

The Vegetable and Small Fruit Gazette

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Horticulture Department
The Pennsylvania State University

In this Issue:

[Comments from the Editor](#)

[Quote for Thought from Pete Ferretti](#)

[Schedule for Educator Articles](#)

[Birds and Their Desire for a Taste of Heaven](#)

[Bits of "Wisdom" from the Past](#)

[Downy Mildew Appearance in PA](#)

[Midwest Grape Production Guide](#)

[That's a Berry Good Question](#)

[1-800 Number Kicks Off Twelfth Season](#)

[Figuring Your Potato Yields](#)

[The Organic Way- - The National Organic Standards Board Wants Your Comments](#)

[Upcoming Meetings](#)

Comments from the Editor

Elsa Sánchez, Department of Horticulture

I want to thank Tom Butzler for his excellent article, **Birds and Their Desire for a Taste of Heaven**, and look forward to Lee Young's article for the September issue. I also want to thank everyone who contributed articles to this issue and I want to encourage others to join us in upcoming issues. As always, the Vegetable & Small Fruit Gazette Team encourages your feedback so that we can better serve your needs and address your concerns.

Quote for Thought from Pete Ferretti

Pete Ferretti, Department of Horticulture

What do you call an unemployed court jester? Nobody's fool.

-The Lion

March 2005

Schedule for Agent Articles

Elsa Sánchez, Department of Horticulture

September– Lee Young	October– Cheryl Bjornson
November– John Esslinger	December– Andy Muza

Birds and Their Desire for a Taste of Heaven

Tom Butzler, Central Region Extension Educator, Penn State Cooperative Extension

Last year, I received a call from a grower with extensive damage to a sweet corn field that was to be harvested in two or three days. Not especially fond of diagnosing problems over the phone (would you let a doctor diagnose an ailment over the phone?) I headed over to the farm to get an up close view of the damage. On the drive over, I was running scenarios through my head; major corn earworm problem, possible sap beetles, or maybe Stewart's wilt.

Once I entered the field, all those possibilities were eliminated. The ears were still attached to the plant but the husks from the tip to approximately halfway down were shredded. In addition, all exposed kernels were still there but their soft contents removed. The grower also noticed excessive bird activity the day before he inspected the field. It was classic blackbird damage.

Optimum timing for sweet corn harvest is usually when the kernels are not fully mature "milk stage". This stage occurs about 20 days after the appearance of the first silk strands. The kernels are smooth and plump, and the juice in the kernels appears milky when punctured with a thumbnail. This is also when some bird species also find sweet corn just as delectable.

There are some ways to mitigate loss to birds by utilizing integrated pest management. One way to prevent birds from feeding ears is to exclude them from the ears such as netting over the crop or paper bags over the ears. This is practical in small gardens but not feasible on large acreage.

Some birds, such as the omnivorous blackbird are often attracted by insects, so good insect control can be a deterrent. The corn ear worms and sap beetles tend to open the tips and make it easier for birds to feed on the kernels. Penn State University provides an excellent tool to help growers track sweet corn insect pests as they develop in the northeast and allow for more timely pesticide applications. This information can be viewed at <http://www.pestwatch.psu.edu/index.htm>.

Some growers have been successful with frightening devices. A good example would be gas fired cannons. These are placed in the field at random, elevated on 55 gallon drums with alternating discharge timings. Other examples are bird scare balloons and tapes and distress calls. Cannons and other frightening devices are available from agriculture supply sources. In some crops, these frightening device need to be up for a long period of time but sweet corn is really only attractive to birds for a few days so the task is a bit easier.

There is a food grade repellent labeled for use on sweet corn, Bird Shield that has show some level of deterrence. The active ingredient is methyl anthranilate, a constituent of Concord grapes and other fruits. Some research shows that the effect of this product is not long lasting but that may be more of a problem with a crop such as blueberries than sweet corn.

