



# Newsletter Extension

## Fruit ICM News

Volume 8, No. 8  
March 19, 2004

### In This Issue:

[Calendar](#)

[Pest Management Surveys](#)

[Review of Lorsban® 75WG Label](#)

[Nexter® is the New Name for Pyramite®](#)

[Calypso® Label Limitation](#)

[Marketing for Health: Human Wellness](#)

[Pest Phenology & Degree Day Accumulations](#)

[International Experience for Dick Funt](#)

[Expanded Actara® Label](#)

## 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.

## Pest Management Surveys

*Source: Margaret Huelsman, OSU Extension Associate, Entomology*

The Integrated Pest Management Program is once again collecting information about pest management practices used by Ohio fruit growers. This year we are collecting information on apples and strawberries. The data will be used to update the existing crop profiles for these commodities. Crop profiles are used by EPA as reliable sources of information about important crop production methods including critical pest management practices and tools. OSU Extension specialists have been handing out these surveys at some of the winter meetings. If you already received a survey and returned it we thank you. If you still have your survey and stamped return envelope, please take a moment to complete the survey and send it in. If you have not yet received a survey and would like to participate or have any questions about the surveys please contact Margaret Huelsman at (614) 688-8431.

The Apple Crop Profile that Margaret is updating can be found at:

<http://pestdata.ncsu.edu/cropprofiles/docs/ohapples.html>

the Strawberry Crop Profile at: <http://pestdata.ncsu.edu/cropprofiles/docs/ohstrawberries.html>

## Review of the New Lorsban® 75WG Label

Sources: Paul J. David, Ph.D., Field Development Representative, Gowan Company and <http://www.cdms.net/ldat/ld67M002.pdf>

Following are label details for Ohio fruit crops for Lorsban 75WG. Gowan will be marketing this product for Dow.

### Grapes

Apply Lorsban 75WG just before the pest emerges from the soil. Apply 1.5 quarts of the diluted spray mixture to the soil surface in an 11-square foot area (3.75 ft circle) around the base of each vine.

Target Pests	Lorsban 75WG (lb/100 gal)
grape root borer	3.0

### Precautions:

- Do not allow spray to contact fruit or foliage.

### Restrictions:

- Preharvest Interval: Do not apply within 35 days before harvest.
- Do not make more than 1 application per season of Lorsban 75WG or other product containing chlorpyrifos.
- Based upon available residue data, the use of Lorsban 75WG in grapes is restricted to areas east of Continental Divide only.
- Do not exceed 8 lb of Lorsban 75WG (6.0 lb ai chlorpyrifos) per acre per crop season.

### Strawberries Soil Application

Apply as a preplant soil incorporated treatment. Apply specified rate in a minimum spray volume of 10 gallons per acre and incorporate into the soil on the day of application using a disc, field cultivator, or equivalent equipment.

Target Pests	Lorsban75WG (lb/acre)
grubs	2.67

### Foliar Application

Apply as a broadcast foliar spray when buds first appear and repeat application 10 to 14 days later. Use a

minimum spray volume of 40 gallons per acre.

Target Pests	Lorsban 75WG (lb/acre)
strawberry bud weevil	1.33

Precautions:

Lorsban 75WG should not be tank mixed with pesticides, surfactants, or fertilizer formulations unless prior use has shown the combination non-injurious under your current conditions of use. Phytotoxicity may occur when Lorsban 75WG is applied to strawberries under conditions of high temperature and drought stress.

Restrictions:

- For pre-bloom use only. Do not apply after berries start to form or when berries are present.
- Preharvest Interval: Do not apply within 21 days before harvest.
- Do not make more than 2 applications per year of Lorsban 75WG or other products containing chlorpyrifos.
- Do not make a second application of Lorsban 75WG or other product containing chlorpyrifos within 10 days of the first application.

**Tree Fruits (Dormant/Delayed Dormant Sprays)**

Worker Restricted Entry Interval: Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 days unless PPE required for early entry is worn.

