

THE VEGETABLE GAZETTE

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Tip for the Month: "There's a big difference between keeping your chin up and sticking your neck out."

Comments from the Editor

Bill Lamont, Department of Horticulture

The dry weather, high temperatures and sometimes windy conditions this summer has certainly demonstrated the importance of being able to supply supplemental irrigation to ones' crops. Throughout Pennsylvania both overhead and drip irrigation systems are being used by growers. Given the unpredictability of "Mother Nature", I am sure that we will see more irrigation systems being installed, so growers can irrigate their crops and help ensure that they will have a high quality product to market. Having adequate water and using this water in the most efficient manner is going to be an increasingly important issue for growers throughout the world, even in Pennsylvania. Water is certainly a major, if not the most critical component to the successful growing of vegetable crops and new ways to more efficiently utilize this precious natural resource need to be researched. Increasing the use of drip irrigation, where possible, is one method of conserving water resources and an option that needs further research. In this issue you will find a table that shows the critical stages for water for a number of vegetable crops. We are using alot of drip irrigation at the Horticulture Research Farm at Rock Springs on a wide array of vegetables including potatoes. In addition, a portable pumping and filtering unit is being used in our

cooperative potato drip irrigation/fertigation project with Huntsinger Farms and George Perry, County Agent in Schuylkill County.

The high tunnels are really growing. The frames of all twenty four high tunnels are constructed and we are currently installing the drip irrigation system to each house.

I want to thank those colleagues in the other departments that are supporting the Vegetable Gazette with contributions and would encourage others to send in an article next month. The "Insect Pest of the Month" continues to be very popular and we have the "Monthly Vegetable Disease Reminders" that covers the vegetable crops. Dr. Orzolek's timely "Weed of the Month" or "Herbicide of the Month" articles continue to be great addition to the line-up. Kathy Demchak, Extension Small Fruit Specialist, has written several great articles concerning small fruits. Emelie Swackhamer, Extension Agent in Lehigh County is on deck for an article on no-till pumpkins for August.

As always, the Vegetable Gazette Team encourages your feedback so that we can better serve your needs and address your concerns. Be sure to check the educational opportunities listed in the upcoming meetings at the end of the gazette.

Heads-Up-- Two In-Service Educational Training Opportunities

Bill Lamont, Department of Horticulture

Just a heads-up on two in-service educational training opportunities to mark on your calendars. The first the Horticulture Agents/Specialists Vegetable/Small Fruits Roundtable which will be held November 23, 1999 from 9 AM-3 PM in Room 10 Tyson Building. This is the opportunity for horticulture agents and extension specialists from Horticulture, Entomology and Plant Pathology working with vegetables and small fruits to exchange observations and thoughts on the recently completed growing season. Updates on results of on-farm tests and research projects conducted by county extension staff and extension specialists will be presented. Planning and coordination of next year's activities will be an important part of the roundtable.

The second training session will be on the Operation and Use of High Tunnels which will be offered on April 12, 2000 from 8:30 AM-5 PM at the Horticulture Research Farm at Rock Springs. The training will be conducted at the "High Tunnel Research Facility" and will cover all phases of production in a high tunnel and provide agents with "hands-on" experience in specific phases for the operation of a high tunnel. Topics to be covered include: what crops, determining planting dates, planting techniques, water management considerations, fertility management, importance of proper ventilation, controlling insects and diseases and opportunities for multiple cropping. Mark both of these training sessions on your calendars now.

