

PLANT & PEST ADVISORY

CRANBERRY EDITION \$1.50

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Cranberry Soil Environments

Raymond J. Samulis, Burlington County Agricultural Agent

Here in New Jersey, we often take for granted that the soil conditions in cranberry beds are always highly acidic in nature and very conducive to cranberry growth. While it is true that many of the beds are highly acidic, there are some that are not and that variability does occur in just about all fields. PH is one soil characteristic that we tend to overlook and not pay much attention to. Remember that pH is measured as a negative logarithm and thus small numeric differences can mean much more significant changes in soil acidity. In other words, the difference between a pH of 4 and a pH of 5 is not simply a 20% difference as the numbers imply, but rather a 10X difference in soil acidity. The difference between a pH of 4 and a pH of 6 is 100X, and between a pH of 3 and a pH of 7 means the soil is 10,000X more acidic. Considering these facts, it is easy to see that even small differences of a couple of tenths of a unit can be significant.

There are some cranberry beds in New Jersey that do not fit into the desired soil pH range of 4 to 5 needed for cranberries. While Massachusetts has found that the most productive beds are usually on the more acidic side of this pH range, Wisconsin has many instances where the pH of the beds is from 6 to 7, which resembles the range more desirable for upland crops. When this situation is faced, growers must consider how they can fertilize and otherwise treat the beds to lower the pH. Rainfall, fertilizer and weathering tend to lower pH. In Wisconsin, pH has been lowered in cranberry beds with the use of sulfur. The results of sulfur addition can be quite variable, since many cranberry soil environments do not contain the large amounts of sulfur oxidizing bacteria needed to convert the sulfur into the form that will have the greatest acidifying effect. Other beneficial effects from using sulfur, such as increased flowering and fruit set, were discovered by Dr. Paul Eck in the late 1960's here in New Jersey. If your beds tend to be too high in pH, start by adding small amounts of sulfur incrementally while observing the change in pH. Remember this should be approached as a long-term soil improvement program, and not a quick fix agenda for rapid pH changes.

Cranberries as we all know do not remove very many nutrients from the soil. For example, 100 barrels of cranberries remove just about 4.5 lbs of phosphorous and 15 lbs of potassium. High yielding varieties such as Stevens will, of course, remove more nutrients. Tissue samples

SEE SOIL PH ON PAGE 2

SOIL pH FROM PAGE 1

should be taken and coupled with soil test results to properly evaluate the future direction of your fertility program.

I feel it is important to test irrigation water periodically and understand the implications of water testing. There is a close relationship between irrigation water quality and what happens in your soil environment. High water pH can prevent the natural lowering of soil pH over time, as can high organic matter, which acts as a buffer and provides resistance to any attempts to lower bed pH. I have been involved with numerous agricultural situations where crops such as peaches, tomatoes, and melons have been seriously injured from changes in irrigation water pH that occurred over relatively short periods of time. The root cause of these drops in pH sometimes results from the effect oxygen can have on iron after the water sits in ponds for a while. While it is true that the quality of your water is very difficult to change, by knowing the pH, hardness level, and other important mineral parameters, you have a starting point that can assist you in making enhanced fertility management decisions. □

Field Update

Dan Schiffhauer, Agricultural Specialist, Ocean Spray Cranberries

May 12, 2005 - The winter flood has been off of most New Jersey cranberry beds for over two weeks, but based on growth patterns one would not know it. Cool weather combined with cold nights requiring irrigation for frost protection has retarded plant growth. We are one to two weeks behind the 2004 growing season at this point. However, if history is any guide, a warm weather break will push things along and the beds will catch up somewhat.

Insects that feed on early season cranberry foliage typically show up once the new growth appears. This makes intuitive sense: why feed on last year's nutrient-poor leaves when new, succulent leaves are in the offing. As such, insect numbers to date in sweep samples have been fairly low, but are starting to increase. The most commonly encountered pest has been **gypsy moth**, no doubt blown in from surrounding woodlands. **Blossom worm** has also begun to hatch and larvae are being found in low numbers. I have also collected a few **spanworms** as well as some larvae too small to identify. The very small larvae may well be **spotted fireworm**; they should be appearing at any time. Overall, insect numbers have been very low to date, but I expect the insect populations to take off once vine growth commences in earnest. This could lead to rapidly rising larval counts, so growers should be scouting diligently during the next few weeks.

A Good Time to Attack Weeds?