Apply as a dormant or delayed dormant spray. While Lorsban 75WG may be used without oil, oil is recommended to control additional pests such as European red mite. See precautions for use of oil below. **Post-bloom application to apples is prohibited.**

Foliar Sprays:

Apply as a concentrate or dilute spray using conventional, power-operated spray equipment. For dilute sprays (greater than 200 gpa), use sufficient spray volume to completely wet free foliage, but not to the point of runoff. For concentrate sprays (less than 200 gpa), uniformly apply a minimum of 1 lb of Lorsban 75WG in the required spray volume. Use higher rate in rate range when there is increased pest pressure.

**Apples**

Target Pests	Lorsban 75WG (lb/100 gal)
climbing cutworms	0.33 to 0.67
European red mite obliquebanded leafroller rosy apple aphid San Jose scale	(Use a minimum of 1.0 lb/acre of Lorsban 75WG)

## Cherries, Nectarines, Peaches, Pears, & Plums

Target Pests	Lorsban 75WG (lb/100 gal)
climbing cutworms	0.33 to 0.67
European red mite peach twig borer pear psylla adults San Jose scale	(Use a minimum of 1.0 lb/acre of Lorsban 75WG)

### Precautions

- Cold or dry conditions may cause Lorsban 75WG plus oil sprays to infuse into trees, resulting in bud damage or bud drop. Do not apply until winter rains or irrigation has replenished soil moisture such that bark and twigs are not desiccated.

### Recommendations for Use of Oil

1. In peaches and nectarines, use up to 3% of supreme oil up to a maximum of 6 gal per acre.
2. In apples, pears, cherries, and plums, refer to University of California recommendations for the use of supreme oil.
3. In orchards with high over-wintering populations of European red mite or San Jose scale, use the higher spray volumes which allow the use of higher rates of oil.
4. For use of any additional adjuvant or surfactant, in addition to or as a substitute for supreme oil, consult your local Dow AgroSciences representative.

### Restrictions:

- Do not use more than 2.67 lbs of Lorsban 75WG (2.0 lb ai chlorpyrifos) per acre per season as a dormant/delayed-dormant application.
- Post-bloom applications is prohibited.
- Make only 1 chlorpyrifos application during the dormant season.
- Do not allow meat or dairy animals to graze in treated orchards.

## **Tree Fruits and Tree Nuts (Foliar Sprays)**

Worker Restricted Entry Interval: Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 days unless PPE required for early entry is worn.

Apply Lorsban 75WG as a foliar spray at the dosages indicated to control pests listed in the following table. Mix the required dosage in sufficient water to ensure thorough and complete coverage of the foliage and crop and apply as a concentrate or dilute spray using conventional, power-operated spray equipment. For dilute sprays applied to tree nut crops, mix the required dosage in sufficient water to allow for spray to runoff. For concentrate sprays, apply an equivalent amount of Lorsban 75WG per acre. Treat when pests appear or in accordance with local conditions. Aerial application may result in less effective insect control because of reduced coverage. Consult your State agricultural experiment station, certified Pest control advisor, or Extension service specialist for specific use information in your area.

## Cherries (sour)

Target Pests	Lorsban 75WG (lb/acre)
lesser peachtree borer peachtree borer San Jose scale stink bug tarnished plant bug	1.33 to 2.0
cherry fruit fly plum curculio	2.0

### Precautions:

- Lorsban 75WG is highly toxic to bees exposed to direct treatment and should not be applied when bees are actively foraging in the treated area.

### Restrictions:

- Do not make a second application of Lorsban 75WG or other product containing chlorpyrifos within 10 days of the first application.
- Do not allow livestock to graze in treated orchards.
- Do not use as a foliar spray on sweet cherries.
- For sour cherries the pre-harvest interval is 21 days. Do not apply more than 8 sprays per season. The total amount of Lorsban 75WG per season is 16 lb/acre. The total amount of chlorpyrifos per season is a 2 lb/acre.

## Tree Fruits and Tree Nuts (Trunk Spray and/or Preplant Dip)

Worker Restricted Entry Interval: Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 days unless PPE required for early entry is worn.

