



# Newsletter

Extension

## Fruit ICM News

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## Calendar

**August 20: Ohio Fruit & Vegetable Young Grower Tour**, beginning at Hillsboro. For more information contact Ohio Fruit and Vegetable Growers at 1-614-249-2424 or [growohio@ofbf.org](mailto:growohio@ofbf.org). Complete information with registration form is available at <http://www.ofbf.org> by clicking on "Upcoming Events."

**August 20: Horticulture Field Night**, Southern State Community College, 200 Hobart Drive, US Rte. 62 north of Hillsboro. For information, contact Brad Bergefurd, 1-800-860-7232, or [bergefurd.1@osu.edu](mailto:bergefurd.1@osu.edu) and following article about strawberry production.

**August 23: Ohio Grape & Wine Day & Grape Twilight Tour**, OARDC Grape Branch at Kingsville and Markko Vineyard. Reserve a spot by 3:00 p.m. August 16<sup>th</sup> by calling 440-576-9008.

**September 18-20: Farm Science Review - Pesticide credit can be earned at 2001 Farm Science Review!** Applicators with a pesticide license can receive recertification credit at this year's Ohio Farm Science Review. For more information, contact the Pesticide Education Program, OSU Extension, at 1-614- 292-4070 or visit the website at <http://www.ag.ohio-state.edu/~pested>

## Hot Off the Press

Dr. Celeste Welty is pleased to announce the publication of her long awaited bulletin titled *Orchard Spray Rates: How to Determine the Amount of Pesticide and Water to Use in Your Orchard*. You may purchase Bulletin #892 for \$1.25 at Extension offices or pull it up on the Internet at: <http://www.ag.ohio-state.edu/~ohioline/b892/index.html>.

Included below is a sample from the bulletin dealing with dilute and concentrate spray definitions:

### **Background: Dilute Applications**

In our Ohio tree fruit spray guide, we still list the pesticide rate per 100 gallons of water. This is the rate that should be used if the grower needs to make a dilute application with either an airblast sprayer or a handgun sprayer. When a tank of pesticide is mixed at the dilute rate, the applicator should apply it to the trees until all parts of the tree are wet. This is what we call spraying to the point of runoff, that is, until water begins to drip off the leaves.

In many large commercial orchards, the only time that a dilute application is used is for sprays of superior oil in the delayed-dormant period in the spring, when the entire surface of the apple tree needs to be covered for good control of European red mite. In some smaller orchards, dilute applications are sometimes used throughout the growing season. Larger orchards usually are not treated with many dilute applications because they are more time-consuming.

### **Background: Low-Volume or Concentrate Applications**

Modern airblast sprayers, which are also known as speed sprayers, can cover fruit trees with much less than 400 gallons of spray mix per acre. Airblast sprayers produce fine droplets that cover foliage very well without the large amount of water needed to reach the point of runoff. Low-volume applications made with airblast sprayers are most commonly in the range of 40 to 80 gallons per acre.

Low-volume applications are also called concentrate applications because as the volume of water is decreased, there is a proportional increase in the concentration of pesticide in order to apply the needed amount of pesticide per acre. Low-volume orchard sprays are commonly concentrated to several times the dilute rate. If the fruit grower uses what is called a 3X concentration, the volume of water is reduced to one third of the dilute volume and therefore the pesticide is increased by three times the dilute rate. Note: The pesticide is increased by three times the dilute rate, not three times the concentrate rate!

When a 5X concentration is used, the volume is reduced to one fifth of the dilute volume and therefore the pesticide concentration is increased by five times the dilute rate. Orchard sprays in the range of 2X to 5X are common.