Critical Periods for Irrigation of Vegetable Crops

Bill Lamont, Department of Horticulture

<u>Vegetable Crops</u>	<u>Critical Period</u>
Asparagus	Adequate for spear growth, most critical is fern growth
Broccoli	Transplant, flower bud production
Cabbage	Transplant, head development
Carrot	Root enlargement
Cauliflower	Transplant, curd development
Cucumber	Pollination, fruit enlargement
Eggplant	Transplant, flowering and fruit development
Lettuce	Throughout growth
Lima Bean	Blossom and pod enlargement
Muskmelon	Pollination, fruit enlargement
Onion	At planting, bulb enlargement
Pea	Pod development
Pepper	Fruit development
Potato	Tuber development
Rhubarb	Petiole formation for harvest
Snap Bean	Blossom and pod enlargement
Spinach	Throughout growth
Sweet corn	Silking and tasseling, ear development
Sweet potato	When slips are set in the field
Tomato	Transplant, early flowering, fruit set and enlargement
Turnip	Root enlargement
Watermelon	Pollination, fruit enlargement

Farm Market Tour

John Berry, County Agent, Lehigh County

The incentive to have a farm market is obvious. The closer you can get to the retail customer, the more retail food dollars go in your pocket instead of the middleman's. If you want to sell retail you have to provide the services wholesalers and retailers provide. That can be tough if you don't have a suitable location, you are not very creative or don't have the knack of dealing with people. If you do, the opportunities are there.

Merchandising, signage, display techniques, diversification, store design and layout, pricing, innovative products, and ideas that lead to success are some areas where producers feel training is needed. To provide examples of successful techniques, Penn State Cooperative Extension, in consultation with the Pennsylvania Retail Farm Market Association (PaFarm), is conducting a full day bus tour in Allegheny and Washington counties, July 27, 1999.

WHAT:

Four premiere retail farm markets are hosting this excellent educational opportunity. Soergel Orchard, Wexford, is the starting point of this bus tour. Kaelin Farm Market, also in Wexford, is the second stop. The Spring House, Eighty-Four, is the third stop and will be providing a barbecue lunch for tour participants. The final stop is Trax Farm Market in Finleyville.

A bus tour of four western Pennsylvania premiere retail farm markets -- with plenty of ideas, food, fun, and education for all.

WHO SHOULD ATTEND:

Any farm market owner, manager, or other personnel interested in seeing and learning from retail farm market entrepreneurs.

WHAT YOU WILL SEE:

We will tour each operation and focus on what has made it a success.

Buses reservations can be made for three different pick-up locations: Wexford (Soergel's), Erie and Harrisburg.

For additional information contact your local Penn State Cooperative Extension office, or call John Berry at (610) 391-9840.

Mid-Atlantic Direct Marketing Conference
John Berry, County Agent, Lehigh County

PaFarm and four additional state direct marketing associations, in conjunction with Cooperative Extension of Pennsylvania, Delaware, Virginia, Maryland and New Jersey, is proud to announce the Mid-Atlantic Direct Marketing Conference (MADMC) 2000. The conference will be held from February 23rd through February 27th, 2000 at the Parsippany Hilton in Parsippany, NJ. MADMC is aimed at identifying emerging trends in direct agricultural marketing, finding innovative ways to increase the sales and profitability of direct marketing, and putting direct marketers in contact with vendors who offer services and products which can make their business grow.

Direct marketing remains a successful method for farmers to sell their products in the Northeast as evidenced by the increasing number of markets in the region. This yearly conference provides an opportunity for practicing direct marketers to exchange ideas and marketing strategies with one another as well as a chance to interact with policy makers regarding regulations. In addition to direct marketers from the Mid-Atlantic region, participants from New York and New England will also be taking part in the conference increasing the expected attendance to over 500. Our annual trade show will again showcase a wide variety of vendors and exciting products that service direct market establishments.

On February 23rd and 24th, participants will have the opportunity to see

where direct agricultural marketing got its start. Several direct marketing facilities in New Jersey and New York State will be part of a complete pre conference tour package including meals, lodging and transportation to the featured markets. Hands-on pre-conference workshops are being planned for Thursday, February 24th. In-house presentations, a wide selection of informative sessions to choose from, training and the main conference agenda will take place on February 25th and 26th. There will be additional opportunities to visit local direct marketing facilities during a post conference tour on Sunday, February 27th.