Apply Lorsban 75WG to tree trunks and lower branches using a coarse, low-pressure spray to control pests listed in the following table. Use a higher rate in rate range when there is increased pest pressure. Unless otherwise specified, a second application may be made after 2 weeks and a third application may be made after harvest. Avoid spray contact with foliage in sweet cherries as premature leaf drop may result. Consult your state agricultural experiment station or extension service specialist for proper application timing for your area.

## Cherries

Target Pests	Lorsban 75WG (lb/100 gal)
lesser peachtree borer peachtree borer	2.0 to 4.0

## Nectarines & Peaches

---

Target Pests	Lorsban 75WG (lb/100 gal)
peachtree borers (1) (2)	4.0

Pest-Specific Use Directions:

**1. Preplant Dip Application (Peaches and Nectarines Only).** For **preplant control of peachtree borer**, use Lorsban 75WG at the equivalent application rate of 4 lb per 100 gallons of water. Dip trees several inches above the grafting bud scar and plant immediately or allow them to dry before returning to storage. Do not allow peach trees to remain in contact with the dip solution.

2. For control of **peach tree borer in established trees**, apply before newly hatched borers enter the tree. Use as a coarse, **low-pressure trunk spray** and thoroughly wet all bark areas from ground level to scaffold limbs. Do not allow spray to contact fruit. Consult your State agricultural experiment station's or Extension service specialist's written recommendations for proper time to treat in your area.

Restrictions

- **Preharvest Interval:** Do not apply within 14 days of harvest of almonds, peaches and nectarines or within 21 days before harvest of cherries.
- Do not make more than 1 chlorpyrifos application per year in peaches and nectarines and no more than 3 chlorpyrifos applications per year in cherries.
- Do not allow meat or dairy animals to graze in treated orchards.

## Nexter® Is the New Name for Pyramite®

Sources: Celeste Welty, OSU Extension Entomologist, and <http://www.cdms.net/ldat/ld0EH008.pdf>

Nexter® is a selective contact miticide/insecticide that controls pests in apples, apricots, cherries, grapes, nectarines, peaches, pears, and plums.

### Nexter Application Rate Table

Pests Controlled	Rate per Acre
European red mite	4.4 to 5.2 oz.
apple rust mite grape leafhopper (nymphs) pear rust mite	5.2 to 10.67 oz.
pear psylla	6.6 to 10.67 oz.
Pests Suppressed	Rate per Acre
apple aphid	5.2 to 10.67 oz.

Allow a minimum of 30 days between sequential applications of Nexter in crops that allow more than 1 application per season.

### Crop-Specific Restrictions and Limitations

--	--	--	--

<b>Crop</b>	<b>PHI (days)</b>	<b>Max. Rate/A/Application (oz)</b>	<b>Max. Applications/Season</b>
Apples	25	10.67	1
Apricots	300	10.67	2
Cherries	300	10.67	2
Grapes	7	10.67	2
Nectarine	7	10.67	2
Peaches	7	10.67	2
Pears	7	10.67	1
Plums	7	10.67	2

### **Crop-Specific Information for Nexter**

#### **Apples**

Apply Nexter in 100 to 400 gallons of water per acre. Nexter must be applied to each row for maximum coverage. Use the higher rate of Nexter to ensure adequate concentration in mature orchards with dense foliage.

#### **Grapes**

Apply Nexter in 50 to 400 gallons of water per acre. Nexter must be applied to each row for maximum coverage. Use the higher rate of Nexter to ensure adequate concentration in mature vineyards with dense foliage.

#### **Pears**

Apply Nexter in 100 to 400 gallons of water per acre. Nexter must be applied to each row for maximum coverage. Use the higher rate of Nexter to ensure adequate concentration in mature orchards with dense foliage. Applications may be made early at pink or petal-fall to control eggs, early pear psylla instars and mobile mites. (Nexter is highly toxic to bees. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area). Nexter is also effective when applied after petal fall as mite populations begin to build.

#### **Stone Fruits**

Apply Nexter in 100 to 400 gallons of water per acre. Nexter must be applied to each row for maximum coverage. Use the higher rate of Nexter to ensure adequate concentration in mature orchards with dense foliage. For best control, pest populations must be building with primarily immature stages present at the time of application. Cherries and apricots are treated after harvest due to a 300-day PHI.

