

SB
608
F8
365
v.11
no.1

Scaffolds

R U I T J O U R N A L

Update on Pest Management
and Crop Development

March 18, 2002

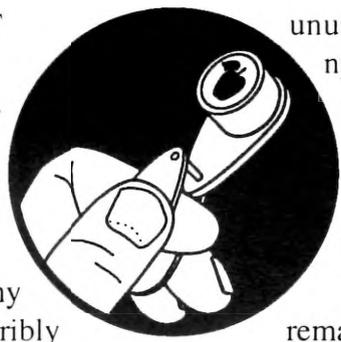
VOLUME 11, No. 1

Geneva, NY

GENERAL

WHITHER THE WOOLLIES?

LONG, HOT
WINTER
(Art Agnello,
Entomology,
Geneva)



unusually large populations of mite nymphs or leafminer moths won't have an easy time getting started in the orchards. Then, all you'd have to worry about is scab...

❖❖ I have to confess that my pride as an upstate native isn't terribly offended by mild winters anymore, and I no longer get too sentimental wondering about 'where are the snows of yesteryear?', which always seemed to be a contrived bit of nostalgia that sounds better in French anyway. Maybe it's just cynicism, but I get more concerned about being tricked into believing prematurely that winter is really over, particularly in years like this when we haven't actually had much traditional winter weather. Crocuses and snowbells are going full blast, fruit buds are swollen, and I'm sure pear psylla have been out there laying eggs at some point, but the truth is, we're still only in the middle of March. This is historically a period when we're just as likely to wake up to three feet of snow as we are three days of 80-plus temperatures; just cast an eye towards the recent blizzard in Minnesota and imagine a little dip in that old jet stream. I don't wish it to happen, of course, but temperatures could easily yo-yo for several more weeks before settling into any sort of seasonable trend. (Or, a big gong could sound, and we'd be racing California towards bloom.) Anyway, this is just a long way of saying that, regardless of the warm winter, which generally only predicts lower overwintering mortality of things like mite eggs and small OBLR larvae, the fate of the season's insect populations probably depends more on what kind of early spring weather we end up having. If April and May are cold, wet, rainy and windy (that is, normal), even

The Postman Cometh

The mailing list for this newsletter remains a work in progress. This issue has reached you according to our always nearly updated records stating how you prefer to receive it. Rules from higher up require us to solicit an annual request from each person to maintain their subscription. Delivery of the hard copy to subscribers failing to return the re-subscription card will cease after some notoriously arbitrary period of time. If you got the e-mail ASCII-text version last year, it's being sent to the address you last specified; if you're not receiving it, you must have forgotten to notify us that your ISP had to suddenly join the witness protection program. Let us know of any preferred changes you wish to make in this general arrangement (to/from one

continued...

IN THIS ISSUE...

- GENERAL INFO
 - ❖ Introduction to a new year of Scaffolds and a little housekeeping
- HORTICULTURE
 - ❖ Apogee 2002, Part I
- CHEM NEWS
 - ❖ Product registration status
- PHENOLOGIES
- UPCOMING PEST EVENTS

form or another, address changes, start-up or stopping of subscriptions, etc.), and we'll do our best to accomodate you. If your mail server automatically strips out "extra" space characters in messages, which will make our carefully constructed tables maddeningly difficult to read, let us know and we'll send your issues as attached Word files. There is also a web version available from the NYSAES server, which is normally up by Tuesday or Wednesday each week, at:

<http://www.nysaes.cornell.edu/ent/scaffolds/>

I also post it to the CENET Tree Fruit Discussion Group BB, a list-serve, at:

CCE-TREE-FRUIT-L@CCE.CORNELL.EDU

As always, we are happy to consider contributions (particularly from N.Y. sources) in the form of articles on topics in any of the fruit crop protection or crop production areas, as well as N.Y. field observations, trap data, etc. We generally do not send the mailed version of this newsletter to growers, homeowners, or other private individuals not having some fruit extension, commercial, university or governmental affiliation, as the extension superstructure that pays the bills would rather that audience obtain this information from their local Cornell Cooperative Extension programs. Unless things get too out of hand, the e-mail version will be sent to anyone who requests it; just don't ask how this squares with all that stuff in the previous sentence.