For more information, please contact Dr. Ramu Govindasamy (732) 932-9171, extension 254. Details will also be posted at <http://www.cook.rutgers.edu/~agecon/madmc.htm> as the conference agenda is developed.

Weed Control in Peppers

M. D. Orzolek, Department of Horticulture

Effective weed control in pepper production involves more than the use of herbicides. An effective weed management program includes the use of both cultural and chemical practices. There are several cultural practices which help to suppress both annual and perennial weeds including: liming, band application of fertilizer, moldboard plowing, cultivation(s), crop rotations, and use of black or colored polyethylene mulch. Liming fields to maintain a soil pH of 6.0 to 6.8 will help reduce the carryover of triazine herbicides and increase the activity of other types of herbicides. Banding of fertilizer will help to maintain an actively growing and healthy pepper crop and reduce nutrient availability to weeds growing between the crop rows. Moldboard plowing will physically uproot weeds, especially perennial weeds with large taproots, resulting in damaged roots, low carbohydrate reserves, and desiccation of the weed. Cultivation either once or several times in the field will uproot weed seedlings (especially if they are under 2 inches), increase soil aeration and reduce soil surface crusting.

Peppers typically mature between 60 and 80 days after transplanting in the field. Since they are planted in late spring, season long weed control is difficult with the application of a single herbicide. If your field(s) have previously been infested with yellow nutsedge, galinsoga, or nightshade prior to transplanting your pepper crop, application of metolachlor (Dual Magnum) at 1 to 1.6 pints per acre will help suppress problems with these weeds. If you have generally only annual weeds (both grasses and broadleaf) application of trifluralin (Treflan) at 1 to 2 pints per acre followed by incorporation of at least 2 to 3 inches in the soil will provide good early weed control. The one problem you have to be aware of is that slight stunting and some leaf yellowing may occur with the use of Treflan under cool, damp conditions after planting. Clomazone (Command) 4EC is currently labeled for peppers, but FMC is changing the formulation to a 3ME or micro encapsulated- which dramatically increases the safety of this herbicide. Command applied at 12 to 14 ounces per acre broadcast will control many grasses and broadleaf weeds but is weak on pigweed species, carpetweed, morning-glory species and yellow nutsedge. Generally either Devrinol or Treflan is added to the

Command to pickup the weed escapes, especially pigweed. Napropamide (Devrinol) is applied at the rate of 2 to 4 pounds per acre as a broadcast treatment prior to planting peppers. Devrinol provides good control of annual grasses, carpetweed and purslane, but on coarse-textured or sandy soils Devrinol may reduce stand and/or yield of small grain. For postemergent control of annual and certain perennial grasses, sethoxydim (Poast) may be applied at the rate of 1.0 to 1.5 pints per acre broadcast. The use of oil concentrate may increase the risk of crop injury when hot or humid conditions prevail. For peppers being grown with plastic mulch on raised beds, paraquat (Gramoxone Extra) may be applied at 1.6 pints per acre as a directed spray. Shields are recommended to reduce crop injury and sprayer calibration should not exceed a pressure of 30 psi.

Effective use of herbicides for the control of weeds in pepper fields is also dependent on equipment and environmental factors. Has the sprayer been correctly calibrated, are the tips worn or damaged, will the herbicide control the weed (is the weed listed on the herbicide label), have you added the recommended labeled rate for the crop being sprayed, and are you using the recommended method of application (pre-plant incorporated, pre-emergence or post-emergence)?? Even if your sprayer is properly calibrated and adjusted for the herbicide your applying, soil moisture, temperature and especially wind speed may have a greater affect on the activity or lack of activity of the herbicide than the sprayer and herbicide combined.

Sweet Corn Traps as a Regional Web Page and a Vegetable Insect Management Web Page

Shelby J. Fleischer, Department of Entomology

First, thanks to Extension personnel, cooperators, and PVGA who are working with the trapping program of the moths infesting sweet corn. The program could not exist without your cooperation. About 20 sites are reporting this year.

