



Newsletter

Extension

Fruit ICM News

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Codling Moth/Oriental Fruit Moth Update

Source: Fruit Times Vol. 23, No. 13, August 10, 2004

It is very important to closely monitor the codling moth and oriental fruit moth populations, especially in orchards with previous history of CM/OFM problems or located near large bin piles. The egg hatch models (in Pennsylvania) by SkyBit provided quite an accurate forecast during the first CM generation and first and second OFM generations. At this time of the season, actual monitoring of every orchard is necessary to correctly assess problems (or potential problems) with internal worms.

The use of pheromone traps for CM/OFM monitoring is now the most appropriate way to analyze the situation in all affected blocks. If more than five CM adult moths (or 10-15 OFM adults) are collected per trap/week, an insecticide application is recommended for control of these pests within the next 5-7 days.

Since both species' larvae enter the fruit soon after hatching, it is imperative to maintain an active residue of insecticide during the egg hatch period. In order to prevent further fruit injury in problem blocks, growers would be advised to keep fruit covered with an organophosphate, carbamate, or pyrethroid insecticide during the next 3-5 weeks.

In orchards with high CM/OFM pressure, higher rates of insecticides should be used: azinphos-methyl 50W at 1.5-2.0 lb/A (14 day Pre-Harvest Interval if less than 2lb/acre applied; 21 day PHI if more than 2 lb/acre), Imidan 70W at 3.0-4.0 lb/A (14 day PHI), Lannate 90SP at 0.75-1.0 lb/A (14 day PHI), Asana at 8-12 fl oz/A (21 day PHI), Warrior at 4-5 fl oz/acre (21 day PHI), or Danitol at 16-21 fl oz/A (14 day PHI).

Growers know that certain insecticides **do not** provide effective CM control (i.e., we have seen resistance to some organophosphate insecticides in certain CM/OFM populations in Adams County). Thus, growers should consider the use of different compounds not previously used in the problem block, such as Assail at 2.7 3.4 oz/acre (7 day PHI), Calypso at 4-6 oz/acre (30 day PHI), Avaunt at 6 oz/acre (14 day PHI), or Intrepid at 16 oz/acre (14 day PHI).

Of course, as growers make their decisions on what materials to use for the last few applications of the season, they should check their records and the label for the seasonal amount of insecticide they can apply and the pre-harvest interval.

New Pre - Harvest Interval for Avant

Source: Fruit Times Vol. 23, No. 13, August 10, 2004

The E.I. Du Pont de Nemours and Company recently announced that EPA approved a reduction in the Pre-Harvest Interval (PHI) for Avaunt insecticide for use on apples from 28 to 14 days before harvest.

On apples, DuPont Avaunt insecticide is labeled for the control of codling moth, oriental fruit moth, tufted apple bud moth, apple maggot, redbanded leafroller, potato leafhopper, European apple sawfly, plum curculio, and tarnished plant bug.

Ziram RED Available for Comment

Source: EPA's Office of Pesticide Programs 07/30/04 <http://www.epa.gov/pesticides> via Drs. Greg Krawczyk and Larry A. Hull, PSU Fruit Times, August 10, 2004

On July 21, 2004, EPA published a Federal Register notice announcing the availability of the Ziram Reregistration Eligibility Decision (RED). Public comment is invited on this decision document until September 20, 2004. A broad spectrum fungicide, Ziram is used on a variety of crops, including stone fruits, pome fruits, nut crops, vegetables, and commercially grown ornamentals. Commodities with the highest percentage of crop treated are pears, almonds, apricots, and nectarines. Ziram also is used by homeowners as a rabbit repellent. It has antimicrobial uses as an additive in industrial adhesives, caulking, and latex paints.

Ziram has been reviewed through EPA's public participation process. Provided risk mitigation measures discussed in the RED are adopted, pesticide products containing Ziram will be eligible for reregistration. Although Ziram does not pose dietary risks, EPA has concerns about risks to homeowners and commercial painters and to agricultural workers, as well as ecological risk. To address these risks, mitigation includes canceling certain aerial applications, upgrading worker personal protective equipment (PPE) from baseline to minimal, reducing maximum numbers of applications and application rates, packaging wettable powder formulations in water soluble bags, and reducing the concentration of Ziram in latex paints.

Ziram is part of the reregistration case Dimethyldithiocarbamate Salts, which contains four pesticide active ingredients. EPA will complete a separate RED for Ferbam, another active ingredient in this case. Ziram also is part of the dithiocarbamate group of fungicides. The dithiocarbamates are not included in the Agency's cumulative assessment of the N-methyl carbamate pesticides because they do not share acetylcholinesterase inhibition as their principal mechanism of toxicity. In developing this RED, EPA has assumed that Ziram does not share a common mechanism of toxicity with other pesticides.

The Ziram RED and RED fact sheet are available on EPA's pesticide reregistration status web page, <http://www.epa.gov/pesticides/reregistration/status.htm> under Dimethyldithiocarbamate Salts. The July 21 Federal Register notice of availability and other Ziram documents are available at <http://www.epa.gov/oppsrrd1/reregistration/ddcsalts/>.