Making Book

The 2002 Pest Management Guidelines for Commercial Tree-Fruit Production is at the printers and still not quite ready, as has been the pattern recently. However, an online version of the new edition is available as a series of pdf files that can be *printed off*, from:

<http://www.nysaes.cornell.edu/ent/treefruit/>

We're also in the process of putting these recommendations into html format, which will contain appropriate interactive links to all of our other online resources. Incidentally, these can all be accessed at the still-in-progress Cornell fruit web page: <http://www.fruit.cornell.edu/> ❖❖

PEAK SEASON

APOGEE UPDATE 2002,
PART I
(Jim Schupp, Horticultural
Sciences, Highland)

❖❖ Many growers used the new plant growth regulator Apogee on a trial basis last year, its first season of being registered for use on apples in NY. Most growers had positive results, and most of those who used Apogee last year report that they are planning on using it again this year. The following information is provided to help growers fine-tune the use of Apogee in 2002.

Apogee and Pruning

The big incentive for using Apogee is saving on labor for summer and dormant pruning. In several research studies on commercial orchards, Apogee has reduced pruning time by 25–45%. However, Apogee has worked best when applied to well-pruned trees. It is better to prune dense trees hard during winter and use Apogee to help control the regrowth than it is to apply Apogee to overgrown trees without corrective pruning.

continued...

scaffolds

is published weekly from March to September by Cornell University—NYS Agricultural Experiment Station (Geneva) and Ithaca—with the assistance of Cornell Cooperative Extension. New York field reports welcomed. Send submissions by 3 pm Monday to:

scaffolds FRUIT JOURNAL
Dept. of Entomology
NYSAES, Barton Laboratory
P.O. Box 462
Geneva, NY 14456-0462
Phone: 315-787-2341 FAX: 315-787-2326
E-mail: ama4@cornell.edu

Editors: A. Agnello, D. Kain

This newsletter available on CENET at: news://newsstand.cce.cornell.edu/cce.ag.tree-fruit
and on the World Wide Web at:
<http://www.nysaes.cornell.edu/ent/scaffolds/>

Apogee provides poor control of one kind of shoot: water sprouts. Apogee must be applied prior to the first flush of terminal shoot growth in order to be effective, but that timing of Apogee is too early to reduce the growth of water sprouts, which have not yet formed at the start of the season. Heading or stubbing back cuts (i.e., bench cuts) should be avoided when pruning to limit the number of water sprouts that are often stimulated by such cuts.

Apogee is best used as a tool to supplement good pruning practices. It will not erase excessive limbs that are already in place or make up for poor pruning practices. Thus, the importance of good pruning prior to application of Apogee cannot be over-emphasized.

Apogee and Thinning

The effect of Apogee on fruit set and fruit size is the biggest concern voiced by growers after its first season of use. While some growers saw no such effect, others reported that Apogee increased set, and reduced fruit size due to the increased crop load. Likewise, some research studies have shown that Apogee can increase fruit set, while others have shown no effect. Given the variability in fruit set and thinning difficulty from year to year, from farm to farm, and across varieties, this is perhaps no surprise. Still, there is solid evidence that Apogee can increase fruit set. There is also research data to suggest how chemical thinning should be adjusted to account for the Apogee effect.

Apogee rate affects the fruit thinning response. The rate of Apogee (dilute basis) at which this effect of increased set usually becomes apparent is 12 oz per 100 gal. Dr. Duane Greene at the University of Massachusetts showed that McIntosh fruit set increased linearly with increasing Apogee concentration. Stated another way, the lower the Apogee rate, the less effect it had on fruit set. To minimize potential adverse effects on thinning and fruit size, use the lowest rate of Apogee necessary to get good growth control. Increasing the rate from 6 oz per 100 gal to 12 oz per 100 gal is more likely to affect the

duration of the growth control than the degree of growth control. If a grower has had problems thinning Apogee-treated trees, it may be better to make three applications of 6–8 oz per 100 gal than to apply 12 oz per 100 gal twice.