We interrupt the insect of the month feature to announce a serious trial run of a web site to provide a map-based regional view of the trap captures, that also display what is happening over time at a given site. The regional sweet corn pest mapping web site is on the College of Ag server at:

<<http://www.ento.psu.edu/vegetable/sweetcorn/default.html>><http://www.ento.psu.edu/vegetable/sweetcorn/default.html>

- This sweet corn information is a portion of a broader web page dealing with vegetable insect pest management. The broader page is:

<<http://www.ento.psu.edu/vegetable/>><http://www.ento.psu.edu/vegetable/> which includes:

1. The Vegetable Gazette on-line
2. The Sweet Corn Insect Mapping Page
3. Pesticide Labels from CDMS (via a web link, provides many, many pesticide labels as downloadable pdf files)
4. Other vegetable pest management links
5. The Commercial Vegetable Production Guide as downloadable pdf files

In the sweet corn mapping page, you should be able to click on the insect name (in the left hand column) to see captures from this week as points on a map, where the size of the capture is proportional to the size of the point or circle. Note that the catch is reported as an **average catch per day**, not per week. This was done to standardize among the participating states. You can click on the circle to see the all the captures over time for that location. ECB maps show the most data right now. CEW is at low density but widespread (they are about as early as I've ever seen them in Pennsylvania). Only a few sites have FAW. You can also look at last years (1998) data, for all weeks. Cooperators / data sources we are working with to date are:

- Abby Seaman - NY IPM Program
- Joanne Whalen and Marty Spellman- U of Delaware
- Dick Bean - MD Dept of Ag; and Galen Dively - U of Maryland
- Shelby Fleischer, Chris Harding, Bruce Miller, Mike Saunders - Penn State

And we are linking to a web site in New Jersey that is mapping current blacklight captures there.

Data capture is structured very differently among the states. Pennsylvania uses a system of contributions of research funds from PVGA, Extension agents time and labor, and volunteer labor to capture weekly data from about 20 sites. Other than some small start-up funds to buy a few traps, Pennsylvania has not invested state funds for monitoring the pests of sweet corn. In contrast, Maryland uses their state department of agriculture personnel and captures data from more than twice as many sites (about 45 sites this year), without using any research funds from commodity groups - and they have been doing that for almost 2 decades. Delaware and New York also have more state funds to run their monitoring and trapping programs for these same moths. Therefore, the data tend to be stronger, more frequent (2 to 3 times per week), come from experienced, trained personnel, and from more sites, in other states than Pennsylvania. We hope that coordinating the information among states in the region will give us a much better view of what these insects are doing. For growers, seeing what is happening to the south of you, or in regions that are a bit warmer, should provide timely advance notice.

Note: Please consider 1999 as a test run, a "beta release". We're still wrestling with bugs in the system. In the future, data entry will be through password-protected update screens on the web, but we are still working on that part. Right now, data are being sent to Penn State and we enter the data by hand. We have not yet written the text and graphic files that would link to things like the biology, life cycle, and management of the CEW, FAW, and ECB. This winter we hope to have time to do that part, or build links to other sites with that.

While we can see lots of room for improvement, the season is upon us, so the page is up and running. Please take a look at it, and compile ideas for improvement.

Shelby can be contacted at (814) 863-7788, FAX: (814) 865-3048 or e-mail: sjf4@psu.edu

Penn State Pumpkin Variety Demonstration

Emelie Swackhamer, County Extension Agent, Lehigh County

Penn State Cooperative Extension invites all commercial pumpkin growers to a pumpkin variety demonstration meeting on Tuesday, September 28, 1:30 - 6:30 p.m., at

Grim's Greenhouse Farm Market located in western Lehigh County, Breinigsville, Pennsylvania.