ReTain® Rates & Application

Source: Dr. Jim Schupp, FREC, PSU Dept. of Horticulture, Fruit Times, August 10, 2004

ReTain (AVG) is an expensive chemical to produce, and the maximum rate of AVG allowed by the label is at the low end of the effective range for most apple varieties. For most applications, we need every molecule we apply to be absorbed and do its duty. One exception to this rule is low ethylene varieties. Low ethylene producers, such as Gala, are strongly influenced by AVG, while ethylene production is much harder to control for high ethylene varieties such as McIntosh.

Rootstock also has a big effect on tree response to AVG. The ReTain label specifies the rate of AVG that may be applied per acre; however the tree row volume for a dilute spray in apple orchards typically varies from 200 to 400 gallons per acre, depending on the rootstock. It follows that if ReTain is applied at the same rate per acre to both standard and dwarf trees, the dwarf trees are getting a much stronger dose of AVG. Since the dose response to AVG is linear, a much stronger response can be expected in blocks of smaller trees.

Fruit maturity of low ethylene varieties such as Gala on dwarfing rootstocks can be slowed with 7.5 oz (about two thirds of the full label rate) of ReTain, if timing and application recommendations are followed closely. Most varieties, however, require the full labeled rate of ReTain (1 pouch or 333 grams per acre) in order to obtain satisfactory results. Trees under stress (mites, drought, etc) are less responsive to ReTain and are poor candidates for its use.

After timing, the key to getting good results with ReTain is to maximize coverage and absorption. Use a 100% organosilicone surfactant, such as Silwet L-77 or Sylgard 309 at 12 oz. per 100 gallons of finished spray mix. For optimum results, apply ReTain with 100 gallons of water per acre and spray each row from both sides. Split applications do not enhance the performance of ReTain. A single well-timed spray will give the best delay in maturity and best control of preharvest drop.

Ideally, no rain should fall for at least six hours after ReTain is applied; however, if the coverage was good, the ReTain spray was applied with a full rate of Silwet, and the residue dried before it rained, you probably got most of the benefit of the spray. Just monitor drop and fruit maturity closely in this block.

Application of ReTain under slow drying conditions is thought to be beneficial for uptake. Conversely, spraying ReTain on wet foliage can result in a loss of performance, due to the material dripping off before it can be absorbed. Wait until the foliage dries to apply ReTain. If you must apply ReTain to damp foliage, reduce the rate of Silwet to 6 fluid ounces instead of 12 to reduce the sheeting action and possible runoff. Another tactic (that can work on a limited scale if time is running out) is to first drive slowly through the block to be sprayed with just the fan on before applying the spray.

Ohio State Plant Pathologist Recognized for Work on Fruit Crops

By Mauricio Espinoza, Source: Randy Rowe, Plant Pathologist, OARDC, Wooster, The Ohio State

University

The next time you enjoy a sweet, juicy, disease-free apple or strawberry, take a few seconds to thank Ohio State University scientist Mike Ellis. A fruit pathologist with the Ohio Agricultural Research and Development Center (OARDC) and Ohio State University Extension, Ellis has spent 28 years making sure diseases don't take a bite out of growers' profits or your favorite fruits.

In recognition of his career-long efforts and accomplishments, Ellis has been elected fellow of the American Phytopathological Society (APS), an international scientific organization devoted to the study of plant diseases and their control. APS grants this honor to current members as a way to recognize distinguished contributions to plant pathology. "For me, personally, the fellow award is one of the greatest honors that a plant pathologist can receive," Ellis said. "I am very grateful to have received this recognition."

APS highlighted Ellis' "comprehensive, innovative, and highly effective mission-oriented research and extension programming for fruit crops in Ohio, the Midwest, and the nation." The recognition was made early this month in Anaheim, California during the society's annual meeting.

A researcher with Ohio State's Department of Plant Pathology since 1979, Ellis has established a nationally respected program that deals with the biology, epidemiology, and management of fruit diseases. He has made major advances in understanding the epidemiology of several important diseases of strawberries, grapes, raspberries, and blackberries. His work includes the development of predictive systems for Botrytis flower and fruit rot, anthracnose fruit rot, and leather rot of strawberry, as well as black rot, downy mildew, and Phomopsis cane and leaf spot of grape.

Ellis has been a leader in the study of leather rot of strawberry, which is caused by the pathogen *Phytophthora cactorum*. Even though it was a major problem worldwide, the disease was poorly understood.

Ellis' research resulted in a broad and in-depth understanding of leather rot's epidemiology, especially the relationship between weather conditions and infection, dispersal, and spread of the disease. This information has been used to integrate cultural and chemical control methods to successfully manage the disease. "Dr. Ellis is a recognized world authority on diseases of strawberries, grapes, apples, and other fruits," said Randy Rowe, chair of the Department of Plant Pathology. "This recognition by his colleagues across the country is highly pleasing to his fellow faculty. It is a distinctive award that is only received by the top members of our profession."

