

scaffolds

Update on Pest Management
and Crop Development

F R U I T J O U R N A L

March 21, 1994

VOLUME 3

Geneva, NY

SNOW BUSINESS

CRACKS IN THE
PERMAFROST
(Art Agnello)



❖❖ We aren't holding out much hope of actually seeing anything of consequence happen in the orchards too soon, so this first issue of the year will serve mainly to help get the salt stains off of our spring work plans, and cover a few housekeeping details at the same time. First of all, the form(s) in which you received this issue reflects our best interpretation of your preferred way of getting it, according to the re-subscription card you returned and specific preferences you may have voiced last year. However, we can alter this arrangement to suit your needs, IF you notify us.

As has been done in the past, in addition to the hard copy sent by conventional U.S. Mail, an electronic version of this newsletter is also available on Cornell Cooperative Extension's CENET (under the FRUIT menu, on the "Tree Fruit News" Bulletin Board). Or, we can send it to individual E-mail addresses, either in place of or in addition to a hard copy sent by U.S. Mail. If you would like it as an attached file for downloading, rather than as the default long text message, please specify a Macintosh- or IBM-compatible version. If you just want to receive the electronic version but are currently getting the hard copy, let us know so we can save on some postage. Also, new this year, we are mounting the electronic version on a Geneva-based node of the World Wide Web; it's available under New York, if you have access to that product.

We continue to be open to contributions (particularly from N.Y. sources) in the form of articles on topics in any of the fruit crop protection or crop production disciplines, as well as N.Y. field obser-

vations, trap data, etc. Moreover, we are able to incorporate nearly any graphics into the hard copy format, including photographs that can be scanned; all that's needed is a little advance time. For the record, we generally do not send the hard copy version of this newsletter to growers, homeowners, or other private individuals not having some fruit extension, commercial, university or governmental affiliation. This is not only for economic reasons, but also because of what might be called "turf" considerations regarding growers' relationships to their local Extension programs. (There are a few exceptions, mostly for people who were "grandfathered" in before this policy was instituted, and we prefer to keep this number low).❖❖

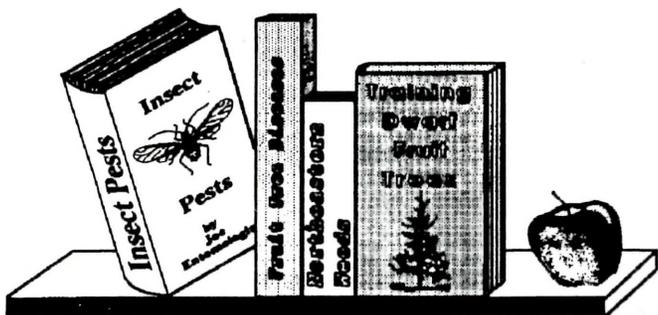
FROM THE BOOKSHELF

INSPECTING
LEAVES
(Art Agnello)

❖❖ This is an appropriate time to review the various fruit information sources currently available from Cornell University. First of all, the 1994 Pest Management Recommendations for Commercial Tree-Fruit Production (the "Recommends") should be on the shelves any day now, and the 1994 Pest Management Recommendations for Small Fruit Crops is already available. These can be obtained, for a fee, from your county Extension office, or alternatively from Media Services/Resource Center-GP, Business & Technology Park, Cornell University, Ithaca, NY 14850 (607/255-2080). Also available from these same sources is a large selection of reference materials, articles, bulletins, etc. best surveyed by obtaining a copy of the current Catalog of Cornell Cooperative Extension

continued...

Publications (again, from Extension offices or the Resource Center). Of particular note are some selected references, which follow:



- A number of contributions to the "Series I Publications" currently being constructed by various Cornell fruit specialists. This series is intended to be a comprehensive complement to the Recommends, which focuses on chemical application guidelines and therefore must be updated annually. Topics covered will eventually include biological background, cultural practices and production techniques, postharvest considerations from storage to marketing, economics, in fact just about everything not covered in the Recommends. Many of these "chapters" will probably be issued during the next several months, but among those already completed are:

- Arthur M. Agnello, Joe Kovach, Jan Nyrop, Harvey Reissig, and Wayne Wilcox. 1993. Apple IPM: A Guide for Sampling and Managing Major Apple Pests in New York State. New York State Integrated Pest Management Program, Geneva. IPM Bull. No. 207. 38 pp. + 23 color plates + 2 inserts. [new edition of the old Simplified Scouting Manual; video available]

- Arthur M. Agnello, W. Harvey Reissig, Jan P. Nyrop, Joseph Kovach, & Roger A. Morse. 1993. Biology and management of apple arthropods. Information Bull. 231. [This new addition to the list covers insect and mite physiology, life history and development, and pest management techniques including degree-days, sampling theory, and population monitoring, with notes on the biology and control of the major apple arthropod pests in N.Y. 32 pp.]