Several years ago the label for glyphosate (Roundup) was changed to allow for pre-bloom weed wiping. Weed wiping is normally thought of as a late season activity; getting Roundup into the target plants as they are normally moving materials into their roots in preparation for winter. However, there are some weeds that are probably best attacked during this time of the year. One of these weeds is the sedge, *Carex bulata*. I have heard growers call this weed **cranberry grass**, although it is not in fact a grass. This weed emerges very early in the season and is already about a foot tall on many beds that I have seen. It grows in dense stands and tends to fall over by late summer, making it a tough target for traditional wiping. Some growers have reported good control with Roundup wiping during June, but I suspect that the same could be accomplished now. At this point the vines are still pretty hardy and damage from wiper wheels would be minimal. *Carex bulata* can also be controlled with pre-emergent herbicides such as Casoron, but given the problems that New Jersey growers face with *Phytophthora*, regular use of Casoron is probably not a good idea. Growers need to remember to allow for enough drying/absorption time for Roundup applications if a frost event is likely the next evening. Many of the current Roundup formulations don't need a very long drying time for effectiveness, so it should be possible to attack some weeds now. □

Kerb 50WP for Dodder Control

Bradley A. Majek, Ph.D., Specialist in Weed Management

A section 18 Emergency Exemption label has been received for the use of Kerb 50WP for the control of **dodder** in cranberries. Kerb 50WP should be applied as a single or split application through the irrigation system (chemigation) or through a ground driven boom sprayer calibrated to deliver between 20 and 50 gallons per acre. Application should be made after the winter flood has been withdrawn, but prior to dodder emergence.

Apply Kerb 50WP at a rate of 1.0 to 1.5 lb of product per acre (0.5 to 0.75 lb ai/acre) when a single application is planned. When a split application will be used, apply 1.0 lb of product per acre (0.5 lb ai/acre) each time for a total of 2.0 lb of product per acre (1.0 lb ai/acre). The first application in the split treatment should be applied after the winter flood has been withdrawn, but prior to dodder emergence. The second application should be applied as late in June as possible, maintaining the 120 day pre-harvest interval (PHI).

Kerb 50WP should only be applied with a sprayer calibrated to deliver 20 to 50 gallons per acre to prevent misapplication.

Do NOT apply more than 1.5 lb of product (0.75 lb ai/acre) in a single application.

Do NOT apply more than a total of 2.0 lb of product (1.0 lb ai/acre), as a split application, in one year.

This product is for agricultural use. Confine applications to the cranberry bog.

Read and follow all **Specific Use Restrictions** on the label.

Obtain a copy of the label from the Rutgers Cooperative Research and Extension web page for labels at <http://www.rcrc.rutgers.edu/labels/> or from your county agricultural agent or farm supply dealer. □

EPA Requests Comment on NRDC Tolerance Petition to Revoke All Carbaryl Uses

The carbamate insecticide carbaryl is currently under review for reregistration. EPA released a Revised Interim Reregistration Eligibility Decision Document (IRED) for carbaryl on October 27, 2004. Subsequently, the Natural Resources Defense Council (NRDC) has formally petitioned the EPA to *revoke or modify all existing tolerances for the pesticide carbaryl*. Their petition requests cancellation of all carbaryl uses considered for reregistration in the Revised IRED by EPA. You are urged to submit comments in support of NRDC's position, or to submit detailed explanations why loss of a particular carbaryl use would negatively affect your commodity/industry. Comment on this petition is open until May 31, 2005.

Carbaryl (Sevin, carbaryl) is a broad-spectrum insecticide registered to control fireworms, cranberry fruitworm, cutworms, elm spanworm, and leafhoppers. Several liquid formulations are available for use at 1.5 to 3.0 lb a.i./A by ground application as needed every 7 to 10 days. There is a one-day interval required before harvest. Six percent of the all cranberry acres are treated with carbaryl. Carbaryl ranked third (12.78%) of insecticides used on cranberry in New Jersey for 199; 792.106 lbs. a.i. were applied.

Source: *Cranberry Crop Profile for New Jersey*; <http://www.pestmanagement.rutgers.edu/NJinPAS/CropProfiles.htm>.

You can access the petition on EPA's website - EdoCKET <http://docket.epa.gov/edkfed/index.jsp>. Hit 'quick search' and enter Docket number 'OPP-2005-0077'. You may also submit comment to Dhol Herzi, USDA Office of Pest Management Policy at dherzi@usda.gov.

Submitted by George Hamilton, Ph.D., Specialist in Pest Management. □

Restore NJ Produce Price Reporting to USDA AMS Market News

Jack Rabin, Associate Director for Farm Services, NJAES

The Day Free Produce Promotion Visibility Died

New Jersey's wholesale produce industry gave up millions in free produce marketing visibility on Tuesday, November 24, 1998. This was the last day New Jersey wholesale produce prices were sent out over USDA's Agricultural Marketing Service (AMS) Market News Service. What did New Jersey produce growers and shippers lose? Probably the most valuable free promotion they ever had. They lost "visibility" and recognition in regional and national wholesale produce markets.

