

PLANT & PEST ADVISORY

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Orchard Vole Control

William H. Tietjen, Warren County Agricultural Agent

Now is the time to survey your orchard for vole activity. If there was no problem with voles last year, don't assume the same will hold true this year. Tall weeds and debris in the orchard serve as great habitat for voles and protect them from predators. Herbicide strips should be weed-free. One final mowing of the grass middles will help to decrease the potential for vole activity.

The number of voles that can be tolerated is a trade-off between cost of control and cost of damage. Most damage occurs at high population levels. Monitoring vole populations allows the grower to assess when populations are increasing and to begin control programs at the appropriate time.

It is important to determine which species of vole occurs in your orchard, since damage, recommended control, and effectiveness of techniques varies depending on the species. Meadow vole damage is usually in the form of gnawing on the bark at the base of the tree, and is evidenced by sprouts and suckers emerging from the base. Meadow voles construct surface runways that are 1.5-2" wide throughout the orchard. Pine vole damage is in the form of root girdling, which often is unnoticed until severe damage has already occurred and the tree is in rapid decline. Pine voles construct burrows that run 1-2" below ground surface within the drip line of the tree.

Determine the species of vole present by observing the type of burrows or runways in the orchard. Trap a few voles using standard or box-type (live) mouse traps. Meadow voles, also called meadow mice, have large eyes and ears, and the tail is more than twice as long as the hind foot. Pine voles are smaller, have small eyes and inconspicuous ears. The tail is about the same length as the hind foot.

New Jersey Pesticide Law requires the use of tamper-resistant bait stations. Zinc Phosphide Baits are classified as restricted-use pesticides in New Jersey, and can only be applied by registered pesticide applicators. Additional information regarding use of pesticides can be obtained by calling the NJ Bureau of Pesticide Control (609-530-4070).

If possible, set out baits when a dry spell is expected (3-4 days). Rain or damp conditions quickly reduce bait effectiveness. Pelleted zinc phosphide bait formulations are currently available to the fruit industry. Care must be taken to read the label to determine if a specific product is still currently labeled for New Jersey. Some rodenticides labeled in New Jersey are:

SEE VOLES ON PAGE 2

Mycoshield and Agri-Mycin Recall

Norman Lalancette, Specialist in Tree Fruit Pathology

This past summer, Merck's crop protection business was acquired by Novartis Crop Protection. Consequently, the antibiotics oxytetracycline (Mycoshield) and streptomycin (Agri-mycin 17) will now be manufactured and sold by Novartis. In New Jersey, Mycoshield is principally used for peach bacterial spot and pear [European] fire blight control, while Agri-mycin is important for apple fire blight management.

Novartis officials are concerned that some production lots of either of these materials may not meet product specifications for use during the 1998 growing season. Thus, Novartis has initiated a total recall of Mycoshield and Agri-mycin 17 in all package sizes. If you have either or both of these products, simply contact your supplier to arrange for return and a refund of the purchase price.

Fresh product should be available soon for use during the 1998 season. □

VOLES FROM PAGE 1

- BONIDE ORCHARD MOUSE BAIT (BONIDE PRODUCTS, INC.)
- ZINC PHOSPHIDE BAIT & PELLETS (HACCO, INC.)
- ZINC PHOSPHIDE CORN BAIT (HACCO, INC.)
- RIDALL-ZINC RODENT FIELD & AGRICULTURAL BAIT (LIPHATECH, INC.)
- ZP RODENT BAIT AG (BELL LABORATORIES, INC.)
- GASTOXIN FUMIGATION PELLETS (BERNARDO CHEMICALS, LTD.)
- ZINC PHOSPHIDE CONCENTRATE FOR MOUSE CONTROL (USDA-APHIS)

Zinc phosphide concentrate (63%) for making your own bait can be purchased from the USDA-Animal and Plant Health Inspection Service-Wildlife Services by contacting: Janet L. Bucknell, State Director, USDA APHIS WS, 140-C Locust Grove Road, Pittstown NJ 08867. Phone: 908-735-5654, Fax: 908-735-0821. ZP Rodent Bait AG made by Bell Laboratories is reportedly much superior to grain baits for the control of pine and meadow voles. Hand placement of this material under covers or in holes and runs will control both species. If populations are high, a second application using an anticoagulant may be required. □

Wildlife Habitat Incentives Program

Sign-up for the Wildlife Habitat Incentives Program (WHIP), a new voluntary program administered by the Natural Resources Conservation Service (NRCS), has begun. The USDA program provides both technical assistance and cost-sharing for people who want to develop or improve wildlife habitat.