The Pyramite label is available at: <http://www.cdms.net/ldat/ld1KH009.pdf> if you would like to make comparisons between the 2 products.

## **Calypso Label Limitation**

Sources: <http://www.cdms.net/ldat/ld6DR001.pdf> and <http://www.dnr.state.oh.us/endangered/endangered4.htm> and thanks to Celeste Welty, OSU Entomologist.

Many new labels include a statement concerning endangered species. Under the Endangered Species Act, it is a Federal Offense to use any pesticide in a manner that results in the death of a member of an endangered species. The Calypso label includes this statement: "To protect the Indiana bat, do not apply from one-half hour before dusk to one-half hour after dawn." The Indiana bat tops the list of Ohio Endangered Species available at the Web site listed above.

## **Marketing for Health: Human Wellness Compounds in Fruits and Vegetables**

Source: Penelope Perkins-Veazie, USDA-ARS, South Central Agricultural Laboratory, Lane, OK 74555 [pperkins-usda@lane-ag.org](mailto:pperkins-usda@lane-ag.org) via Fruit Facts

One of the best things to happen to agriculture in recent years has been the new interest in consuming fruits and vegetables as a source of human wellness compounds. First recognized as important back in the 1950s as a source of many vitamins, every 20-year study released since then has implicated fruits and vegetables as being an increasingly important source of health. However, it hasn't been until the last 10 years that the specific components of produce have been characterized. In one way, it's been unfortunate that the importance of such stand-bys like vitamin C in fruits have been somewhat overlooked in search of more glamorous compounds like lycopene and procyanidins, but in another way, the overall importance of fruits and vegetables, and especially fresh ones, in the human diet has never been more publicized.

So, what is in fruits and vegetables and why are they so great? Well, besides the well known vitamins and minerals we've all grown up hearing about, there are new compounds that appear to reduce such chronic diseases as cancer and heart disease.

These substances were discounted for many years because they had no nutrient value, but numerous epidemiological studies now show that they may account for many of the puzzling clusters that appear in the data. Epidemiological studies are those where large amounts of data, often from up to 10,000 people at a time, are studied for trends; these studies developed as computers became more sophisticated and capable of handling large amounts of data and complex software became available to do the statistics.

These studies showed that specific populations had increased or decreased risks of diseases, such as prostate cancer or heart attacks. Lifestyle attributes were examined relative to these studies, and in particular diet was analyzed. At first, scientists found that the general intake of fruits and vegetables was higher in people who appeared resistant to diseases. Then, as scientists became more familiar with the make up of these fruits and vegetables, new data emerged. Of the many fruits and vegetables studied, four have received the most publicity. These are broccoli, onions, blueberries, and tomatoes. A list of fruits and vegetables, their vitamins and minerals, and the phytochemicals or human wellness compounds discovered, and their effect on human health are given in Tables 1 and 2.

So, what are the most important compounds? First are the plant pigments. These have great marketing potential as they are easy to see. In fact, the Five a Day Program has adopted this strategy in their eating by color campaign to encourage consumption of more fruits and vegetables. The blue of blueberries, the



purple of plums, the green of peppers, and the red of tomatoes are visually appealing and promise consumers a juicy and tasty experience. These compounds include anthocyanins, chlorophyll, and lycopene.

Second are the 'invisible' colors, the flavonols such as quercetin in onions, or lutein in corn. The third category is the sulfur-type compounds, which often impart an odor to cut or cooked vegetables such as broccoli, cabbage, onions, and garlic.

How do you take advantage of all this information and use it to market your produce? First consult web sites, especially those of commodity boards. Several commodity boards have helped fund medical studies with their fruit or vegetable, and post these results, especially once published, in easy to understand language.

Once scientific results have been published in peer-reviewed journals, the information can be used by individuals to apply to FDA and FTC for substantiated labeling claims. This is a gray area, as several government agencies regulate claims, especially when used as marketing tools. The Federal Trade Commission (FTC) looks for language that is not excessive or erroneous.