## **Strawberry Production Technique May Save Growers Time and Money**

*By Candace Pollock, Associate Editor, OARDC Research Services, Source: Brad Bergefurd, Ohio State Extension Horticulturist*

A strawberry production technique new to Ohio may prove to be an efficient, money-saving practice for growers. Ohio State University researchers at the South Centers in Piketon are growing 10,000

strawberry runners, or tips, in the greenhouse. After the tips develop roots, the plants will be transplanted onto plastic in the field and harvested later in the fall. "I don't know of anyone else who is growing the tips here in Ohio. Even OSU researchers haven't done much work with this technique," said Brad Bergefurd, an Ohio State Extension horticulturist. "This is so new. We've only been working on this for 10 days, so we've got a lot to learn."

Bergefurd said Canadian horticulturists employ the technique of growing strawberry tips in the greenhouse since cooler temperatures make way for less disease. "It's a more efficient way for growers to raise strawberries," said Bergefurd. "In addition, we've found that growers could potentially save up to \$800 per acre by growing our tips. They don't have to rely on another plant company to provide them plants. When you consider paying 7 cents per tip as opposed to 18 cents per plant, that's a good size chunk of change they are saving."

Bergefurd sees the practice, in conjunction with utilizing plasticulture, a good opportunity for strawberry growers. "North Carolina producers generate two and half times more yield with plasticulture than with the matted-row system," said Bergefurd, adding that North Carolina has a corner on the market. "Researchers report that there is potential to produce 30,000 pounds of berries to the acre, and even at a dollar a pound, that's good income for a small grower."

The project is just one aspect of university research that will be highlighted during the seventh annual Horticulture Field Night on August 20 at Southern State Community College just north of Hillsboro. The event, which begins at 6 p.m. and runs till dark, wraps up the Ohio Fruit and Vegetable Young Grower Tour being held earlier in the day. Horticulture Field Night is free to the public and will include more than 500 research and demonstration plots with 12 different fruit and vegetable trials.

Insecticide, herbicide, and fungicide use; pumpkin diseases; Indian corn varieties; specialty melons; vegetable weed studies; heirloom tomato production; and composting are among other topics that will be discussed at the event. The tour is sponsored by the Ohio Agricultural Research and Development Center (OARDC), the OSU Extension Enterprise Center, and the Piketon Research and Extension Center. For more information or directions, contact Bergefurd at 800-860-7232, or [bergefurd.1@osu.edu](mailto:bergefurd.1@osu.edu), or visit <http://www.ag.ohio-state.edu/~prec>.

## Certified to the Source

Ohio has been the proving ground for universal codes (UPCs). According to the August 2001 *Fruit Grower*, the first product ever scanned using a bar code was a pack of Wrigley's chewing gum at Marsh Supermarket in Troy, Ohio. Dorothy Lane Markets in Dayton has been taking part in a pilot study of RSS-14 (Reduced Space Symbology). RSS-14 code is being developed to allow the use of bar codes on fruit. The previous system utilizes a bar code that is too big to fit on fruit such as plums or vegetables such as tomatoes. (Note: Analysis of the pilot study is available to the public via the Uniform Code Council (UCC) web site at <http://www.uc-council.org/rss14>).

Since its founding in 1948, Dorothy Lane Markets has earned a reputation as a grocery innovator that extends far beyond the walls of their Dayton, Ohio Supermarkets. With only two locations, this progressive, upscale grocer competes successfully against larger chains. Its reputation for innovation and outstanding customer service attracts visiting grocery executives from around the country and from Europe, Japan, and Australia.

RSS technology is being developed for the benefit of supermarket operators to enable them to manage their replenishment and inventory activities with more accuracy and efficiency. What does this mean to you as a fruit producer? If your apples are of exceptional quality and create outstanding sales at the supermarket, the produce buyer can quickly locate you for additional sales. As you are well aware, quality will help guarantee return sales.

As of January 1, 2005 all retailers in the United States will be required to have the ability to scan an EAN 13 bar code. This code is used throughout the world except for North America and has 13 bars rather than the standard 12. The extra bar contains a country code and allows tracing the product back to its country of origin.

Technology is now being developed that could help consumers track any purchase back to its origin, even back to your orchard. Agents attending the National Association of County Agricultural Agents annual conference heard Dr. Lowell Catlett, Professor of Agricultural Economics at New Mexico State University address the future of communication technology. He believes that "Bluetooth" technology could someday be a universal and inexpensive method of certifying to the source all food products.