NRCS has allocated \$130,000 for Wildlife Habitat Incentives Program cost-sharing payments to landowners in New Jersey for this fiscal year. WHIP participants who own or control land agree to prepare and implement a wildlife habitat development plan. NRCS will provide technical assistance with help from other wildlife agencies and organizations to develop a plan. The plan will describe the landowner's wildlife habitat goals, a list of practices and a schedule for implementation, and actions necessary to maintain the habitat for 5 to 10 years (the life of WHIP agreements).

NRCS, WHIP partners (NJ Division of Fish, Game & Wildlife; US Fish & Wildlife Service; NJ Conservation Foundation; and others) may also provide expertise or additional funding to help complete a project. NRCS and its partners developed priority areas. The three priority wildlife habitat areas in New Jersey are: The Walkkill River Watershed in Sussex County; the Inner Coastal Plain agricultural lands from Mercer County to Cumberland County; and lower Cape May County. The three priority species of wildlife impacted by agriculture are: the bog turtle, bobwhite quail, and grassland birds. The three statewide important practices of greatest priority are school site habitat development, fish habitat enhancement in streams, and invasive exotic vegetation control.

Any non-federal land in any priority wildlife habitat area will be eligible for participation in WHIP. Landowners throughout the state who are interested in any of the statewide important practices will be eligible for the program. Eligible applications will be ranked, and the highest ranking projects will receive WHIP cost-share funds.

Land currently enrolled in the Conservation Reserve Program (CRP) or the Wetlands Reserve Program (WRP) is not allowable for WHIP funding. WHIP funds cannot be used where mitigation has been required.

Financial assistance will be provided for the initial development of wildlife habitat practices. Landowners must agree to maintain any cost-shared practices and allow NRCS access to monitor the effectiveness of the practices. Cost-share payments of up to 75 percent may be used to establish, maintain, or replace practices.

For more information, or to sign up for the Wildlife Habitat Incentives Program through the Natural Resources Conservation Service, landowners can contact any USDA Service Center. USDA Service Centers are listed in the telephone book under the US Department of Agriculture. □

Treating Trickle Irrigation Systems with Chlorine

Craig A. Storlie, Specialist in Agriculture

The following information was submitted by Jerome L. Frecon, Agricultural Agent, excerpted from Rutgers Cooperative Extension FS 795.

In New Jersey, groundwater containing high concentrations of iron (greater than 1 ppm) and ponds and streams containing algae and bacteria result in many of the clogging problems New Jersey growers encounter. Iron in groundwater is often dissolved and remains dissolved as long as the water is held at groundwater temperature, pH, and pressure. After being pumped to the surface and distributed through irrigation laterals, the water temperature, pH, and pressure may change, often causing the dissolved iron to precipitate from the water into a solid form which appears as "rust". It is this ferric form of iron that physically clogs emitters.

Iron can also result in clogging problems due to a type of bacteria which "feed" on iron. In consuming the dissolved (ferrous) form of iron, the bacteria secrete a slime called ochre which may combine with other solid particles in the trickle tubing and plug emitters. Chlorination is an effective treatment for both types of clogging.

Chlorine is also useful where water is being pumped from a surface source (pond or stream). These waters almost always contain algae and bacteria which can live inside of the clog filters and irrigation laterals. Chlorine is used under these conditions to kill these organisms.

In treating water containing iron, chlorine will oxidize the iron dissolved in water, causing the iron to precipitate so that it can be filtered and removed from the system. In either case, chlorine treatment should take place upstream of filters in order to remove the precipitated iron and microorganisms from the system.

Chlorine is available in either gas, liquid or solid forms. Chlorine gas is extremely dangerous and not recommended for agricultural purposes. Solid chlorine is available as granular or tablets containing laundry bleach and postharvest wash materials. Liquid forms typically contain between 5-15% sodium hypochlorite. Use chlorine only if the product is labeled for use in irrigation systems.