Bits of "Wisdom" from the Past

Peter Ferretti, Department of Horticulture, Penn State University

1. Nitrate types of fertilizer work better in dry soils (or cold soils – spring/fall) than most other fertilizers. However, no fertilizer works especially well under dry conditions.
2. Ammonia forms of fertilizer work best in very wet and /or warm soils.
3. Ammonium nitrate works best under both conditions, but is often more expensive than most other nitrogen forms.
4. Consider applying insecticides, fungicides and bactericides just before sundown for these reasons:
 - a. With correct timing and ideal conditions (high humidity, little wind and dew) the pesticide will not dry out readily.
 - b. At night, insects, fungi and bacteria tend to develop many more reproductive structures and forms. These reproductive forms are the most vulnerable to kill with pesticides.
 - c. Dews will further spread the pesticide and keep it in more intimate contact with the insect stage, fungi or bacteria.
5. Apply post applications of Sencor only after tomatoes have had at least 3 days of consecutive sunlight, so that leaf cuticles will be thick enough to avoid injury.
6. For best possible results, consider applying Roundup on the morning of a calm, bright, sunny day.
7. Apply contact herbicides (Paraquat types) during the warmest parts of a calm, sunny day.
8. Since pumpkins and squash are only pollinated from dawn to about 9 a.m., consider spraying pesticides just after all bees leave in the morning – about 10:00 a.m.

Downy Mildew Appearance in PA

Alan A. MacNab, Penn State University

We just got confirmation of downy mildew on cucurbits in Lancaster county. There was none on in adjacent pumpkin planting. This is the one that caused yellowish leaf spots (different than powdery mildew!). Fungicides are listed in the 2005 Production Guide. Alternation of materials in different fungicide classes, and tank mixing some materials are important in controlling this important cucurbit disease.

Midwest Grape Production Guide

Kathy Demchak, Department of Horticulture, Penn State University

Another great Extension publication is available. This one, the Midwest Grape Production Guide, Bulletin 919, contains 155 pages of very grower-friendly information. While written with Midwest production in mind, anyone growing grapes would benefit from having this publication. My favorite part is the plethora of illustrations and photos. It can be purchased by mailing a letter requesting for this publication to Ohio State University Extension, Media Distribution, 385 Kottman Hall, 2021 Coffey Road, Columbus, OH 43210-1044. You can also fax your letter to 614-292-1248, or send it by email to pubs@ag.osu.edu. You can phone 614-292-1607 with questions, but phone orders are not accepted. Include your name, street address, and phone – the guide will be shipped to you via a carrier that requires a street address, or

preferably send the request on a letterhead so the information is all clearly readable. Current cost is \$10.50 plus shipping and handling (shipping and handling will vary with number of copies, and where the purchase is being sent). You can either be invoiced and then pay by check, or you can charge the purchase to MasterCard or Visa only, but you'll need to include which card type, the card number, and expiration date with your request.

That's a Berry Good Question!!!

Kathy Demchak, Department of Horticulture, Penn State University

Some months I get questions, some months I don't... This month we got two very timely ones!!

Q1. Usually I use ammonium nitrate for fertilizing strawberries at renovation and in late summer. This year, I'm finding it more difficult to find a supplier of ammonium nitrate. What's the preferred source of nitrogen for summer applications? Do you have any suggestions on what I should use as a substitute? (Stuart Constable, Highland Orchards).

A1. Ammonium nitrate is/was a good source because it contains both nitrate-nitrogen, which can be absorbed immediately by strawberry plants (but can leach from the soil), and ammonium-nitrogen, which becomes available over the longer haul. Ammonium nitrate contains these two nitrogen forms in roughly equal proportions. This combination gives the plants a relatively steady source of nitrogen for a couple of months (more or less, depending on soil conditions).

Due to ammonium nitrate's past and potential use in explosives, early in July of this year, the "Secure Handling of Ammonium Nitrate Act of 2005" bill was introduced in the U.S. House of Representatives, and a similar bill was introduced in the Senate. Whether a law regarding this issue is passed or not (passage is almost definite), most agree that collection of information to track ammonium nitrate custody and handling is needed. Some fertilizer dealers are not selling ammonium nitrate, because of either paperwork, or because of security concerns in general, so some growers are encountering this problem.