Growers will see more than 30 pumpkin varieties and hear discussion of pumpkin culture and diseases. In addition, participants will have an opportunity to see a Penn State research trial investigating how production on a rye no-till system can affect the amount of disease occurring on the mature fruit.

Growers are welcome to view the demonstration any time that day between 1:30 and 6:30 p.m. At 3 p.m., Penn State specialists Dr. Alan MacNab and Dr. Mike Orzolek will discuss the performance of the varieties in the demonstration, and current production and disease issues. Seed company representatives will also be present to offer comments about their varieties. Pesticide update credits will be offered.

There is no charge for the meeting. However, please call the Lehigh County Cooperative Extension office (610) 391-9840 if you plan to attend so we can count you in for refreshments. For more information and directions to the meeting, contact Emelie Swackhamer at (610) 391-9840 or Scott Guiser at (215) 345-3283.

July Disease Reminders

Alan MacNab, Plant Pathology Department

Some vegetable diseases will begin to appear in July. Others will get started then although symptoms may not appear until August. In addition to the following notes, controls are presented in the "Commercial Vegetable Production Guide". Identification information is available in the colored publication, "Identifying Vegetable Diseases" which is available from the Penn State Campus at University Park and from most Extension Offices.

ASPARAGUS

Rust: Apply fungicide to young plantings, whether "resistant" or susceptible. During the years before harvest is started, and when fern growth becomes heavy relatively early, fungicides can be especially important because of the dense growth.

BEANS

Mosaic Viruses: Use resistance to BV-1. Provide good weed control; weeds are a source of bean viruses. Do not plant near clovers; they are a source of bean viruses. Do not make successive plantings in adjacent strips or fields; the few diseased plants that appear in early plantings act as an important virus source for later adjacent plantings.

White Mold and Gray Mold: Apply protective fungicide sprays where needed. Wet conditions immediately before and during bloom promote disease development. Ronilan has a relatively new registration and provides excellent control. Additional fungicides listed in the Vegetable Guide are Benlate, Topsin M, and Rovral.

BEANS, LIMAS

Downy Mildew: During wet weather, when conditions favor disease, use fungicides. See the Vegetable Guide for details.

BEETS

Leaf Spots: Use fungicides where disease usually occurs.

CABBAGE:

Fusarium Yellows: This disease is favored by hot weather. When possible, avoid susceptible varieties.

Clubroot: Where present, it is too late to apply controls for this year. Determine the source if possible. Then plan rotation, pH adjustment, or Terraclor use (WP only) for next season.

Downy Mildew and Leaf Spots: These diseases become most important late in the season. Where anticipated and warranted, fungicides provide some control. For downy mildew, Ridomil Gold/Bravo 81W (1.5 to 2 lb/A) can be applied at 14-day intervals until 7 days before harvest. Other fungicides for both diseases include Bravo and maneb. Aliette is very good for downy mildew but does not control Alternaria leaf spot.

CARROTS and CELERY

Leaf Spots: Continue fungicide sprays; they are most important for the remainder of the season.

CUCURBITS

Bacterial Wilt: Where present, it may be too late to attain control this year. For plants that are free of disease, continue control of the cucumber beetles (bacteria carrier) as long as necessary.

Leaf Spots, Blights, and Powdery Mildew: Use regular fungicide sprays unless varieties are resistant to the diseases of concern. Leaf diseases are of major importance on muskmelons (cantaloupes) during late season. Quadris is a new fungicide that provides especially good control of powdery mildew, downy mildew, and some other diseases; when used, Quadris must be alternated with other fungicides with different modes of action. The following fungicides may be helpful as materials to alternate with Quadris: Bravo provides good control where coverage is good, but since it is not systemic, control can be weak on undersurfaces of leaves. Benlate may be helpful in some areas, but resistance to Benlate has been a significant problem in many areas. We have applied for a Section 18 label for use of Nova; if granted, Nova could be an excellent material to alternate with Quadris, since Nova also is highly effective for powdery mildew; if Nova is labeled, we will let you know through your extension offices.