After spending the last 15 months examining factors resulting in New Jersey growers losing their position in regional wholesale markets, I have concluded our absence from participating in USDA Market News is likely a significant factor reducing the viability of this \$100+ million component of our agricultural industry.

Re-enter Market News with the Right Prices

Instead of quitting the system—losing free market visibility promotion—New Jersey should make a commitment to re-enter the AMS Market News Service with the correct pricing information provided by shippers. The correct prices for New Jersey's participation in Market News Service reporting are 1st handler FOB prices one level up from growers: from buyers, shippers, and distributors.

Lost Market Visibility Worth Millions

While NJDA and Market News continue to collect and report NJ blueberry and peach wholesale FOB price information, the lack of comprehensive FOB wholesale prices reduces our visibility to customers. How much visibility is New Jersey's produce industry losing? The USDA Market News web site receives some 22 million hits a year from industry participants checking produce prices and availability! (Terry Long, USDA, personal communication.). Additionally, the USDA AMS Market News is the most popularly read section of the national Packer trade paper.

New Jersey produce supplies, quality, and prices are no longer visible to Packer readers. Produce supplies, quality, and prices are no longer visible to market participants the 22 million times a year they look for them on the USDA's web site. As an industry, New Jersey growers and shippers do not have a visible presence in this market. What else are growers and shippers losing by opting out of the Market News

system? When no pricing information is reported, New Jersey farmers are more vulnerable because they lose the ability to know if they are being treated fairly.

The Wrong Prices

New Jersey's produce growers and shippers stopped providing Vineland Cooperative Produce Auction wholesale grower prices for sound reasons. The wholesale prices collected and released were the wrong prices to report, hurting Jersey growers and shippers in their markets. Other regions supply 1st handler FOB prices, not grower prices. The Jersey grower prices released were having a negative impact because they were not comparable to the higher FOB shipping point prices collected and released from other regions. These artificially low prices had a negative impact on New Jersey shippers and farmers when communicating with customers because it set artificially low prices.

Here are some reasons why the New Jersey's produce grower industry may have chosen to not provide daily prices to USDA Market News:

1. As mentioned above, other growing regions post "1st handler FOB prices," which frequently include commissions or add-on costs, not the prices paid to farmers. Posting farmers prices through Market News made New Jersey prices appear artificially low, hurting farmers and shippers alike. Auction prices are not always a true indication of average wholesale FOB prices for any given item. Frequently, they are more volatile than weighted average prices.
2. Because not all items from the south Jersey area are sold at the Auction, posting only Auction prices would not give proper exposure to everything available.
3. Auction prices do not distinguish levels of quality, placing quality growers and shippers at a disadvantage.
4. Places like terminal market houses can quote artificially low prices reported by Market News for Jersey items to protect the low prices paid to farmers. Surprise, surprise: market participants are not always open and honest.
5. Shippers need pricing confidentiality protection. This only happens when Market News gathers a broader scope of sample prices. Otherwise, customers can force individual shippers into downward pricing competition with one another.

I urge NJDA to begin working with New Jersey produce buyers and shippers to reinstate collecting and disseminating 1st handler wholesale prices through Market News. Together with the industry, the New Jersey Department of Agriculture can help restore New Jersey's visible, viable position in the produce trade. □

Canada Goose Management Options for Grounds Managers

Joseph B. Paulin, Program Associate in Wildlife Management

There are a wide variety of non-lethal and lethal options available to grounds managers for Canada goose management. Each option has associated advantages, disadvantages, and costs. Please keep in mind that each particular situation where conflict exists between people and geese is unique and usually involves the integration of more than one management option. More importantly, resolution of the conflict often requires support from residents of the community where the problem is occurring. The following will discuss the differences between migratory and resident Canada geese and specific management options available to grounds managers. For more complete information on each option including associated advantages, disadvantages, costs, materials suppliers, and when necessary, permitting information, visit the Rutgers Cooperative Research and Extension website at www.rcrc.rutgers.edu, click on extension, then publications, then natural resources and the environment, and then wildlife.

Migratory vs. Resident Canada Geese

Two distinct populations of Canada geese can be found in New Jersey and throughout the continental United States. 1) **Migratory Canada geese** nest in localized areas throughout Canada, Newfoundland, Labrador, and Alaska and migrate annually to winter in the continental United States with some reaching as far south as northern Mexico. 2) **Resident Canada geese** nest and/or reside predominantly within the continental United States and typically do not migrate to annual wintering grounds. As the name suggests, they are usually permanent residents of the area in which they are found. In New Jersey, negative impacts are often attributed primarily to the resident Canada goose population. *Both migratory and resident Canada geese are legally considered migratory waterfowl and are afforded protection under the Migratory Bird Treaty Act.* (For more information see: Drake, D. and J. B. Paulin. 2003. FS1024. "A Goose is a Goose? Identifying Differences Between Migratory and Resident Canada Geese." Rutgers University, Rutgers Cooperative Research and Extension).