So, what other nitrogen sources are the best options? One product that many distributors are handling (or can obtain – you may want to check ahead of time) is calcium ammonium nitrate (CAN). This is a granular fertilizer that is a mixture of calcium carbonate and ammonium nitrate. It contains 27% N, in the same proportions of nitrate-N and ammonium-N as "straight-up" ammonium nitrate. In the western U.S., a liquid calcium ammonium nitrate is sold, not to be confused with the granular formulation to which I'm referring. Urea and calcium nitrate are also options. Urea contains only ammonium-N, which needs to be converted to nitrate-N for use by the plants. While this is taking place, however, some of the nitrogen can be lost as ammonia through volatilization. This is less of a problem if you get a good rain after you apply it. If you get a little shower or heavy dew – just enough to wet the fertilizer, but not enough to wash it in, and temperatures are high, you can get enough volatilization to cause some blackened leaves. Calcium nitrate could be used, but it should probably be split-applied, because it could be gone rather quickly.

Q2. I decided to take the plunge into commercial blueberry production. Unfortunately, I didn't add sulfur to adjust the pH until this spring before I planted (yes, I know you recommend doing that earlier). At first, I was really excited about the planting, but now I'm blue about my berries, because the leaves are turning yellow!! Should I re-test, add more sulfur, or what? (Anonymous in SE PA).

A2. At this point, I'd just hold tight, and keep the planting well-watered. An iron deficiency is the most likely problem, because the sulfur wouldn't have fully reacted with the soil yet. This is probably compounded by the high temperatures and dry conditions we've had this year – the plants are a bit extra-stressed, and probably are not putting a lot of effort into root growth to take up the iron that is available. This is a situation where a foliar iron chelate application would be in order. A tissue test also wouldn't be a

bad idea to make sure the yellowing isn't caused by a problem with a different micronutrient, even though iron is the most likely one. You can test the soil this fall to get an idea of where the pH is (just as a "heads up"), and then again next spring for a final determination of whether more sulfur is needed. If you're just slightly above the target pH (4.5-5.0), keep in mind that future fertilization with ammonium sulfate will decrease the pH, so you don't want to go overboard – that can cause a different set of nutrient problems.

Got a question? Chances are that someone else has the same one! Send your question to Kathy Demchak, at 102 Tyson Bldg., University Park, PA 16802, or via email to kdemchak@psu.edu. You will be credited with the question, or can remain anonymous, as you wish.

1-800 Number Kicks Off Twelfth Season

Kristie Auman-Bauer, Pennsylvania IPM Program

Christmas tree growers, agricultural crop producers, turfgrass managers, fruit growers and homeowners from across the state can find the latest pest and pest management information by dialing the Pennsylvania IPM Program's 1-800 PENN IPM toll-free hotline.

Callers to the hotline can receive information such as recent pheromone trap capture counts for their region, up-to-date disease development information, as well as tips on pest management tactics from the Pennsylvania IPM Program.

IPM, or integrated pest management, aims to manage pests – such as insects, diseases, weeds and animals – by combining physical, biological and chemical tactics that are safe, profitable and environmentally compatible.

Information on such crops as Christmas trees, sweet corn, potatoes, apples, tomatoes, ornamental plants as well as information about fly control and animal IPM are included on the hotline. Information on scheduled pesticide applicator training sessions is also available.

Messages on the hotline are updated frequently during the growing season – sometimes as often as daily during critical management periods – and are available 24 hours a day, seven days a week. Pest management specialists from the Pennsylvania Department of Agriculture, Penn State's Departments of Entomology and Plant Pathology and Penn State Cooperative Extension contribute their time and expertise to keep the information current and useful.

The system also includes a "fax-on-demand" function. When available, the caller simply requests a fax and indicates his or her fax number. The system then will send a fax containing in-depth information about the crop, graphs of insect activity over time and other data.

The Pennsylvania IPM program is a collaboration between the Pennsylvania State University and the Pennsylvania Department of Agriculture aimed at promoting integrated pest management in both agricultural and nonagricultural situations. For more information, contact the program at (814) 865-2839, or Web site <http://paipm.cas.psu.edu>. To view our archived news releases, see Web site <http://paipm.cas.psu.edu/newsrelease.html>.

Figuring Your Potato Yields

Bill Lamont, Department of Horticulture, Penn State University

Dig 10 feet of row per sample. Collect at least 5 samples per field. Add up the total pounds dug and divide by the number of samples collected. Refer to the following table to calculate yield. (Use the average sample weight).