For instance, a claim that eggs are cholesterol free will raise eyebrows. In contrast, the Federal Drug Administration (FDA) regulates language that makes medical claims. If the same eggs are marketed as lowering cholesterol and preventing heart disease, then the FDA will investigate to see if this claim has been verified scientifically.

One other group regulates language used in labels by commodity boards. The Agriculture Marketing Service (AMS) regulates language used by boards and labels developed by these boards for use by their producers. This language must be approved annually and can be challenged by individuals or other commodity groups at any time.

### **Sources of information:**

American Dietetic Association <http://www.eatright.org/>

California Dried Plum Board <http://www.californiadriedplums.org>

California Tomato Commission <http://www.tomato.org>

Hyson, D. 2002. The health benefits of fruits and vegetables. A scientific overview for health professionals. Produce for Better Health Foundation, Wilmington, DE, 20p.

National Center for Biotechnology Information, including the National Library of Medicine and National Institutes of Health.

<http://www.ncbi.nlm.nih.gov/>

<http://www.ncbi.nlm.nih.gov/pubmed/>

National Center for Complementary and Alternative Medicine Credible alternative health information from the National Institutes of Health (NIH).

<http://nccam.nih.gov/health/>

National Watermelon Promotion Board

<http://www.watermelon.org>

North American Blueberry Council  
<http://www.blueberry.org/>

Nutrient Data Laboratory Food Composition Data - USDA <http://www.nal.usda.gov/fnic/foodcomp/>

Oregon Raspberry and Blackberry Commission <http://www.oregon-berries.com/>

Produce for Better Health Foundation, 1999. Dietary guidelines: the case for fruits and vegetables first.  
 Produce for Better Health Foundation, Wilmington, DE <http://www.5aday.org>

**Table 1. Constituents of fruits and vegetables that have a positive impact on human health and their sources (adapted from Produce for Better Health Foundation 1999: USDA, 2000 Hyson), to be published in USDA Handbook 66 (Kader, A., Perkins-Veazie, P, Lester, G., 2004).**

Constituent	Sources	Human-wellness affects
Vitamin C (ascorbic acid)	broccoli, cabbage, cantaloupe, citrus fruit, guava, kiwifruit, leafy greens, pepper, pineapple, potato, strawberry, tomato, watermelon	healthy immune-system, cardiovascular disease
Vitamin A (carotenoids)	dark-green vegetables (such as collards, spinach, and turnip greens), orange vegetables (such as carrots, pumpkin, and sweet potato), orange-flesh fruits (such as apricot, cantaloupe, mango, nectarine, orange, papaya, peach	night blindness, chronic fatigue, psoriasis, heart disease, stroke, cataracts
Vitamin E (tocopherols)	nuts (such as almonds, cashews nuts, filberts, macadamias, pecans, pistachios, peanuts, hazelnuts and walnuts), corn, dry beans, lentils and chickpeas	heart-disease, LDL-oxidation, immune-system, diabetes, cancer
Fiber	most fresh fruits and vegetables, nuts, cooked dry beans and peas	diabetes, heart disease
Folate (folicin or folic acid)	dark-green leafy vegetables (such as spinach, mustard greens, butterhead lettuce, broccoli, brussels sprouts, and okra), legumes (cooked dry beans, lentils, chickpeas and green peas) asparagus	birth defects, cancer, heart disease, nervous system
Calcium	cooked vegetables (such as beans, greens, okra, and tomatoes) peas, papaya, raisins, orange, almonds, snap beans, pumpkin, cauliflower, rutabaga	osteoporosis muscular/skeletal, teeth, blood pressure
Magnesium	spinach, lentils, okra, potato, nbanana, nuts, corn, cashews	osteoporosis, nervous system, teeth, immune system
Potassium	baked potato or sweet potato, banana & plantain, cooked dry beans, cooked greens, dried fruits (such as apricots and prunes), winter (orange) squash, and cantaloupe	hypertension (blood pressure), stroke, arteriosclerosis