In nominating Ellis, APS also considered his outstanding work as an Extension educator, which has significantly increased the awareness and use of integrated disease management strategies by commercial fruit growers in Ohio and throughout the Midwest. "Dr. Ellis is also extensively involved in problem-solving research for fruit growers," Ellis' nominators wrote. "His research approach incorporates knowledge of disease epidemiology and pathogen biology to integrate resistance, cultural practices, biological control, and minimal and targeted fungicide use for the efficient and cost-effective control of fruit-crop diseases. "He is an excellent example of how a plant pathologist with a research-extension appointment should function: that is, his research is problem-solving and has resulted in practical information that is directly useful to the fruit industry."

Ellis has authored over 100 refereed journal articles and more than 500 trade-journal papers, fact sheets, Extension bulletins, and technical reports. He organized the development of the *Midwest Small Fruit Pest Management Handbook* and co-edited the *Midwest Tree Fruit Handbook*.

A great communicator, Ellis has made over 500 presentations at fruit schools, integrated pest management (IPM) workshops, Extension county agent "In-Services," and master gardener training sessions within Ohio. He has also given more than 100 talks in over 80 out-of-state Extension and fruit-production programs across the United States and around the world.

Ellis is also part of the Integrated Pest Management Collaborative Research Support Program (IPM-CRSP) in Ecuador. He trains local scientists there on how to conduct IPM research and develop programs like his own.

Throughout his career, Ellis has received the 1987 APS Ciba-Geigy Award for excellence in research, the 2000 APS Excellence in Extension Award, and awards of appreciation from the Ohio Fruit Growers Society and the North American Strawberry Growers Association.

Ellis received B.S. and M.S. degrees from Eastern Illinois University and a doctorate in plant pathology from the University of Illinois. Before joining Ohio State, he worked as an assistant professor at the University of Puerto Rico at Mayagüez.

Degree Day Accumulations for Ohio Sites August 11, 2004

Location	Degree Day Accumulations Base 50° F	
	Normal	Actual
Akron-Canton	1844	1812
Cincinnati	2386	2508
Cleveland	1924	1874
Columbus	2328	2156
Dayton	2200	2228
Kingsville	1734	1718
Mansfield	1842	1895
Norwalk	1978	1873
Piketon	2384	2437
Toledo	1970	1872
Wooster	1978	1779
Youngstown	1734	1734

Pest Phenology

Coming Events	Degree Day Accum. Base 50° F
Codling moth 2 nd flight peak	1337 - 1977
Apple maggot flight peak	1458 - 1770
San Jose scale 2 nd flight peak	1459 - 1805
Spotted tentiform leafminer 3 rd flight begins	1532 - 1872

Thanks to Art Agnello, Cornell University

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

Site: Waterman Lab, Columbus

Dr. Celeste Welty, OSU Extension Entomologist

Apple 8/4 to 8/11/04	
Redbanded leafroller	27 up from 14
Spotted tentiform leafminer	na last wk at 647
San Jose scale	na last wk at 90
Codling moth	17.7 up from 7.0
Lesser appleworm	13 down from 24
Tufted apple budmoth	6 up from 3
Variegated leafroller	5 up from 2
Obliquebanded leafroller	0 same as last wk.
Apple maggot (sum of 3 traps)	9 up from 8

Site: Holmes, Wayne, and Wayne Counties

Ron Becker, IPM Program Assistant

No data available at press time.

Site: West District; Huron, Ottawa, Richland, and Sandusky Counties

Lowell Kreager, IPM Scout/Technician

Apple 8/3 to 8/10/04	
Apple maggot (3 trap sum)	0.0 same as last week
Codling moth	2.9 up from 2.0
Lesser appleworm	4.1 up from 2.3
Oriental fruit moth	0.5 down from 0.6
Redbanded leafroller	11.3 up from 5.1
San Jose scale	0.1 down from 2.6
Spotted tentiformleafminer	566 down from 649
Peach 8/3 to 8/10/04	
Lesser peachtree borer	1.7 down from 3.0
Oriental fruit moth	0.7 same as last wk.
Peachtree borer	0.8 down from 1.0
Redbanded leafroller	14.8 up from 6.2

Beneficials include lacewings and lady beetles

Site: East District; Erie and Lorain Counties

Jim Mutchler, IPM Scout/Technician

Apple 8/3 to 8/10/04	
Apple maggot (3 trap sum)	1.9 down from 3.0
Codling moth	5.7 down from 6.0
Lesser appleworm	6.6 down from 7.7
Oriental fruit moth	6.1 down from 6.4
Redbanded leafroller	6.2 up from 3.7
San Jose scale	53.5 down from 191
Spotted tentiform leafminer	942 up from 285
Peach 8/3 to 8/10/04	
Lesser peachtree borer	5.0 down from 7.3
Oriental fruit moth	13.0 down from 16.0
Peachtree borer	10.3 down from 24.3
Redbanded leafroller	4.0 up from 1.7

Beneficials included lacewing eggs and adults, lady beetles, and orange maggots

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