http://ipm.osu.edu/fruit/index.html

THE OHIO STATE UNIVERSITY Newsletter Extension

Fruit ICM News

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Calendar

March 24: North Central Fruit Crops Breakfast, Vanson's Restaurant, Monroeville, OH. Ala Carte Breakfast at 8:00 a.m. followed by Fruit Pest Management presentations in Banquet Room.

June 30: Ohio Fruit Growers Society Summer Tour,OARDC Wooster, OH.

August 19: Ohio Grape Research Day, OARDC, Wooster, OH.

Dormant Oils - Dependence on Petroleum Imports

Source: Art Agnello, Entomology, Geneva, NY, Scaffolds Fruit Journal, Volume 11, No. 2, March 25, 2002

As predictable as the gasoline price increases each spring are our annual recommendations for relying on one of the less volatile distillation by-products, horticultural mineral oil, in your early season spray program. The use of oil as a delayed dormant application for mite and insect control in fruit trees continues to be a wise tactic, despite the fact that a number of newer and capable contact miticides are available for early season use. For as many of the blocks as you can find the time and application window to devote to a thorough treatment, oil retains a justifiably preferred position because of its effectiveness, affordability, and relative safety from a biological and resistance perspective. Exploiting the most acceptable spraying conditions to maximize tree and block coverage can be a challenge in our area, but few pest management efforts have such potentially high returns when everything falls properly into place.

Pear Psylla

It's nearly impossible to be sure your pear trees are all protected by the time the very first psylla adults

start flying and (presumably) laying eggs during the first warm temperatures of the spring. However, even a few nice warm days in a row don't awaken more than a small percentage of the total population, so you'll be more than adequately psylla-ready if you prepare a little ahead of time, provided your orchard floors aren't too soggy from spring snows.

Early oil applications can be useful against pear psylla all throughout the swollen bud stage; although it's capable of killing adults and nymphs that are contacted directly, oil is recommended mainly because the residue has a repellent effect on female psylla looking to deposit their eggs, and this lasts for an extended period after treatment. The strategy behind the use of oil is to delay the timing of any needed insecticide spray until as late as possible before (or after) bloom. Oil rates depend on when you start: If your buds are at the dormant stage, one spray of 3% oil, or two of 2% through green cluster are recommended; if you start at swollen bud, one spray at 2% or two at 1% up to white bud should be adequate for this purpose, especially if applied as soon as the psylla become active (50°F or above). This will also give some red mite control at the same time.

European Red Mite

A delayed-dormant spray of petroleum oil from green tip through tight cluster can be a favored approach for early season mite control, both to conserve the efficacy of and to help slow the development of resistance to our contact miticides. Our standard advice has been to try for control of overwintered eggs using 2 gal/100 at the green tip through half-inch green stage, or 1 gal/100 at tight cluster; this assumes ideal spraying conditions and thorough coverage. Naturally, real life doesn't always measure up, mainly because of weather and coverage challenges, coupled with the difficulty of getting to a number of blocks during this transient window. It is possible for mites to start hatching when the trees are at solid tight cluster, so the suffocating mode of action tends to be compromised if the nymphs are able to wade through or avoid the droplets. Let practicality determine how best to use the following guidelines.

First, to be sure that mites are in the egg stage, start on your blocks as soon as the weather and ground conditions permit, even if this means using a higher rate. This winter has been dryer than normal, but snows and rains have been variously heavy in certain locations, so local conditions will be a prime determinant of how easily you can get through the rows early on. Also, tend toward the high end of the dosage range, especially if there's been no frost during the 48-hour period before your intended spray, and no danger of one for 24-48 hours afterwards. For example, use 1.5 gal/100 if the buds linger somewhere between half-inch green and full tight cluster during your chosen spray period.

Good coverage of the trees naturally is critical if you're to take advantage of oil's potential efficiency; this in turn requires adequate spray volume delivered at an appropriate speed. Experience and research have shown that a 1X concentration (300 gal/A) in larger trees is clearly preferable; however, if all other conditions are optimal (weather, speed, calibration), then 3X, or 100 gal/A, is the highest concentration that should be expected to give acceptable control at any given time. Growers like to concentrate more than this to save time and the hauling of extra water, but reducing coverage too much can wipe out your efforts if you end up getting only a small fraction of the egg population under the residue.

Don't limit this mite-control tactic just to apples and pears. Talks with stone fruit growers over the winter have reminded us that many cherry, peach, and plum plantings can suffer equally seriously from European red mite infestations that weren't given the early season attention they might need. We don't have hard and fast threshold guidelines for these crops, but stone fruit plantings with a history of past ERM problems should be examined for presence of the red overwintered eggs, and if they're numerous enough to see without a hand lens, then a prebloom application of 2% oil would be a prudent measure to help stave off this damage.

The Way to San Jose We've been discussing how some of the recent insecticide withdrawals and restrictions may induce a return to the pest profiles of the past, with direct fruit pests taking precedence over the indirect foliar feeders. San Jose scale is one of those old standbys that already has been responding to some of the regulatory actions of the last few years. The recent disappearance (or restriction) of products like Penncap-M and Lorsban from our list of spray materials has been at least partly responsible for the fact that SJS still presents a challenge in a number of orchards. It's therefore worth pointing out that a 2% oil treatment at half-inch green will control the nymphs, and this is a preferred treatment if no other problem insects need to be controlled.