The rate of chlorine injection required is dependent on the amount of microorganisms present in the water source, the amount of iron in the irrigation water, and the method of treatment being used. To remove iron from irrigation water, start by injecting 1 ppm of chlorine for each ppm of iron present in the water. For iron removal, chlorine should be injected continuously. Adequate mixing of the water with chlorine is essential. For this reason, be certain to mount the chlorine injector a distance upstream from filters. An elbow between the injector and the filter will also insure adequate mixing. A test kit can be used but it must measure free chlorine. Many pool test kits measure only total chlorine. □

Calendar of Events

January 9, 1998 - 9:30 a.m. - 12:30 p.m. - "Finding Agricultural Information on the Internet" (NJ Farm Management Program - PEG Credits) - Cook Campus, New Brunswick. Contact: Joan Sorensen at 732-932-0100.

January 9, 1998 - 1:00 - 4:00 p.m. - "How to Create A Business Presence on the World Wide Web" (NJ Farm Management Program - PEG Credits), Cook Campus, New Brunswick. Contact: Joan Sorensen at 732-932-0100.

January 12, 1998 - 9:15 a.m. - 12:15 p.m. - "Business Writing Skills for Farmers" (NJ Farm Management Program - PEG Credits) - Cook Campus, New Brunswick. Contact: Joan Sorensen at 732-932-0100.

January 14, 1998 - 9:00 a.m. - 5:00 p.m. - "QuickBooks for Windows" (NJ Farm Management Program - PEG Credits) - Gloucester County College, Sewell, NJ. Contact: Joan Sorensen at 732-932-0100.

January 16, 1998 - 9:30 a.m. - 12:30 p.m. - "Computer Basics & How to Buy a Computer: (NJ Farm Management Program - PEG Credits) - Cook Campus, New Brunswick,. Contact: Joan Sorensen at 732-932-0100.

January 16, 1998 - 1:00 - 4:00 p.m. - "Creating a Home Page for Your Business" - (NJ Farm Management Program - PEG Credits) - Cook Campus, New Brunswick. Contact: Joan Sorensen at 732-932-0100.

January 17-19, 1998 - National Peach/Vidalia Onion & Roadside Market Conference, Hyatt Regency Hotel, Savannah, Georgia. Contact: Jeff Wainwright, Georgia Peach Council, P.O. Box 1031, Fort Valley, Georgia 31030.

January 22, 1998 - 1:30 - 4:30 p.m. - "Farm Recordkeeping Options: Making Them Work For You" - (NJ Farm Management Program - PEG Credits) - NJ Vegetable Growers' Association Meeting, Atlantic City, NJ. Contact: Joan Sorensen at 732-932-0100.

January 22-24, 1998 - Annual Meeting of Vegetable Growers Association of New

SEE CALENDAR ON PAGE 4

Jersey, Inc. (January 22nd, a.m. and p.m. - Small Fruit Sessions, January 23rd, a.m. Blueberry Session). Contact: Phil Traino (609) 985-4382.

January 27, 28, 29, 1998 - Tri State Horticultural Meetings, Hershey Lodge & Convention Center, Hershey, PA. Contact: Bill Tietjen 908-475-6505 or Jerome L. Frecon 609-863-0110.

February 10, 1998 - Maryland, Delaware Peach School, Wye Research & Education Center, Queenstown, Maryland. Contact: Robert J. Rouse 410-827-8056.

February 17-20, 1998 - Mid-Atlantic Direct Marketing Conference & Trade Show, Tuesday through Friday, Willow Valley Resort & Conference Center, Lancaster, PA. Contact: Cathy Belcher at 804-786-4046.

February 18, 1998 - South Jersey Fruit Meeting, Masso's Crystal Manor, S. Delsea Drive, Glassboro, NJ. Contact: Jerome L. Frecon 609-863-0110.

February 19, 1998 - 9:00 a.m. - 1:00 p.m. - "1997 Tax Law Update for Estate, Business Retirement and Family Succession Planning" (NJ Farm Management Program - PEG Credits) Snyder Research Farm, Pittstown, NJ. Contact: Joan Sorensen at 732-932-0100.