Be assertive when thinning. It has always made good sense to evaluate initial fruit set and it is even more important to do so on Apogee blocks. If the initial set is heavy, thin early and thin often! The growth inhibition from Apogee takes a week or longer to become apparent, which suggests that thinning early, before the Apogee kicks in, may be a good way to reduce crop load on Apogee-treated trees. Petal fall thinner applications may have an important role in combating excessive set on Apogee-treated trees. Starting the thinning program at petal fall also gives the grower a longer window of opportunity to adjust the crop. This strategy is a good one without Apogee. With Apogee, it is the only way to go.

Another way to remove more fruit is to increase the dosage of a chemical thinner, or to use two or more chemical thinners in combination. Our initial recommendation to adjust for Apogee was to increase the strength of the thinner by 30–50%. For example, if you determined that untreated trees in a given block would require a thinning spray of 5 ppm NAA, then Apogee-treated trees in that block may require 7.5 ppm NAA or 5 ppm NAA plus Sevin to get the same degree of thinning. Beware the laws of diminishing returns when considering rates of NAA in excess of 10 ppm. The increase in thinning diminishes as the rate of NAA is increased. Dosages of NAA higher than 10 ppm can stunt the growth of the fruit that remain, resulting in little improvement in fruit size.

Another way to remove more fruit from heavy fruit sets is to add a penetrant such as oil to the thinning spray. Duane Greene showed that adding a quart of spray oil per 100 gal to a tank mix of Accel plus Sevin XLR increased the amount of thinning to

continued...

an acceptable level on Apogee-treated trees. If you try this method, remember that one should NOT concentrate the oil when using it as a surfactant in a concentrate spray mix. Also remember that oil and captan can't be applied together or within a few days of one another, due to the possibility of spray damage.

Leave check trees! Many factors affect fruit set, and it is nearly impossible to assess the effects of Apogee or chemical thinners without leaving some untreated trees. Some growers might find that their thinning program was inadequate even before they applied Apogee! A few check trees would answer this question.

Different varieties may respond differently to Apogee. McIntosh and Gala were the varieties that growers most often mentioned as problems following Apogee applications. In a two-year study on Golden Delicious in the Hudson Valley, I have found no difference in fruit set due to Apogee, and Apogee-treated Goldens responded to NAA no differently than did untreated trees.

Don't use Apogee on Empire

Apogee can cause fruit corking and cracking when applied to Empire. The occurrence of this injury is sporadic, and the circumstances that lead to expression of the injury are not known. However, it has occurred across several years in Michigan, New York, Ohio, and Pennsylvania. Apogee has been applied to many commercially important varieties, but Empire is the only variety identified as being sensitive to Apogee thus far. The sporadic nature of the fruit damage to Empire suggests that one or more environmental or application factors contribute to this problem. Apogee is applied as a foliar spray, so other agricultural chemicals applied with Apogee, or near the time of the Apogee application(s) may contribute to the problem.

One category of chemicals that we have investigated is water conditioners. Applicators are advised to add a water conditioner such as ammonium sul-

fate (AMS) when mixing spray solutions from a hard water source. Foliar applications of nitrogen fertilizer salts can cause plant damage when applied at excessive concentration, under poor drying conditions, or when applied with surfactants. Butch Palmer, ACDS Research, has reported that adding AMS to the spray mixture worsened Empire cracking. Studies were conducted at the Hudson Valley Lab in 2001 to evaluate the effect of Apogee and water conditioners on fruit damage of Empire. Fruit damage was severe in these studies, despite the use of the lowest labeled rate of Apogee (3 oz per 100 gal). The damage was worsened by the addition of a water conditioner. However, AMS applied with Regulaid but without Apogee had no effect on either the severity or extent of fruit injury. We conclude that the fruit injury is directly caused by the formulated product Apogee itself, and that this product should not be used on Empire.❖❖

THE TWILIGHT ZONE

PRODUCT
REGISTRATION
UPDATE
(Art Agnello, Entomology,
Geneva)

Where We Stand, and What We're Doing About It...

