohio cider producers contracting with other cider producers. The purpose of the arrangement is to spread the cost of complying with these regulations over more gallons of cider. This series of questions and answers is designed to assist Ohio apple cider producers/marketers who are considering options to fully comply with the Federal Drug Administration (FDA) juice/HACCP and labeling regulations. Each situation may be different and cider producers/marketers who wish assistance in clarifying or better understanding these issues are encouraged to contact the Ohio Department of Agriculture, Division of Food Safety at 614-728-6250.

**Q:** If I have another cider producer custom process my apple cider and that processor has a HACCP program, including a 5-log kill process (pasteurization, ozonation, ultraviolet light irradiation), can I have that processor place the product in a bulk container for transport back to my business location where I will package into final retail containers?

**A:** According to the U.S. Food and Drug Administration, when a treated juice/cider (pasteurized, ozonated or ultraviolet light irradiated) is transported in bulk (i.e. not packaged) to another facility for packaging and labeling, it is no longer considered to be treated with a 5-log reduction method and must bear the warning statement on its label. Those very small operations that wholesale their juice/cider may continue to use the warning statement on their label until January 20, 2004. After that date, only operations that are considered to be "retail establishments" may continue to use the warning statement.

**Q:** What is the "retail exemption?"

**A:** Retail producers of juices are not covered by the juice HACCP regulation and would not be required to establish a HACCP program regardless of whether they pasteurize or use another 5-log kill process on their products. A retail establishment is an operation that only provides juice from the premises directly to consumers. "Provides" includes storing, preparing, packaging, serving, and vending. A retail establishment does not include an establishment that sells or distributes juice to other business entities. If the juice/cider is only retailed, then the warning label will continue to be required on all packaged product unless it has been treated with a 5-log kill method. That is regardless of whether you sell by the cup or jug.

**Q:** What is the timetable for the FDA juice HACCP rules?

**A:** According to the Food and Drug Administration's schedule, small processors (fewer than 500 employees) must have a HACCP program in place by January 21, 2003. Very small processors (total sales less than \$500,000, or if total sales are greater than \$500,000 but the total food sales are less than \$50,000; or person claiming exemption employs fewer than an average of 100 full-time employees and food sales are less than \$100,000, have until January 20, 2004 to have a HACCP program in place.

**Q:** Are there any special labeling requirements if I have cider processed by a custom operator?

**A:** Name and address of the manufacturer, packer, or distributor must be printed on the label. Unless the name given is the actual manufacturer, it must be accompanied by a qualifying phrase, which states the firm's relation to the product, e.g., "manufactured for" or "distributed by." Additional labeling guidance can be found by calling ODA or at the following FDA weblink: <http://www.cfsan.fda.gov/~dms/flg-toc.html#flg>. The U.S. Apple Association also prepared labeling guidance that can be found at <http://www.ohioagpples.org> under news for apple growers and marketers.

## Blueberry Insect Identification

*Source: Pam Fisher, Berry Crop Specialist, Ontario,*  
<http://www.gov.on.ca/OMAFRA/english/crops/hort/news/hortmatt/2002/07hrt02.htm>

Pest pressure is initially low in highbush blueberries, but as production increases and plantings get older, pests begin to build up. It is important to correctly identify pest problems, because the best control strategy depends on the pest. Here is how to distinguish among the various insect pests infesting blueberry fruit (larvae found inside blueberry fruit).

### **Blueberry Maggot** (adult is a fly)

Legless, headless white larvae about ¼ inch long when mature. Infested berries soften and ripen prematurely.

### **Plum Curculio** (adult is a snout-nosed beetle, or weevil)

Legless white larvae with brown head capsule, about 1/3 inch long when mature. Infested fruit has C-shaped scar, and usually drops before harvest.

### **Cranberry Fruitworm** (adult is a moth)

Infested fruit webbed together in clusters. Frass found inside berry and in the webs. Messy damage. Larvae are about 3/8 inch long, greenish brown with distinct head, 3 pairs legs and many prolegs.