Weight in lbs of 10 feet of row	CWT per Acre	Weight in lbs of 10 feet of row	CWT per Acre
10	153.7	21	322.8
11	169.1	22	338.1
12	184.4	23	353.2
13	199.8	24	368.9
14	215.2	25	384.3
15	230.6	26	399.6
16	245.9	27	415.0
17	261.3	28	430.4
18	276.3	29	445.7
19	292.0	30	461.1
20	307.4		

The Organic Way- The National Organic Standards Board Wants Your Comments

Elsa Sánchez, Department of Horticulture

The National Organic Standards Board (NOSB) is requesting public comments for their next meeting which is being held from August 15-17, 2005. Comments can be on any topic relating to the National Organic Standards (NOS). This is a great opportunity to voice your comments and suggestions about the NOS. Comments that have been submitted as of July 25, 2005 can be viewed at <http://www.ams.usda.gov/nosb/meetings/meetings.html>.

All comments received by mail, e-mail or fax and will be posted on the NOS web site prior to the meeting. Below is contact information.

Mail: National Organic Standards Board – Chairman Jim Riddle
Room 4008 – South Building
1400 Independence Ave., SW
Washington, D.C. 20250-0001

Fax: (202) 205-7808

E-mail: Comments can be sent by e-mail to the NOSB committees:

Committee	Chair	E-mail
Compliance, Accreditation, and Certification	Andrea Caroe	NOSB.Accredit@usda.gov
Crops	Nancy Ostiguy	NOSB.crops@usda.gov
Handling	Kevin O'Rell	NOSB.processing@usda.gov
Livestock	George Siemon	NOSB.livestock@usda.gov
Materials	Rosalie Koenig	NOSB.materials@usda.gov
Policy Development	Dave Carter	NOSB.pdc@usda.gov

The meeting will also have two sessions for public comments; Monday, August 15 from 1 to 4 pm and Wednesday, August 17 from 8 to 10:15 am. Nancy Ostiguy, a NOSB member and Associate Professor of Entomology at Penn State University, provided additional information on the process. Once at the meeting anyone with a comment places their name on a sign-up sheet. Comments are then heard in the order that they appear on the sign-up sheet. Nancy also indicated that the board tries to accommodate persons who are in town for only one of the meeting dates and that the sessions will be extended if not enough time has been allotted for public comments. She stated, "All comments are welcome."

Upcoming Meetings

Elsa Sánchez, Department of Horticulture

Local

October 14-15, 2005. **Passive Solar Greenhouse Workshop**, 1522 Lefever Lane, Spring Grove, PA 17362. Contact: Steve and Carol Moore (717) 225-2489 or sandcmoore@juno.com.

September 29, 2005. **Pumpkin Variety Demonstration**. None-Such Farms, Buckingham, Bucks County. Review 25 pumpkin varieties grown under Southeast PA conditions. Pre-registration required. Contact Scott Guiser, 215-345-3283.

Regional

September 17 & 18, 2005. 2005 **Small Farm Expo**, GDS Fairgrounds in Newfoundland, Wayne County, PA. The Northeast Small Farm & Rural Living Expo is an educational event sponsored by Penn State, Cornell, and Rutgers along with groups such as PDA, Farm Bureau, RC&D, and local Conservation Districts. Featured at the Small Farm Expo is a slate of educational workshops, machinery and equipment demonstrations, and a trade show. Previous Expo's have drawn 4,000 to 5,000 people during the two day event. Visit www.smallfarmexpo.org for more information on the Expo.

January 31 – February 2, 2006. **Mid-Atlantic Fruit and Vegetable Convention**. For more information contact the Pennsylvania Vegetable Growers Association at pvga@pvga.org or visit <http://www.pvga.org/>.

National

October 21-23, 2005. 2005 **Women in Sustainable Agriculture Conference: A Celebration of Hope & Opportunity**. The conference will be held at the Sheraton Hotel & Conference Center in Burlington, Vermont. Conference registration fee is \$150 for registrations received by August 19. The fee includes five meals and access to all conference sessions and workshops. Find out more about the conference and/or register on-line at <<http://www.regonline.com/womeninagconference>> or contact the conference organizer at 802-223-2389 x15 to request a paper registration form. Early registration is encouraged.

International

September 5-9, 2005. Potato 2005. Emmeloord, the Netherlands. Contact: www.potato2005.com.