Ohio Fruit ICM News

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Calendar - Newly added in ***Bold***

April 21, Home Winemaking and Grape Production Workshop, OSU Extension Montgomery County Office, 9:30-12:30. Cost is $30 per person and **Pre-registration is required by April 16th.** For more information or to register contact Tammy Dobbles, Extension Educator, at (937)224-9654 or by email at dobbels.958@osu.edu.

June 13, OPGMA Summer Tour. Bauman Orchards, Rittman, Ohio

July 19, Crop, Soil, and Water Field Night, OSU South Centers, Piketon. For more information contact Dr. Rafiq Islam, 740-289-2071.

July 26, Beekeeping Workshop, OSU South Centers, Piketon. 3:00-8:00. More information to follow.

August 9, OSU South Centers Horticulture Field Night.

August 14-15, 2007. NASGA Summer Tour, Niagara Falls Canada and Niagara region of New York.

August 16, Ohio Grape & Wine Day, Ashtabula Agricultural Research Station, Kingsville. For more information contact Greg Johns (440/224-0273).

Comments from the Editor

Growers are still evaluating the effects of the hard freeze over Easter weekend. Here at the South Centers, our matted row and everbearing strawberries were unaffected.

Plasticulture strawberry open bloom was lost as was most in tight popcorn bud. There wasn't any damage to the crowns however.

Our new primocane blackberry selections planted last year froze to the ground but should have enough reserves to regrow. Prime Jan and Prime Jim which have been in the ground also froze but were vigorous last year and should be fine. Our new primocane black raspberry that we are evaluating had some freeze damage at the tips, but not all new shoots froze. If you had significant damage to your brambles and can forego a crop this year, it might make sense to consider cutting them back to the ground and using some of the herbicides that are registered for non-bearing crops only.

Crabapples in pink to bloom froze with some leaf damage.

Fruit Observations and Trap Reports Trap reports for Columbus are posted at least once per week on the internet at http://bugs.osu.edu/welty/tree-traps.html

North Central Tree Fruit IPM Program
Report Prepared by Zachary Rinkes (Erie County Extension Educator)

Ted Gastier – West District IPM Scout (Sandusky, Ottawa, Huron and Richland Counties)
Date - 4/9/07
Apples
Spotted tentiform leafminer – 0.4 (1st Report)
Redbanded leafroller – 37.0 (1st Report)
Peaches
Redbanded leafroller- 39.0 (1st Report)
Oriental Fruit Moth – 0 (1st Report)

Site: Waterman Lab Apple Orchards, Columbus
Dates: 3/28/07 (tight cluster) to 4/4/07 (early pink)
Pests: Redbanded leafroller: 41 (up from 7 last week)
Spotted tentiform leafminer: 54 (up from 1 last week)
San José scale(mean of 2): 0 (set last week)

Site: Waterman Lab Apple Orchards, Columbus
Dates: 3/21/07 (silver tip) to 3/28/07 (tight cluster)
Pests: Redbanded leafroller: 7 (up from 0 last week)
Spotted tentiform leafminer 1 (up from 0 last week)
San José scale(mean of 2): set 3/28

Site: Waterman Lab Apple Orchards, Columbus
Dates: 3/14/07 to 3/21/07
Pests: Redbanded leafroller: 0 (set 3/14)
Spotted tentiform leafminer: 0 (set 3/14)

Something in the Water by Art Agnello, Entomology, Geneva (Source: Scaffolds Vol. 16, #4)

The brief return of winter conditions over the past week has provided us a chance to slow down in our race to get the earliest of the early season sprays applied, and a good opportunity to review some useful advice about the effect of spray water pH on pesticide activity. To review, there may be times when you don't observe the results expected from a pesticide application, even though you used the correct concentration of the recommended material and applied it in the same way that has given acceptable control at other times. Although one may suspect a bad batch of chemical or a buildup of pesticide resistance, poor results may in fact be due to alkalinity — that is, a solution with a pH higher than 7.0. A close inspection of the pesticide label will often reveal a caution against mixing the chemical with alkaline materials such as lime or lime sulfur. The reason for this is that many pesticides, particularly insecticides, undergo a chemical reaction under alkaline conditions that destroys their effectiveness. This reaction is called alkaline hydrolysis, and it can occur when the pesticide is mixed with alkaline water or other materials that cause a rise in the pH.

Hydrolysis is the splitting of a compound by water in the presence of ions. Water that is alkaline has a larger concentration of hydroxide (OH-) ions than water that is neutral; therefore, alkaline hydrolysis increases as the pH increases. Insecticides are generally more susceptible to alkaline hydrolysis than are fungicides and herbicides, and of these, organophosphates and carbamates are more susceptible than pyrethroids. A survey of fruit-growing areas in N.Y. some years ago showed that water from as many as half of the sites in western N.Y. had pH values above 8.0. Water at this pH could cause problems for compounds that will break down in only slightly alkaline water, such as ethephon (Ethrel). Compounds that break down at a moderate rate at this pH, such as Carzol and Imidan, should be applied soon after mixing to minimize this process in the spray tank. A smaller number of sites (less than a quarter of them) had pH levels greater than 8.5. Above this level, the rate of hydrolysis is rapid enough to cause breakdown of compounds such as Apollo, Carzol and Imidan, if there is any delay in spraying the tank once it is mixed. In a few sites having a pH above 9.0, compounds such as Guthion and malathion, which would not break down in most situations, may have problems. It is also important to note that in any one site, ground water pH can vary substantially (by nearly 2 pH units) during the season.