Scab: For susceptible varieties, use fungicides when conditions are cool and wet. For cucumbers, use resistant varieties for next year.

Mosaic Viruses: Use resistant varieties. When resistant varieties are not available, control perennial weeds, plant in large fields, and control aphids.

Fusarium Wilt: It is too late to apply controls for this year. For future years, try rotation, resistance when available (eg. Athena has resistance to Races 1 and 2), and if necessary, soil fumigation.

EGGPLANT

Verticillium Wilt: Follow rotations that avoid susceptible crops for as many years as possible. Where present yearly, consider fumigation where crop value warrants the expense.

ONIONS

Leaf Spots: Apply fungicides on a regular schedule, especially for those planned for storage.

PEPPER

Mosaics and Virus Spots: It is too late to affect control for this year. For future years, use TMV resistance, plant in large fields, control aphid vectors, and eliminate perennial weeds near fields.

Bacterial Spot: When possible, grow varieties with resistance to bacterial spot. Some varieties are resistant to more than one race.

Resistant to Races 1, 2, and 3: Boynton Bell, Comendant, Enterprise, X3R Camelot, and X3R Wizard.

Resistant to Races 1 and 2: Admiral

Resistant to Race 2: King Arthur

Resistant to unspecified race: Renegade.

Where present, determine bacterial spot source. Did it come on plants? If present, Spray weekly with a tank mixture of basic copper plus maneb. Plan to rotate to fields not recently planted to tomatoes or peppers.

PUMPKIN and SQUASH

Powdery mildew: Powdery mildew has been important in recent years. Some new varieties are being developed with various levels of resistance. When powdery mildew is present, fungicides are suggested for summer squash, and for winter squash and Halloween pumpkins. Quadris is a new fungicide that provides especially good control of powdery mildew, downy mildew, and some other diseases; when used, Quadris must be alternated with other fungicides with different modes of action. The following fungicides may be helpful as materials to alternate with Quadris: Bravo provides good control where coverage is good, but since it is not systemic, control can be weak on undersurfaces of leaves. Benlate may be helpful in some areas, but resistance to Benlate has been a significant problem in many areas. We have applied for a Section 18 label for use of Nova; if granted, Nova could be an excellent material to alternate with Quadris, since Nova also is highly effective for powdery mildew; if Nova is labeled, we will let you know through your extension offices.

SWEET CORN

Leaf Spots and Rust: Bravo, maneb, and mancozeb are helpful. Where rust is a major concern late in the season, Tilt is the most effective material, followed closely by mancozeb or maneb.

Maize Dwarf Mosaic (MDM): Aphid vector control may help in large fields. Where MDM is present, plan to try tolerant varieties in future years.

TOMATOES

Bacterial Speck and Spot: If spots are a yearly problem, and symptoms appear on leaves, continue sprays with basic copper plus maneb/mancozeb. Next year, rotate to new fields, use pathogen-free seed, and spray seedlings regularly with streptomycin before transplanting.

Early blight: If early blight is bad, rotate and insure adequate fertility for next years crop; in most cases, fungicides should begin not later than first appearance of early blight symptoms. Quadris is an exciting new fungicide now labeled for use on tomatoes; rates are listed in the Commercial Vegetable Guide. Quadris provides outstanding control of early blight and Septoria leaf spot. Where used, Quadris should be alternated with fungicides having modes of action that are different from those of other materials in the fungicide program.

Late Blight: As of June 24, to my knowledge, no late blight has appeared in PA in plantings of tomatoes or potatoes. Based on the BLITECAST late blight forecaster, late blight could occur first in the northwestern area of PA. Fungicides for late blight are listed in the Commercial Vegetable Guide. Bravo was especially effective in our 1997 and 1998 tomato trials.