### **Cherry Fruitworm** (adult is a moth)

Infested fruit usually filled with sawdust-like frass. There is little webbing. Infested fruit ripen early. Larvae may or may not be present. Larvae are white or pinkish with black heads, 3 pairs of legs, and prolegs.

## Fly Speck and Sooty Blotch

*Source: Dr. Mike Ellis, Integrated Pest Management (IPM) Disease Management Guidelines for Apples in Ohio*

Weather conditions present this summer may be encouraging development of fly speck and sooty blotch. Both diseases are favored by temperatures between 65 and 80F and by very high humidity (greater than 90% relative humidity for sooty blotch and greater than 95% relative humidity for fly speck.) Conditions such as these are most frequent when nighttime temperatures remain above 65 to 70 F during the summer, or during extended warm, rainy periods. Sooty blotch and fly speck symptoms can develop

within 14 days from infection under ideal conditions, but symptom development is arrested by high temperatures and low relative humidity. Thus the period between infection and symptom development ranges from 25 to more than 60 days. **Sooty blotch and fly speck infections not yet visible at harvest can develop during cold storage.**

## Pest Phenology

Coming Events	Degree Day Accum. Base 50F
Codling moth 2 <sup>nd</sup> flight peak	931-2212
San Jose scale 2 <sup>nd</sup> flight peak	1271-1874
Obliquebanded leafroller 2 <sup>nd</sup> flight begins	1412-2076
Oriental fruit moth 3 <sup>rd</sup> flight begins	1448-2013
Spotted tentiform leafminer 3 <sup>rd</sup> flight begins	1537-2123
Codling moth 2 <sup>nd</sup> flight subsides	1705-2635
Redbanded leafroller 3 <sup>rd</sup> flight begins	1728-2231
Apple maggot flight subsides	1904-2573

Thanks to *Scaffolds Fruit Journal* (Art Agnello)

## Ohio Drought Watch: July 27, 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
Northeast Hills	Moderate drought
Rest of State	Near normal

## Degree Day Accumulations for Ohio Sites July 31, 2002

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Location	Degree Day Accumulations Base 50F	
	Actual	Normal
Akron-Canton	1745	1654
Cincinnati	2164	2193
Cleveland	1785	1615
Columbus	2130	1875
Dayton	2047	1941
Kingsville Grape	1584	1492
Mansfield	1750	1637
Norwalk	1722	1619
Piketon	2131	2137
Toledo	1935	1619
Wooster	1828	1538
Youngstown	1657	1495

## SkyBit® Sooty Blotch Prediction for North-Central Ohio

### Observed:

July 1-26: active, but no infection

July 27-31: possible infection & damage

### Predictions based on weather forecasts:

Aug 1-8:: possible infection & damage

## 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: 7/24 to 7/31/02**

RBLR: 29 (up from 18)  
STLM: 37 (down from 89)  
CM (mean of 3 traps): 17.0 (down from 21.0)  
TABM: 2 (up from 0)  
SJS: 10 (down from 29)  
VLR: 0 (down from 1)  
OBLR: 4 (down from 5)  
AM (sum of 3 traps): 9 (down from 11)

**Peach: 7/24 to 7/31/02**

OFM: 25 (down from 31)  
LPTB: 4 (down from 5)  
PTB: 8 (same as last week)

**Site: Wayne County**

Source: Ron Becker, IPM Program Assistant

**Apple: 7/25 to 8/01/02**

STLM: 892 (down from 1098)  
CM (mean of 3 traps): 12.1 (up from 4.2)  
RBLR: 1.8 (up from 1.1)  
AM (sum of 3 traps): 16.1 (up from 8.3)

**Peach: 7/25 to 8/01/02**

OFM: 0.3 (up from 0)  
LPTB: 0 (down from 1.3)  
PTB: 1.8 (up from 0)