**Table 2. Non-nutritive Plant Constituents Shown to Be Beneficial to Human Health**

Constituent	Compound	Sources	Human-wellness Effects
<b>Phenolic Compounds</b>			
Proanthocyanins	tannins	apple, grape, cranberry	cancer
Anthocyanidins	cyanidin, malvidin, delphinidin, pelargonidin, peonidin, petunidin	red, blue, and purple fruits (such as apple, blackberry, blueberry, cranberry, grape, nectarine, peach, plum & prune, pomegranate, raspberry, and strawberry)	heart disease, cancer initiation, diabetes, cataracts, blood pressure, allergies
Flavan-3-ols	epicatechin, epigallocatechin catechin, gallocatechin	apples, apricots, blackberries, plums, raspberries, strawberries	platelet aggregation, cancer
Flavonones	hesperetin, naringenin, eriodictyol	citrus (oranges, grapefruit, lemons, limes, tangerines)	cancer
Flavones	luteolin, apigenin	celeriac, celery, peppers, rutabaga, parsley, artichoke, guava, pepper	cancer, allergies, heart disease
Flavonols	quercetin, myricetin, kaempferol, rutin	onions, snap beans, broccoli, cranberry, kale, peppers, lettuce	heart disease, cancer initiation, capillary protectant
Phenolic acids	caffeic acid, chlorogenic acid, coumaric acid, ellagic acid	blackberry, raspberry, strawberry	cancer, cholesterol
<b>Carotenoids</b>			
Lycopene		tomato, watermelon, papaya, Brazillian guava, Autumn olive, red grapefruit	cancer, heart disease, male infertility
a-carotene		sweet potatoes, apricots, pumpkin, cantaloupe, green beans, lima beans, broccoli, brussel sprouts, cabbage, kale, kiwi, lettuce, peas, spinach, prunes, peaches, mango, papaya, squash, carrots	tumor growth
b-carotene		cantaloupes, carrots, apricots, broccoli, leafy greens (lettuce, swiss chard), persimmon, red pepper, spinach, sweet potato	cancer
xanthophylls	lutein, zeaxanthin, beta-cryptoxanthin	sweet corn, spinach, corn, okra, cantaloupe, summer squash, turnip greens	macular degeneration
monoterpenes	limonene	citrus (grapefruit, tangerine)	cancer
sulfur	glucosinolates,	broccoli, brussel sprouts, mustard greens,	cancer, cholesterol,

compounds	isothiocyanates, indoles, allicin, diallyl disulphide	horseradish, garlic, onions, chives, leeks	blood pressure, diabetes
-----------	---	--	-----------------------------

## Pest Phenology

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

Thanks to *Scaffolds Fruit Journal* (Art Agnello)

## Degree Day Accumulations for Ohio Sites March 17, 2004

Location	Degree Day Accumulations Base 50	
	Actual	Normal
Akron-Canton	15	15
Cincinnati	26	37
Cleveland	12	15
Columbus	18	23
Dayton	16	22
Kingsville	10	10
Mansfield	10	15
Norwalk	12	12
Piketon	31	45
Toledo	6	10
Wooster	13	13
Youngstown	11	12

## International Experience

Source: Dick Funt, OSU Horticulturalist

Dick Funt has returned to HC&S after 17 weeks in Armenia last year and 3 weeks in Egypt in January and then 5 more weeks in Armenia. In Armenia, Dick worked with the first USDA project outside of the US and in Egypt with USAID. Essentially these projects have the same objective which is to increase political stability by reducing rural poverty. In both cases he works to improve the Public-Private linkages to work with small farms in remote villages. The purpose then is to follow the food chain and address those links which need improvement to provide a high quality product for export. In Egypt he was the main speaker to address this successful concept that has done so well previously in Armenia. Working in a Team, a report was written to demonstrate the risk involved in high valued crops and the potential for exports to Europe in the "off" season. The Team interviewed scientists and their projects. They visited villages and noted the progress of NGO's in creating grower associations.