Maximizing for the New Millennium, Field Day

Steve Groff, Cedar Meadow Farm

People with an invested interest in agriculture will once again converge at Cedar Meadow Farm on July 28th, 10 AM. to 3 P.M. for Steve Groff's 6th annual Field Day. Again this year, the event will be held in conjunction with the Lancaster County Conservation Districts annual Expo, and will be sponsored by the Pennsylvania Association of Sustainable Agriculture (PASA), USDA/SARE, and local ag businesses.

Steve's efforts have not gone unnoticed as he continues to be recognized as a leader in soil conservation, environmental responsibility, and long term agriculture sustainability. In January, he was named "1998 National No-Till Innovator of the Year", and in April, a prime time PBS mini-series, "Journey to Planet Earth", featured Cedar Meadow Farm along with farms from 3 other continents.

"Farmers need to be innovative, but yet practical, and they need to turn a profit," Steve says. "I hope this opportunity will help farmers 'Maximize for the New Millennium,' in a way that positively impacts their bottom line while respecting the environment".

The 6th annual Field Day will feature a new format for 1999. Several "learning stations" will be ongoing through out the day. Topics are: planters, irrigation, soil quality,

farm use of computers, and geographic information systems (GIS). Also new this year will be a soil pit allowing people to view the effects this system has below the soil surface. Dr. Ray Weil and Joel Gruver will again fascinate the crowd with their enthusiastic knowledge of soil structure.

At noon, Dan Towery, Natural Resources Specialist from the Conservation Technology Information Center in West Lafayette, Indiana, will give a national and international perspective on soil conservation trends. Jill Auburn, National Director of USDA's SARE Program, will share how farmers can apply for grants to test new sustainable practices. Steve Groff is currently utilizing funds from a SARE grant to observe the economic and environmental benefits of no-till processing tomatoes

Children won't want to miss an adventure with locally renowned naturalist Chotty Sprenkle, as she takes them on a stream study and soil scavenger hunt.

The all day event will feature ways to practically increase profits, save soil, and reduce pesticides in both agronomic and vegetable crops, and provide an opportunity to see first-hand the unique cropping strategies and proven soil conservation methods Steve uses.

His website, www.cedarmeadowfarm.com, profiles the farm, gives additional information for the Field Day, and provides details of his video, "No-Till Vegetables, A Sustainable Way to Increase Profits, Save Soil, and Reduce Pesticides".

Registration will be upon arrival at the farm and door prizes will be given away throughout the day. Plenty of great food will be available to purchase.

Directions: From the intersection of 272 and 372 (south of Lancaster), take 372 west 4.5 miles to Hilldale Rd. Turn right. Travel 1.5 miles to Cedar Meadow Farm -on the right.

Contact Steve Groff for additional information: Phone: (717) 284-5152 or e-mail: sgroff@epix.net

Root Weevil Control in Strawberries

Control of Root Weevils on Strawberry

Kathy Demchak, Department of Horticulture

The Section 24C for use of Furadan 4F for control of root weevils on strawberry had been voluntarily withdrawn some time ago by the manufacturer. The only chemical method of control currently available is through use of Brigade WSB (bifenthrin, a pyrethroid). Data on its effectiveness of control of the various species of weevils is sparse. Exhibit (a biological larvacide containing parasitic nematodes) can also be used.

Root weevil adults emerge in late spring or early summer, and feed on foliage for about a month before egg-laying begins. The foliage feeding is generally of little consequence; most of the damage is from the larvae or grubs feeding below-ground. Furadan was used mainly as a larvacide, directed to the soil after harvest. Brigade, however, is used to control only the adults, before egg-laying begins. Because it has no pre-harvest interval, it can be applied from when adults first appear (generally in June). Adults feed mostly at night, removing notches from the edges of leaves, and hide during the day. Exhibit can be spot-applied in the fall and spring. Its effectiveness has been somewhat variable.