What is Bluetooth? A short range wireless technology that connects electronic devices, including cell phones, printers, digital cameras, or palm top computers. Bluetooth is designed to exchange data at speeds up to 720 kbit/s and at ranges up to 10 meters. Bluetooth, sometimes mis-spelled Blue Tooth, was named after the Danish king Harald Blåtand (Bluetooth) who unified Denmark and Norway.

The idea that resulted in the Bluetooth technology was born in 1994. Ericsson Mobile Communications initiated a study to investigate the feasibility of a low-power, low-cost radio interface between mobile phones and their accessories. The aim was to eliminate cables between mobile phones and PC cards, headsets and desktop devices, etc.

In February 1998, five companies, Ericsson, Nokia, IBM, Toshiba, and Intel formed a Special Interest Group (SIG). The group contained the right mix of business areas -- two market leaders in mobile telephone, two market leaders in laptop computing, and a market leader in core digital-signal-processor technology. If you care to read more about Bluetooth, visit <http://www.bluetooth.com/>.

Are RSS-14 and Bluetooth presently related? No, but I believe based on the remarks of Dr. Catlett, the two technologies could someday make it possible for a consumer anywhere in the world to recognize your orchard as the source for the delicious Gala they just ate. With wiser minds than mine, exciting days are ahead, linking your orchard with the world.

## **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

**Waterman Lab, Columbus, Dr. Celeste Welty, OSU Extension Entomologist**

*Traps used: STLM = Wing trap, SJS = Pherocon V, Codling Moth = mean of 3 MultiPher® traps, Others = MultiPher*

**Apple: 8/8 to 8/15**

STLM: 14 (down from 52)  
RBLR: 31 (down from 34)  
CM (mean of 3 traps): 3.0 (down from 5.0)  
SJS: 4 (down from 9)  
OFM: 0 (down from 5)  
DWB: 0 (unchanged)  
TABM: 1 (unchanged)  
VLR: 1 (unchanged)  
OBLR: 0 (down from 2)  
AM(sum of 3 traps): 1 (unchanged)

**Peach: 8/8 to 8/15**

OFM: 4 (down from 6)  
LPTB: 9 (down from 11)  
PTB: 8 (unchanged)

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

Source: Jim Mutchler, IPM Scout

*Traps Used: STLM=wing traps, SJS=Pherocon-V, Others=MultiPher®*

**Apple: 8/8 to 8/14**

STLM: 385 (down from 770)  
CM: 3.6 (up from 2.5)  
SJS: 0.0 (down from 21.3)  
OBLR: 3.3 (up from 1.3)  
RBLR: 8.0 (up from 5.0)  
AM: 2.0 (down from 2.1)

**Peach: 8/8 to 8/14**

OFM: 3.3 (down from 4.0)  
 LPTB: 18.0 (up from 9.3)  
 PTB: 4.7 (down from 10.3)  
 RBLR: 28.0 (up from 8.7)

**Other pests** include two spotted spider mites, potato leafhopper, green apple aphid, white apple leafhopper, Japanese beetle, oriental fruit moth strikes, redbanded leafroller damage

**Beneficials include:** lacewings everywhere (all stages), predatory mites, orange maggots, lady beetles, *Stethorus punctum*.