To prevent alkaline hydrolysis, you should:
1 - Determine the pH of your spray solution; because of seasonal variability, this should be done more than once during the growing season. Measuring your spray water pH before mixing can be misleading, because the chemicals you use can raise or lower the pH of the overall spray solution. It makes more sense to take the time to run some bottle tests of your most-used spray materials after they have been mixed with your spray water.

The most accurate method is by using an electronic pH meter; however, these are expensive and not very practical. Another, less accurate method uses dyes that change color in response to pH. These are available in the form of paper strips, or in solution for use in soil pH test kits. In general, the indicator is mixed with or dipped into the water, and the resulting color is compared against a standard color chart.

2 - To minimize loss of chemical effectiveness from hydrolytic breakdown in the tank, it is a good practice to make the application right after it is mixed (as quickly as allowed by the weather and other factors). If a delay occurs, a buffering agent may be added to the tank if the pH is high and the chemical you are using is susceptible to alkaline hydrolysis; these agents work by lowering the pH and resisting pH change outside of a certain range. A pH in the range of 4–6 is recommended for most pesticide sprays. Buffering agents are available from many distributors. Growers may add technical flake calcium chloride to the tank when spraying cultivars such as McIntosh, which is susceptible to storage disorders related to inadequate levels of fruit calcium. However, research done in Massachusetts indicates that, although calcium chloride does not itself affect pH, a contaminant present as a result of the manufacturing process does increase the pH of the solution; this could in turn encourage alkaline hydrolysis. There are a few pesticide materials that should not be acidified under any circumstances, owing to their phytotoxic nature at low pH. Sprays containing fixed copper fungicides (including Bordeaux mixture, copper oxide, basic copper sulfate, copper hydroxide, etc.) and lime or lime sulfur should not be acidified. But if the product label tells you to avoid alkaline materials, chances are that the spray mixture will benefit by adjusting the pH to 6.0 or lower.

For further information on water pH and pesticide effectiveness, refer to N.Y. Food & Life Sci. Bull. No. 118, “Preventing decomposition of agricultural chemicals by alkaline hydrolysis in the spray tank”, by A. J. Seaman and H. Riedl, from which much of this information was adapted (online at:

http://www.nysaes.cornell.edu/pubs/fls/OCRPDF/118.pdf).❖

Preliminary Monthly Climatologic Data for Selected Ohio Locations - March 2007

	Average Temperatures			
	High	Low	Monthly	Normal
Akron-Canton	50.7	30.9	40.8	37.7
Cincinnati	60.7	40.6	50.7	43.9
Cleveland	48.9	31.3	40.1	37.5
Columbus	56.5	38.2	47.3	42.0
Dayton	55.7	36.7	46.2	40.2
Mansfield	50.7	31.8	41.3	36.7
Toledo	50.8	31.0	40.9	37.2
Youngstown	49.1	29.8	39.5	36.7

This data is from the National Weather Service. Temperature is Fahrenheit and precipitation is in inches.

Plant and Pest Development - (Based on Scaffolds Fruit Newsletter, Coming Events (D. Kain & A. Agnello), NYSAES, Geneva)

Growing Degree Day Ranges Base Temp.50F (Normal +/- Std Dev)

Pear psylla adults active	0-49
Pear psylla 1st oviposition	1-72
Green fruitworm 1st catch	12-54
McIntosh at silver tip	15-41
McIntosh at green tip	36-62
Green apple aphids present	38-134
Spotted tentiform leafminer 1st catch	39-113
Pear thrips in pear buds	50-98
Rosy apple aphid nymphs present	56-116
Spotted tentiform leafminer 1st oviposition	58-130
Pear psylla 1st egg hatch	60-166
Obliquebanded leafroller larvae active	64-160
McIntosh at half-inch green	65-91
Comstock mealybug 1st gen crawlers in pear buds	80-254
Oriental fruit moth 1st catch	81-205
McIntosh at tight cluster	84-122
Rose leafhopper on multiflora rose - 1st nymph	96-198
European red mite egg hatch	100-168
Green fruitworm flight subsides	102-242
Redbanded leafroller 1st flight peak	104-192
Lesser appleworm 1st catch	108-292
Spotted tentiform leafminer 1st flight peak	113-209
American plum borer 1st catch	140-280
Mirid bugs 1st hatch	163-239
Spotted tentiform leafminer sap-feeders present	165-317
McIntosh at bloom	170-220
San Jose scale 1st catch	186-324
Lesser appleworm 1st flight peak	189-387
Eastern Redbud First bloom	191
European red mite 1st summer eggs present	237-309
Mirid bugs 90% hatch	240-322
Mirid bugs hatch complete	252-350
Plum curculio oviposition scars present	256-310
Flowering Dogwood first bloom	263

Ohio Poison Control Number

(800) 222-1222
TDD # is (614) 228-2272