Since the adult root weevils do not fly, movement of the weevils into an uninfested field is relatively slow. Damage from larvae within an infested field generally shows up as patches with poor vigor. Larvae can be detected in mid-fall or mid-spring by lifting strawberry plants with a shovel and checking the roots for damage and grubs.

Not to be confused with the above, *Polydrusus* green leaf weevils, which were present in large numbers in the northwest part of the state, differ from the above, in that they begin egg-laying sooner, are present during the day, and can fly. Their larvae also feed on the roots. However, in most areas, their presence is not considered to cause significant damage.

That's a Berry Good Question!!!

Kathy Demchak, Department of Horticulture

Here's a question that has been asked by a few growers, so it's paraphrased.

Q. It seems that we're losing fungicides for strawberries left and right. Considering the losses of Rovral and Ronilan, is there anything we'll be able to use for gray mold?

A. Yes. Elevate 50WDG (fenhexamid) from Tomen Agro, Inc. is now registered for this use. It has demonstrated excellent control of gray mold. It has both 'protective and curative activity', so it can be used as a bloom spray and as needed during the harvest season. It works by inhibiting germ tube and mycellial growth of the fungus. It has a unique chemistry, so if alternated with other fungicides, is useful in resistance management. It is classified as a 'Reduced Risk Pesticide', with a short re-entry interval of 4 hours, and a pre-harvest interval of 0 days. It's a little late for use on strawberries this year (except day-neutrals). However, it is also labeled for use on grapes. My thanks to Mark Gleason (Iowa State Univ.) and to Tomen Agro for providing the above technical information.

I'll keep you informed on any other new products as I find out about them.

The Potato Section

Bill Lamont, Department of Horticulture

Potato Musings

The potato crop looks good overall and with irrigation or timely rains we should have a good crop. The overall acreage continues to slip, as is the case in most of the Mid-Atlantic and Northeastern region. What can be done to help market the round white potatoes will be discussed at the Utilization and Marketing Section meeting which is part of the Potato Association of America Annual Meeting which is being held at the Doubletree Inn, Somerset, NJ, August 1-5, 1999. Keith and Helen Masser will be participating in this meeting on the round white potatoes. This is an excellent meeting that brings together the breadth of individuals working with potatoes, from the breeding, culture and management, disease and insect management and utilization of the potato. For more information on the meeting contact Dr. Mel Henninger, 732-932-9711 Ext. 120 or e-mail Henninger@aesop.rutgers.edu. Having the meeting so close by is really a plus. Last year it was in North Dakota.

Upcoming Meetings

Bill Lamont, Department of Horticulture

Local

Regional

July 14, 1999. Pennsylvania Vegetable Growers Association Field Tour to South Jersey. Contact: Bill Troxell (717) 694-3596.

January 18-20, 2000: New Jersey Vegetable Growers Association Meeting and Trade Show, Taj Mahal, Atlantic City, NJ. Contact: Phil Traino at 609-985-4382.

January 25-27, 2000: Mid-Atlantic Fruit and Vegetable Growers Convention, Hershey, PA. Contact: Bill Troxell (717) 694-3596.

National

July 28-31, 1999: American Society for Horticultural Science (ASHS), Minneapolis Convention Center, Minneapolis, MN. Contact: 703-836-4606 or e-mail ashs@ashs.org

August 1-5, 1999. Potato Association of America, Doubletree Inn, Somerset, NJ. Contact Dr. Mel Henninger, 732-932-9711 Ext. 120 or e-mail Henninger@aesop.rutgers.edu.

August 4-8, 1999. North American Farmers' Direct Marketing Association's Summer Tour, Nova Scotia, Canada. Contact: Charlie Touchette at 888-884-9270.

September 23-26, 2000: 15th International Agricultural Plastics Congress and the 29th National Agricultural Plastics Congress, Hershey, PA. Contact: Pat Heuser, Executive Secretary, American Society for Plastics (814) 238-7045.