**Site: East District: Erie & Lorain Counties**

Source: Jim Mutchler, IPM Scout

**Apple:** 7/23 to 7/30/02

CM (mean of 3 traps): 6.1 (up from 1.5)  
STLM: 388 (up from 365)  
SJS: 245 (up from 33)  
AM (sum of 3 traps): 1.1 (up from 0.2)  
OFM: 1.0 (up from 0.5)  
RBLR: 4.1 (down from 8.4)  
ERM (infested leaves per 25 leaf sample): 2.4 (down from 2.9)  
OBLR: 4.0 (up from 0.3)

**Peach:** 7/23 to 7/30/02

OFM: 4.0 (up from 0.7)  
RBLR: 3.0 (down from 7.0)  
LPTB: 1.3 (down from 2.7)  
PTB: 6.7 (up from 2.7)

Beneficials present - *Stethorus punctum* (1st report), native lady beetles, green lacewings, orange maggots, predatory mites, multi-colored Asian lady beetle

The orchard reports of multi-colored Asian lady beetles have been minimal until this week. Numbers now appear to be increasing as we increase our surveillance of near-by soybean fields.

**Site: West District: Huron, Ottawa, Sandusky Co.**

Source: Gene Horner, IPM Scout

**Apple:** 7/16 to 7/23/02

CM (mean of 3 traps): 4.1 (up from 1.9)  
STLM: 33.0 (up from 17.2)  
SJS: 5.4 (up from 1.0)  
AM (sum of 3 traps): 0.8 (same as last week)  
OFM: 2.2 (down from 7.2)  
RBLR: 3.4 (down from 14.6)  
OBLR: 2.0 (up from 0)  
ERM (infested leaves per 25 leaf sample): 4.6 (up from 2.2)

**Peach:** 7/16 to 7/23/02

OFM: 4.2 (down from 10.8)  
RBLR: 5.4 (down from 17.8)  
LPTB: 1.6 (down from 3.0)  
PTB: 2.8 (up from 1.5)

Beneficials present - lacewings, banded thrips

## Preliminary Monthly Climatological Data for Selected Ohio Locations, July, 2002

Weather	Monthly	Normal	Year-	Normal	Avg	Normal	Avg	Normal	Mean	Normal
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Station Location	Precip	Monthly Precip	to-Date Precip	Year-to-Date Precip	High	High	Low	Low	Temp.	Mean
Akron-Canton	2.01	4.02	24.35	22.84	86.3	82.3	63.8	61.3	75.0	71.8
Cincinnati	1.38	3.75	27.68	26.29	89.0	86.4	67.3	66.1	78.1	76.3
Cleveland	2.87	3.52	22.00	21.99	85.1	81.4	65.9	62.3	75.5	71.9
Columbus	4.13	4.61	25.27	23.43	88.3	85.3	67.5	64.9	77.9	75.1
Dayton	1.81	3.75	23.71	24.34	88.0	84.2	66.7	64.4	77.4	74.3
Fremont	3.64	3.76	21.41	20.44	88.1	83.9	64.0	61.6	76.1	72.8
Kingsville	2.28	2.90	23.33	19.80	83.1	80.7	62.4	61.2	72.8	71.0
Mansfield	2.40	4.22	23.82	25.49	86.4	81.8	63.5	60.3	75.0	71.1
Norwalk	1.69	4.16	24.74	21.13	84.2	81.9	65.5	59.9	74.9	70.9
Piketon	0.07*	4.40	19.84	26.70	87.5	84.6	66.0	62.3	76.7	73.5
Toledo	1.94	2.80	18.80	19.41	89.4	83.4	65.7	62.5	77.5	73.0
Wooster	0.86	4.05	21.70	21.43	88.0	83.6	62.4	59.7	75.2	71.6
Youngstown	4.14	4.10	25.76	22.21	84.5	81.0	61.6	58.7	73.1	69.9

Temperatures in degrees F, Precipitation in inches

Record set: High - 17<sup>rd</sup>, Mansfield 91° \*Piketon precipitation subject to verification

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