Time for the annual laundry list of Labels in Limbo, according to the most recent bits of news we've received from those in the know about the status of those elusive state registrations:

- **Avaunt** - The N.Y.S. DEC acknowledged receipt of a 'complete' state application package some months ago. Recent conversations with the Dupont folks indicated that the state label was all but finalized, except that this product evidently will not be registered for use on Long Island initially, although the matter could be revisited after some further data collection. Our

continued...

estimate of the chance of its timely availability for this season: 95%.

- Actara - The final application package was submitted to DEC in December, and the word at the end of January was to expect a label by 'April or May'. Various efforts have been made on the industry's behalf to expedite this process, but no updates on this estimate have been volunteered thus far. Chance of timely availability for this season (emphasis on "timely" here): 50%.

- Confirm - The DEC has told me they're anxious to get this one off their desks. A recent agreement was reached on water buffer language on the label, which should have produced a registration by now. If it ends up meeting an immovable object of some sort, Dow has expressed its willingness to request another 24(c) for NY this year. Chance of timely availability for this season: 99% (hey, nothing's for certain).

- Provado on Stone Fruits - A full federal label from EPA is not expected until 2003; however, a Section 18 Emergency Exemption has again been requested for this season. Chance of timely availability: 99%.

Azinphos-Methyl Label Changes Delayed

Negotiations are under way between the EPA and manufacturers to preserve some labeled uses that were originally considered unsuitable for reregistration in last November's EPA interim (IRED) decision. In that decision, EPA said 28 uses of azinphos-methyl were ineligible for reregistration in order to decrease exposures and protect farmworkers. Tree fruit uses were placed into three categories: *Time-limited* 4-year registration (apples, pears, sweet cherries); 4-year phase-out (tart cherries, peaches); and Immediate cancellation (plums, prunes, nectarines). The EPA has not yet issued a data call-in under this IRED, leaving additional time for discussions, which could move several crops off the immediate list of ineligible uses and into other categories. So far, it is expected that the use of azinphos-methyl on nectarines, plums, and prunes would be transferred from the "immediate cancellation" to the "4-year phase-out" category. Other

changes are being considered for crops that are on the time-limited registration and phaseout lists. For the short term, it appears that any label changes in these products would occur too late to affect product availability or use this season (our interpretation, not EPA's). ❖❖

PHENOLOGIES

Geneva:
All dormant

Highland:
Apple (McIntosh): silver tip



scaffolds

Dept. of Entomology
 NYS Agricultural Exp. Sta.
 Barton Laboratory
 Geneva, NY 14456-0462

RETURN TO
 SENDER
 NOT DELIVERABLE
 AS ADDRESSED,
 UNABLE TO FORWARD

PEST FOCUS

Highland:
Pear psylla adults and eggs observed 3/8. **Green fruitworm** and **redbanded leafroller** moths beginning to fly.

UPCOMING PEST EVENTS

	<u>43°F</u>	<u>50°F</u>
Current DD accumulations (Geneva 1/1-3/18):	73	23
(Geneva 1/1-3/19/2001):	7.7	1.4
(Geneva "Normal"):	34	14
(Highland 1/1-3/18):	129	47
<u>Coming Events:</u>	<u>Ranges:</u>	
Green fruitworm 1st catch	41-173	9-101
Pear psylla adults active	2-121	0-49
Pear psylla 1st oviposition	25-147	1-72
McIntosh at silver tip	56-137	17-58

NOTE: Every effort has been made to provide correct, complete and up-to-date pesticide recommendations. Nevertheless, changes in pesticide regulations occur constantly, and human errors are possible. These recommendations are not a substitute for pesticide labelling. Please read the label before applying any pesticide.

This material is based upon work supported by Smith Lever funds from the Cooperative State Research, Education, and Extension Service, U.S. Department of Agriculture. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the U.S. Department of Agriculture.

RETURN TO
 SENDER
 NOT DELIVERABLE
 AS ADDRESSED,
 UNABLE TO FORWARD