- James A. Bartsch & G. David Blanpied. 1990. Refrigeration and controlled atmosphere storage for horticultural crops. NRAES-22.

- G. David Blanpied & Kenneth J. Silsby. 1992. Predicting harvest date windows for apples. Information Bull. 221.

- Marcia Eames-Sheavly & Marvin P. Pritts. 1989. The home fruit planting. Information Bull. 156.

- Alan L. Jones & Turner B. Sutton. 1984. Diseases of tree fruits. NC-45 [this is an excellent Michigan publication available from the Ithaca Resource Center].

- J. Kovach, W. Wilcox, A. Agnello & M. Pritts. 1993. Strawberry IPM scouting procedures: A guide to sampling for common pests. IPM No. 203. 33 pp. + charts. [new edition; video available]

- Marvin Pritts & David Handley. 1989. Bramble production guide. NRAES-35.

- Marvin P. Pritts & James F. Hancock. 1992. Highbush blueberry production guide. NRAES-55.

- D. S. Ross, R. A. Parsons & H. E. Carpenter. 1985. Trickle irrigation in the Eastern United States. NRAES-4.

- Warren C. Stiles & W. Shaw Reid. 1991. Orchard nutrition management. Information Bull. 219.

- Gerald B. White & Alison M. DeMarree. 1992. Economics of apple orchard planting systems. Information Bull. 227.

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
 Geneva, NY 14456-0462
 Phone: 315-787-2341 FAX: 315-787-2326
 E-mail: art_agnello@cornell.edu
 Editors: A. Agnello, D. Kain

This newsletter available on CENET, on the Tree Fruit News bulletin board under FRUIT.

- Full-color tree-fruit and small-fruit pest control Fact Sheets are available on a range of subjects (this is probably not a complete list):

DISEASES: Apple scab, Brown rot of stone fruits, Fire blight, Powdery mildew of apple, Cedar apple rust, Black knot of plum, Phytophthora root and crown rots, Botrytis fruit rot, Red stele of strawberry, Mummyberry disease, Leather rot

INSECTS: Pear Psylla, Codling moth, Plum curculio, Green fruitworm, Obliquebanded leafroller, Peachtree borer, Predatory phytoseiid mite, Apple maggot, Spotted tentiform leafminer, European red mite, Rosy apple aphid, San Jose scale, White apple leafhopper, Dogwood borer, Cherry fruit fly and Black cherry fruit fly, Woolly apple aphid, Oriental fruit moth, Beneficial insects, Redbanded leafroller, European apple sawfly, Tarnished plant bug, Comstock mealybug, Root weevils, Strawberry bud weevil, Tarnished plant bug (small fruits), Meadow spittlebug

MAMMALS: Meadow vole and Pine vole

- In addition, a series of special publications is available from the Geneva Station, for distribution (often for a fee) to individuals needing specific information generated through basic and applied research. A current list of offerings can be obtained by writing to Bulletins, Communications Services, Jordan Hall, N.Y.S. Agric. Expt. Sta., Geneva, NY 14456. A selection of potentially useful items follows:

☞ Agnello, Kain & Spangler, 1993. Fruit pest events and phenological development according to accumulated heat units. N.Y. Food & Life Sci. Bull. 142.

☞ Chapman & Catlin, 1976. Growth stages in fruit trees - from dormant to fruit set (color plates). N.Y. Food & Life Sci. Bull. 58.

☞ Chapman & Lienk, 1971. Tortricid fauna of apple in New York. (Misc. Pub.)

☞ Chapman & Lienk, 1974. Green fruitworms. N.Y. Food & Life Sci. Bull. 50.