Armenia has 32,700 hectares of fruit. Apricots, peaches and grapes for wine and fresh market are the major crops suited for export to Moscow. Apples, pears, walnuts, persimmon, dates, figs, and berries are found in the local markets as fresh and dried products. This semi-arid region has good soils and climate but infrastructure is in need of improvement. He worked on improving the control of voles, pruning and training of fruit trees and establishing an extension delivery system to reach as many of the 930 villages as possible. He assisted the youth program, special schools who produce, preserve and consume their own fresh fruits and vegetables and advised orphanages in the growing of fruit. With an Armenian Team, the first all day drip irrigation conference was held with over 110 people attending. The main speaker was from Israel. To provide greater assistance, he collaborated with NGO's in Armenia who are actively engaged in providing resources but needed technical assistance in sustaining those resources in the long term. Currently he has written a proposal to assist in the food supply chain in Armenia to export 50 tons of high quality fresh apricots to Moscow this summer as well as develop the same structure for peaches and fresh grapes.

For more information on Armenia, you may wish to read the March issue of National Geographic magazine where a wonderful article has been written.

## Review of Supplemental Label for Actara®

Source: James W. Johnson, Technical Support Representative, Syngenta Crop Protection via Celeste Welty, OSU Entomologist. Supplemental label at <http://www.cdms.net/ldat/ld55M012.pdf>

The Actara® label has been expanded for apples and now also includes stone fruit. Following are label details of interest to Ohio growers:

### Apples

Timing and Target Pests	Rate per Acre Per Application
<b>Prebloom:</b> apple aphid apple grain aphid green peach aphid rosy apple aphid leafminers mullein bug	4.5 oz./A
<b>Postbloom:</b>	2.0 to 2.75 oz./A

leafhoppers	
<b>Postbloom:</b> apple aphid apple grain aphid green peach aphid leaf miner plum curculio	4.5 to 5.5 oz./A

## Pear

Timing and Target Pests	Rate per Acre Per Application
<b>Prebloom:</b> pear psylla	5.5 oz./A
<b>Prebloom:</b> apple aphid	4.5 to 5.5 oz./A
<b>Postbloom:</b> pear psylla	5.5 oz./A
<b>Postbloom:</b> apple aphid plum curculio	4.5 to 5.5 oz./A
<b>Postbloom:</b> leafhoppers	2.0 to 2.75oz./A

## Stone Fruit ( Apricots, Sweet & Tart Cherries, Nectarine, Peach, & Plum)

Target Pests	Rate per Acre Per Application
leafhoppers	2.0 to 2.75 oz./A
aphids	3.0 to 4.0 oz./A
cherry fruit fly plum curculio stink bug tarnished plant bug	4.5 to 5.5 oz./A

## Pollinator Precautions:

- Actara is highly toxic to bees exposed to direct treatment or residues on blooming crops
  - For **apples**, do not apply Actara after pre-bloom (early pink growth stage) or before post bloom (petal fall growth stage).
  - For **pears**, do not apply Actara after pre-bloom (green cluster stage) or before post bloom (petal fall growth stage).
  - For **stone fruit**, do not apply Actara between the pre-bloom (swollen bud) and post bloom (petal fall) growth stages of stone fruit.
  - After an Actara application, wait at least 5 days before placing beehives in the treated orchard.
-

The Ohio Fruit ICM News is edited by:

Ted W. Gastier  
Extension Agent, Agriculture  
Tree Fruit Team Coordinator  
Ohio State University Extension Huron County  
180 Milan Avenue  
Norwalk, OH 44857  
Phone: (419)668-8210  
FAX: (419)663-4233  
E-mail: [gastier.1@osu.edu](mailto:gastier.1@osu.edu)

---

Information presented above and where trade names are used, they are supplied with the understanding that no discrimination is intended and no endorsement by Ohio State University Extension is implied. Although every attempt is made to produce information that is complete, timely, and accurate, the pesticide user bears responsibility of consulting the pesticide label and adhering to those directions.

Copyright © The Ohio State University 2004

All educational programs conducted by Ohio State University Extension are available to clientele on a nondiscriminatory basis without regard to race, color, creed, religion, sexual orientation, national origin, gender, age, disability or Vietnam-era veteran status.

Keith L. Smith, Associate Vice President for Ag. Adm. and Director, OSU Extension.

TDD No. 800-589-8292 (Ohio only) or 614-292-1868

---

| [Back](#) |