Combining the oil with an insecticide has not been shown to be more effective than using the oil (or insecticide) alone, except in the case of one new alternative, Esteem, which has shown good efficacy when mixed with 2% oil at the pre-pink timing.

If you choose not to use oil against the scale nymphs, or if you have Rosy Apple Aphid or other early season insects to be controlled, an insecticide would be more appropriate. For both of these pests, Lorsban 4EC or Supracide have proven very effective during the green tip to tight cluster stage. Check the opening buds for infestations of Rosy Apple Aphid; treatment would be advisable upon finding one colony per 100 clusters.

Pest Phenology

Coming Events	Degree Day Accum. Base 50F
Pear psylla adults active	0 - 49
Pear psylla 1st oviposition	1 - 72
Redbanded leaf roller 1st catch	5 - 251
Green fruitworm 1st catch	9 - 101
Spotted tentiform leafminer 1st catch	17 - 251
Tarnished plant bug active	34 - 299

Thanks to *Scaffolds Fruit Journal* (Art Agnello)

Degree Day Accumulations for Ohio Sites March 11, 2004

Location	Degree Day Accumulations Base 50F	
	Normal	Actual
Akron-Canton	10	12
Cincinnati	26	26
Cleveland	11	12

Columbus	14	18
Dayton	13	16
Kingsville Grape Branch	7	10
Mansfield	11	10
Norwalk	8	12
Piketon	25	31
Toledo	6	6
Wooster	9	13
Youngstown	7	11

Cold Injury to Peach Flower Buds

Adapted from Jon Clements, Extension Tree Fruit Specialist, University of Massachusetts Amherst at:

http://www.umass.edu/fruitadvisor/clements/articles/peachfreeze.html

Ohio peach growers are advised to evaluate the extent of cold injury to fruit buds that may have occurred in their orchards. Using a single-edge razor blade, fruit buds can be dissected vertically and then visually examined for browning of the flower parts. Undamaged buds will be uniformly 'greenish' throughout, while cold-damaged buds will be 'browned' to varying degrees in the center. Sometimes slightly browned buds will be OK, but more than likely, any significant browning indicates lower bud is damaged and will not set fruit upon bloom. (Altough the flower may actually 'bloom,' the reproductive parts are dead.) Usually, it is good to wait until warmer temperatures arrive (above freezing) to evaluate the damage, as the browing will be accentuated. Also, fruit buds should be sampled thoughout the canopy to get an accurate estimate of percent injury.

One week following the above-mentioned cold temperatues, Jon dissected some peach buds at the UMass Cold Spring Orchard to assess cold injury. Browing was evident in nearly all the fruit buds he cut, regardless of cultivar. Thus, Jon concluded there was significant injury. In fact, he estimate 90% + of the fruit buds have some degree of injury. Although this is not a good thing so early in the season, in reality only 5-10% of viable fruit buds are necessary to set a decent peach crop. Jon also suspects cultivars will differ quite a bit on the crop they set this year (assuming it does not get any colder) because varieties differ significantly in cold hardiness of fruit buds. But, by doing the fruit bud evaluation now, growers will have an indication of what kind of peach crop they can anticipate, and adjust their spring pruning accordingly. Jon has included pictures of peach flower injury at the Web site at the top of this article

Editors Note: see Ohio Fruit ICM News Vol. 8, Issue 4, February 5, 2005 for Ohio low temperatures recorded at selected locations on January 25 and 31.

Review of Guthion Solupak 50% Label

Source: http://www.cdms.net/manuf.asp

Some changes appear on the Guthion Solupak 50% label that are not reflected in the 2004 Commercial

Spray Guides for Small Fruit, Grapes, and Tree Fruit. Below are the current use restrictions and PHI (pre-harvest intervals) for Ohio fruit crops.

Bolded items are changes from the Spray Guides:

Current Guthion Solupak 50% Label Details

Fruit Crop	Maximum Amount Allowed/Year	Maximum Number of Applications	Minimum Days Between Applications	PHI in Days (Pre-harvest Interval)	Other Notes
Apple	**8 lb/A**	-	7	14 (up to 2 lb/A applied at last application) 21 (if last application >2 lb/A	Applications made at rates above 2 lb/A can only be made in conjunction with an IPM program.
Blueberry	3 lb/A	2	10	7	Ohio use not listed on label, details from Commercial Small Fruit & Grape Spray Guide from old label
Brambles	2 lb/A	2	10	7	For use on raspberry crown borer only
Cherry	**3 lb/A**	2	14	15	
Grape	see note at right		21	Guthion use on grapes was canceled August 2003, but growers are permitted to use up existing properly labeled stocks	
Nectarine	**4.5 lb/A**	2	14	21	
Peach	**4.5 lb/A**	2	14	21	
Pear	**6 lb/A**	3	7	see apple	see apple
Plum	see old label			15	Not listed on new label, detail from Commercial Tree Fruit Spray Guide
Strawberry	see note at right		21	Guthion use on strawberries was canceled August 2003, but growers are permitted to use up existing properly labeled stocks	

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