☞ Forshey, 1971. Predicting harvest size of McIntosh apples. N.Y. Food & Life Sci. Bull. 9.

☞ Forshey, 1976. Factors affecting chemical thinning of apples. N.Y. Food & Life Sci. Bull. 64.

☞ Forshey, 1986. Chemical thinning of apples. N.Y. Food & Life Sci. Bull. 116.

☞ Kovach, Petzoldt, Degni & Tette, 1992. A method to measure the environmental impact of pesticides. N.Y. Food & Life Sci. Bull. 139.

☞ Leeper, 1978. Using sticky traps to monitor fruit flies in apple and cherry orchards. N.Y. Food & Life Sci. Bull. 70.

☞ Lienk, Watve & Weires, 1980. Phytophagous and predacious mites on apple in New York. Search 6.

☞ Nyrop & Reissig, 1988. Basing European red mite control decisions on a census of mites can save control costs. N.Y. Food & Life Sci. Bull. 123.

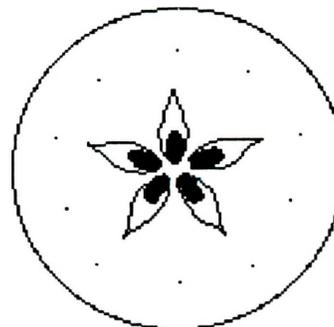
☞ Rosenberger, 1982. Biology and control of Cytospora fungi in peach plantings. N.Y. Food & Life Sci. Bull. 92.

☞ Seaman & Riedl, 1986. Preventing decomposition of agricultural chemicals by alkaline hydrolysis in the spray tank. N.Y. Food & Life Sci. Bull. 118.

☞ Smith, Stiles & Weires, 1989. The effects of ground cover manipulations on pest and predator mite populations on apple in Eastern New York. N.Y. Food & Life Sci. Bull. 128.

☞ Way, Dennis & Gilmer, 1967. Propagating fruit trees in New York. Geneva Gen. Bull. 817.

☞ Way, 1972. Pollination arrangements in new apple plantings. Spec. Rep. 7. ❖❖



LANNATE

(Art Agnello)

❖❖ An eleventh-hour label revision for Lannate includes some important changes that we were unable to incorporate into the Tree Fruit Recommendations:

- Lannate will be available only in the 90SP and 2.4LV formulations; Lannate 1.8L will not be produced in 1994, and only existing inventory will be available.

- The minimum re-entry interval is now 48 hr unless personal protective equipment is worn (up from 24 hr in pears; remains at 72 hr for apples and 96 hr for peaches).

- Apple maximum use rate is 0.9 lb ai/A. PHI increased to 14 days from eight days.

- Pear use rate decreased from 1.8 lb ai/A to 0.9 lb ai/A. Two applications allowed versus one application previously. ❖❖

NEW
THINNER

REGISTRATION OF
ACCEL (APPLE
THINNING AGENT)
(Warren Stiles)

❖❖ ACCEL (BA + GA) from Abbott Laboratories was registered in New York State by the DEC on Feb. 16, 1994. Maximum application rate is 20 grams of BA [N-(phenylmethyl)-1H-purine 6-amine] per acre per application. One or two applications per year are permissible, according to the label. Rates suggested by the label are 15-20 grams a.i. (BA) per acre for Empire, Golden Delicious, Jonamac, Jonagold, McIntosh, Paulared; 10-15 grams a.i. (BA) per acre for Rome Beauty. Contact Terence Robinson for information concerning results of experiments with this material in N.Y.S. and further suggestions for its use. ❖❖

A
LITTLE
TLC

TREATING WINTER
INJURY IN FRUIT TREES
(Warren Stiles)

❖❖ Winter injury observed in fruit trees is extensive in most areas. With apples, injury appears as browning of the xylem just under shoot buds or flower buds, in spurs and in terminal shoots. Flower buds (on branches that have been forced) have been damaged to varying degrees ranging from no apparent damage to severe injury on the same branch. In some cases, spur leaves have not developed on some clusters, in other cases some or all of the individual flowers have been damaged to the extent that they will not develop normally or will abscise before opening. Similar injury plus additional injury to the flowers has also been observed on pear, plum/prune, cherries, and peaches.