February 22-25, 1998 - International Dwarf Fruit Tree Association Conference, Paseo, Washington. Contact: Bruce Barrett 609-663-8181, or Charles Ax, Jr. 717-837-1551.

February 23, 1998 - 6:00 -9:00 p.m. - "Investing for Income: How to Select Fixed and Variable Income Securities and Preserve Capital" (NJ Farm Management Program - PEG Credits) - Cook Campus, New Brunswick, NJ. Contact Joan Sorensen at 732-932-0100.

February 24, 1998 - 7:00 - 10:00 p.m.- "Dealing with State & Federal Labor Regulations" (NJ Farm Management Program - PEG Credits) - Gloucester County Extension Office, Clayton, NJ. Contact Joan Sorensen at 732-932-0100.

Pesticide Applicator Information for Fruit Growers

Jerome L. Frecon, Agricultural Agent

◆ Worker Protection Standards

At the recent New Jersey Pest Control & Fertility Conference, Carmen Valentin, Outreach Coordinator, NJDEP reported there were 260 compliance inspections for worker protection training on farms in New Jersey in 1997. Many farms were not in compliance with WPS regulations. The most common problem was incomplete pesticide application records. Frequently EPA registration numbers were not listed or entry times not posted.

Another major problem was decontamination stations were not available for workers. Where available, there was inadequate water (must have 1 gallon per worker) or there were no disposable towels and soap.

If any grower wants compliance assistance on their farm, please call the NJDEP at 609-984-6920 or contact the RCE office in your county.

REMINDER - AFTER APRIL 1, 1998 ANY GROWER NOT MEETING COMPLIANCE WILL BE SUBJECT TO FINES FROM NJDEP.

◆ Pesticide Notification

Ms. Valentin reported that this was a dead issue and growers will not be required to notify the NJDEP when regularly applying pesticides on their farms.

◆ Penncap

Ms. Valentin reported the NJDEP only received one complaint in 1997 on bee kill and after inspection and testing no methylparathion (Penncap) was found. The new Penncap appears to have corrected past problems.

◆ Pesticide Poisonings

Cases of pesticide poisonings declined by 70 percent over the last 25 years in South Carolina, according to survey results from the Medical University of South Carolina's Agromedicine Program. Between 1992-96, there were 112 hospitalizations; accidental child/adult poisonings accounted for 51 percent of total; attempted/successful suicides, 41 percent; and occupationally-related cases, eight percent. Outpatient emergency room visits for pesticide related poisonings during the last few years averaged 51 per year, with two-thirds involving children under four. Reasons given for accidents included instances where children ingested contents of soft drink cans filled with chemicals or farmers who attempted to clear clogged spray nozzles with their mouths.

The survey's authors note that over the last 25 years, occupationally-related cases of pesticide poisoning steadily declined in South Carolina from 37 percent down to eight percent. They attribute this decline to industry successes in applicator training programs, licensing and certification of restricted-use applicators and increasing use of less toxic insecticides.

◆ Safe Fruits & Vegetables

According to the American Crop Protection Newsletter - an 11/24 CNN report on pesticides featured good news for us. "I really think we do a pretty good job of working with pesticides in this country and that's one of the reasons I'm not particularly concerned." George Gray of the Harvard School of Public Health told CNN. The story goes on to say that health experts warn consumers not to let worries about chemicals upstage the benefits of eating conventionally grown fruits and vegetables. □

Tri-State Horticultural Meeting: Hershey, PA, January 27-29, 1998

William H. Tietjen, Warren County Agricultural Agent

Make plans now to attend the annual Tri-State Horticultural Meeting for the latest information on the growing and marketing of fruit in 1998. The trade show is one of the largest for fruit growers in the mid-Atlantic region. Dr. Ed Rajotte, Penn State University Entomologist, will lead off Tuesday's program and discuss "What's on the Horizon for IPM". A grower panel to include Peter Melick of Oldwick, NJ will discuss "Special Problems in Growing Fuji". Dr. Duane Greene, University of Massachusetts will present the George Goodling Memorial Lecture. His topic will be "Plant Growth Regulators for Efficient Apple Production".