**Site: West District; Huron, Ottawa, & Sandusky**

Source: Gene Horner, IPM Scout

Traps Used: *STLM*=wing traps, *SJS*=Pherocon-V, *PC* = circle traps, *Others*=MultiPher® traps

**Apple:** 8/8 to 8/14

STLM: 16 (down from 20)  
 CM: 0.9 (up from 0.7)  
 SJS: 1.7 (up from 1.4)  
 OBLR: 3 (down from 8)  
 RBLR: 14.0 (up from 3.0)  
 AM: 4.5 (down from 9.4)  
 PC: 0.0 (unchanged)

**Peach:** 8/8 to 8/14

OFM: 1.6 (down from 2.4)  
 LPTB: 17.6 (up from 11.2)  
 PTB: 2.0 (down from 4.0)  
 RBLR: 18.6 (up from 7.0)  
 TPB: 0.3 (up from 0.0)

**Other pests** include green apple aphid, Japanese beetle, potato leafhopper, oriental fruit moth flagging, tarnished plant bug damage

**Beneficials include:** predatory mites, green lacewings (all stages), banded thrips

**Phenology**

Coming Events	Range of Degree Day Accumulations	
	Base 43° F	Base 50° F
Codling moth 2 <sup>nd</sup> flight peak	1471-3103	931-2212
Obliquebanded leafroller 2 <sup>nd</sup> flight begins	2134-3040	1412-2076
Oriental fruit moth 3 <sup>rd</sup> flight begins	2172-2956	1553-2013

Spotted tentiform leafminer 3 <sup>rd</sup> flight begins	2215-2783	1558-2123
Peachtree borer flight subsiding	2230-3255	1497-2309
Redbanded leafroller 3 <sup>rd</sup> flight begins	2389-3113	1722-2209
Apple maggot flight subsides	2764-3656	1904-2573
Lesser peachtree borer flight subsiding	2782-3474	1796-2513
Codling moth 2 <sup>nd</sup> flight subsides	2518-3693	1705-2635
Obliquebanded leafroller 2 <sup>nd</sup> flight subsides	2809-3656	1930-2573
Oriental fruit moth 3 <sup>rd</sup> flight subsides	2987-3522	2018-2377
Redbanded leafroller 3 <sup>rd</sup> flight subsides	3103-3466	2013-2402
Spotted tentiform leafminer 3 <sup>rd</sup> flight subsides	3235-3471	2228-2472

Thanks to *Scaffolds Fruit Journal* (Art Agnello)

## Northern Ohio Sooty Blotch Activity from SkyBit®

	Dates	Level of Disease Activity
Observed	August 1-15	Possible sooty blotch infection & damage
Forecast	August 16-23	Possible sooty blotch infection & damage

## Degree Day Accumulations for Selected Ohio Sites January 1, 2001 to Date Indicated

	Reported Degree Day Accumulations				Normal Degree Day Accumulations		Forecasted Degree Day Accumulations	
	August 8		August 15		August 15		August 22	
Location	Base 45° F	Base 50° F	Base 45° F	Base 50° F	Base 45° F	Base 50° F	Base 45° F	Base 50° F
Akron - Canton	2457	1859	2648	2015	2633	1988	2818	2150
Cincinnati	2972	2308	3181	2484	3332	2599	3371	2638
Cleveland	2499	1910	2687	2064	2579	1949	2860	2201
Columbus	2946	2303	3171	2492	2917	2238	3362	2647
Dayton	2820	2192	3025	2362	2991	2311	3207	2509

Mansfield	2457	1862	2637	2007	2608	1969	2812	2147
Norwalk	2493	1872	2662	2043	2571	1947	2834	2179
Piketon	2980	2265	3121	2417	3256	2524	3313	2574
Toledo	2579	1986	2774	2146	2567	1946	2938	2274
Wooster	2522	1923	2712	2078	2480	1849	2888	2219
Youngstown	2353	1760	2536	1908	2426	1803	2699	2036

## Ohio Drought Conditions

Conditions in Ohio as of July 28, 2001 according to Long Term Palmer Drought Severity Index

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)(1)  
or <http://enso.unl.edu/monitor/monitor.html>(2)

Region	(1) Category of Drought August 11	(2) Category of Drought August 14
Northwest Ohio	Near Normal	Abnormally Dry
Northeast Ohio	Severe	Drought-Moderate
Northeast Hills	Severe	Abnormally Dry
Central Hills	Moderate	Abnormally Dry
North Central	Near Normal	Abnormally Dry
Rest of State	Near Normal	Normal

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