At this point, the primary concern is that of trying to stimulate cambial activity to develop new xylem tissues and minimize effects of disruption of water and nutrient movement into the non-injured tissues of spurs and buds. Based on past experience, it is suggested that foliar applications of Solubor (1 pound per 100 gallons dilute rate) plus EDTA-Zinc chelate (1 quart per 100 gallons dilute rate) be applied soon after new growth has started:

APPLES - The first application should be made at or before the one-half-inch green stage. A second application of Solubor plus EDTA-Zinc chelate at the same rates plus Urea (3 pounds per 100 gallons dilute rate) may be necessary at the tight cluster to pink stage of bud development, if the bud development is prolonged because of cool weather during the prebloom period. If the development period is short and only one application can be made prior to bloom (sometime between one-half-inch green and pink), the second application should be made at petal fall or within 7 days of petal fall. If the second

continued...

application is delayed until petal fall, the rate of Urea should be increased to 5 pounds per 100 gallons dilute rate. **CAUTION** - do not concentrate Urea above 10 pounds per 100 gallons of tank-mix.

PEARS - Same treatments as for apples. First spray should be applied about bud-burst stage, and the second at green-cluster to white bud stage. Alternative timing would be one during the prebloom period plus one at petal fall.

CHERRIES, PLUMS, PRUNES, APRICOTS - Apply the Solubor and EDTA-Zinc chelate at the same rates indicated above but **do not include Urea in these sprays**. Apply one spray at bud burst to early white bud stage. A second spray at petal fall may also be necessary.

PEACHES - Apply one spray of Solubor and EDTA-Zinc chelate at the same rates indicated at the swollen bud to one-half-inch green stage. **Do not include Urea in this spray**. If a second spray is necessary, apply Solubor and EDTA-Zinc chelate at the same rates following petal fall.

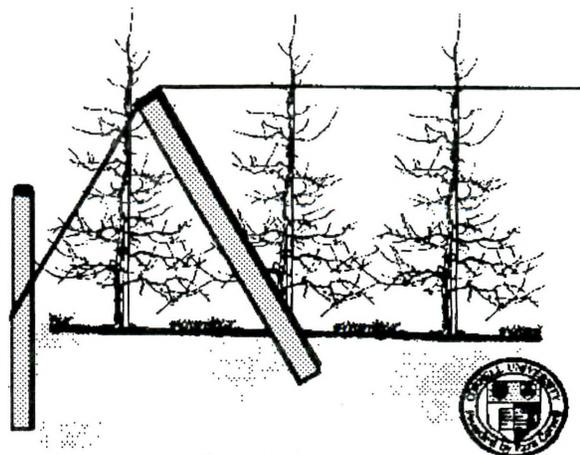
It is critical that the boron/zinc treatments be started before the developing buds dry out; therefore, it is best to begin treatments as soon as growth begins and effects of the damage become evident. With all tree fruits, try to minimize stress by maintaining good weed control around the trees and irrigating to maintain adequate water supplies to the trees. ❖❖



FRUIT SCHOOL

❖❖ The Cornell Cooperative Extension Fruit Industry Workgroup is holding a 3-day In-Depth Fruit School on the Geneva campus from August 2-4, on "Apple Planting Systems: How Fast and How Far?" The goal of this course is to provide horticultural and economic information to improve growers' horticultural skills and enable them to choose a profitable planting system suited to their situation. This is one in a continuing series of Cornell Fruit Schools, and is being offered in response to requests from New York apple growers who have a need for an intensive course on the fundamentals of contemporary high-density apple planting systems. Topics will be presented in the form of lectures and panel discussions, supplemented by daily field labs and demonstrations in nearby orchards. Registration is \$150 for N.Y. residents, \$200 for all others; enrollment deadline May 1. For more information, contact Art Agnello (addresses & numbers given in the masthead, pg. 2). ❖❖

1994 CORNELL IN-DEPTH FRUIT SCHOOL



Cornell Cooperative Extension

UPCOMING EVENTS

	<u>43°F</u>	<u>50°F</u>
Current DD accumulations (Geneva 1/1 - 3/21):	14.5	2.9
<u>Coming Events:</u>	<u>Ranges:</u>	
McIntosh at silver tip (where there's hope...)	64-69	17- 24



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.

scaffolds

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