Food safety and marketing issues will highlight the Tuesday afternoon session. "The Impact of the Food Quality Protection Act on Tree Fruits" will be presented by Larry Elworth of the USDA. Dr. Robert Buchanan of the USDA-ARS, Wyndmoor, PA will discuss "Issues of Food Safety in the Fruit Industry". A panel discussion of general consumer marketing trends for fresh and processed apples will follow. "Marketing with Theme Promotional Events" by Kay Swartz Rentzel, National Apple Month Program, will be of interest to all growers.

Wednesday morning's lead-off speaker Mr. Ed Starzec, Hardi Inc., will present "How to Calibrate Sprayers and When". Of interest to all growers will be Dr. Carl Felland, Penn State University, whose presentation on "Grower Use of Site Specific Weather and Pest Forecasts" has important implications for future on-farm disease and insect control. The remainder of Wednesday morning and afternoon will be devoted to peach production, pest control, new varieties, and marketing. Jerry Frecon will close out the day leading a grower peach marketing panel discussing "What Worked, What Did Not?"

Thursday morning Dr. Duane Greene, University of Massachusetts will discuss his many years of experience with apple variety trials in the Northeast. Growing and Marketing Oriental Pears will be the subject of a grower panel moderated by Dr. Chris Walsh, University of Maryland.

Thursday afternoon will begin with a panel of Penn State University researchers discussing "Root Death in Tree Fruit". The program will conclude with a Fire Blight Symposium. Topics will include: variety and rootstock susceptibility, MARYBLT model developed by Dr. Paul Steiner, University of Maryland, relationship of plant nutrition and orchard factors to fire blight susceptibility, and control measures.

The small fruit program will be devoted to bramble breeding and genetics, culture and marketing, and pest management. The first bramble session will commence Wednesday afternoon and run concurrently with the tree fruit program. If you presently grow brambles or plan to start, this program is for you. Some highlights will be presentations by: Dr. Barbara Goulart, Penn State University reporting on a 4 year trail of primocane fruiting raspberries, Dr. Jayson Harper, Penn State's topic - "Are You Making Money? Economics of Red Raspberry Production". Thursday afternoon will conclude with a bramble pest management panel "Alternative Practices: What's Non-Standard That Works?"

The program is jointly sponsored by Cooperative Extension in Pennsylvania, Maryland and New Jersey in cooperation with the State Horticultural Association of Pennsylvania, The New Jersey State Horti-

Resources on the Web

Bruce Barbour, Chair, Department
of Agricultural and Natural Re-
source Management Agents

◆ FarmWin 97: Managerial Software for Farms around the World

"Total Farm Information Management". FarmWin 97 can help farmers:

- Increase efficiency of inputs and capital
- Track labor costs for particular operations
- Determine influence of changes with "What if?" situations

FarmWin 97 has been built in a Cooperative Research and Development Agreement (CRADA) with the United States Department of Agriculture-Ag Research Service.

A downloadable demo and brochures can be found at :

<http://www.infolink.morris.mn.us/~sunrise/>

◆ How you can be BARN AGAIN!

BARN AGAIN!—a national program to preserve historic farm buildings—is now online. Sponsored by the National Trust for Historic Preservation and Successful Farming magazine, BARN AGAIN! provides guidance on how to rehabilitate older farm buildings and put them back to productive use. The new site offers info on rehabbing barns and includes sample projects, a photo tour of barns across the country, and a discussion group moderated by barn experts.

<http://www.agriculture.com/contents/ba!/ba!home.html>

cultural Society and the Maryland Horticultural Society. Pesticide applicator recertification units will be given to all growers in attendance. If you do not receive a program and registration information for the Tri-State Horticultural Meeting, call Bill Tietjen (908-475-6505) or Jerry Frecon (609-863-0110). □

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Pesticide User Responsibility: Use pesticides safely and follow instructions on labels. The user is responsible for the proper use of pesticides, residues on crops, storage and disposal, as well as damages caused by drift. For specific labels, special local-needs label 24(c) registration, or section 18 exemption, contact Rutgers Cooperative Extension of your County.

Use of Trade Names: Trade names are used in this publication with the understanding that no discrimination is intended and no endorsement is implied. In some instances the compound may be sold under different trade names, which may vary as to label clearances.