Modifying Human Behavior

Preventing people from feeding geese and other waterfowl is one of the most important steps in alleviating goose damage problems. An ordinance should be passed that prohibits the feeding of all wildlife. Ideally, a county-wide ordinance should be enacted to ensure

consistency across municipal boundaries. However, when writing the ordinance, make sure that it is worded in a way that will not prohibit feeding backyard birds such as songbirds, and woodpeckers. Signs prohibiting the feeding of waterfowl should be posted in plain view in areas where Canada geese are present. As people often ignore these signs, it will be extremely important that the ordinance is enforced to ensure effectiveness. This will involve warning as well as ticketing violators. (For more information see: Drake, D. and J. B. Paulin. 2004. FS1028. "Canada goose Management Series: Modifying human behavior." Rutgers University, Rutgers Cooperative Research and Extension).

Exclusion

Exclusion techniques such as fencing or overhead grids utilizing Mylar tape can be effective management tools for reducing or eliminating Canada goose damage to residential and commercial landscaping, agricultural crops, recreation areas, golf courses, and water bodies. (For more information see: Drake, D. and J. B. Paulin. 2003. FS1025 "Canada goose Management Series: Exclusion." Rutgers University, Rutgers Cooperative Research and Extension).

Repellents

When applying Canada goose repellents, all manufacturers' suggested guidelines should be followed. Most repellents for Canada geese are taste-based and are intended to decrease goose feeding by reducing palatability of the treated vegetation. Taste-based repellents typically contain the active ingredient methyl anthranilate or anthraquinone. Both ingredients are registered with the United States Environmental Protection Agency as Canada goose taste-based repellents. Products with names like RejeX-itã, Bird Shieldêø, and Goose Chase utilize methyl anthranilate as an active ingredient. Anthraquinone is the active ingredient in the product Flight Controlã. (For more information see: Drake, D. and J. B. Paulin. 2004. FS1031. "Canada goose Management Series: Repellents." Rutgers University, Rutgers Cooperative Research and Extension).

Habitat Modification

Populations of Canada geese can cause serious problems when congregating in mowed areas such as private lawns, recreational and industrial parks, athletic fields, cemeteries, and golf courses. Habitat modification involves changing the landscape where geese reside in a manner that alters the patterns of goose movement and decreases food availability, thereby reducing or eliminating the number of geese present. This technique usually involves elimination or modification of vegetation, planting of nonpalatable ("goose-resistant") species, or creating cover or foraging areas to draw geese away from specific areas. Modifying a small area of habitat to ensure satisfaction prior to implementing a large-scale modification is recommended. (For more information

SEE CANADA GEESE ON PAGE 6

see: Paulin, J. B. and D. Drake. 2003. FS1026 "Canada goose Management Series: Habitat Modification." Rutgers University, Rutgers Cooperative Research and Extension).

Harassment

Harassment techniques such as pyrotechnics, propane cannons, properly trained dogs, and visual deterrents such as flagging and Mylar "eye-scare" balloons can be effective in deterring Canada geese from entering a particular area. Success of the technique utilized will vary depending upon location, size of the property, size of the goose population, time of year, and vigilance with which the harassment technique is implemented. No state or federal permits are required to use harassment techniques provided geese are not handled, harmed, or killed. However, in New Jersey, a state permit is required to operate a propane cannon on agricultural land (contact the New Jersey Division of Fish and Wildlife to obtain a permit). Furthermore, noise ordinances may exist in certain municipalities. Prior to employing a noise-making device, check with your local police or municipal officials.

Nest and Egg Destruction

It is illegal to possess or physically contact goose nests or eggs under the Migratory Bird Treaty Act without a federal depredation permit. Special Canada goose permit applications can be obtained from the United States Department of Agriculture Animal and Plant Health Inspection Service-Wildlife Services [(USDA-APHIS-WS) 908-735-5654] or the United States Fish and Wildlife Service (<http://forms.fws.gov/3-200-67.pdf>). You must have a copy of the permit on your person when engaging in nest and egg destruction. Nest and egg destruction is used to prevent goslings from hatching out and increasing local goose populations. (For more information see: Paulin, J. B. and D. Drake. 2004. FS1030. "Canada goose Management Series: Nest and Egg Destruction." Rutgers University, Rutgers Cooperative Research and Extension).

Capture and Euthanasia

It is necessary to secure and have on your person a federal depredation permit in order to capture and euthanize geese. Special Canada goose permit applications can be obtained from the United States Department of Agriculture-Animal and Plant Health Inspection Service-Wildlife Services [(USDA-APHISWS) 908-735-5654] and the United States Fish and Wildlife Service (<http://forms.fws.gov/3-200-67.pdf>). Capture and euthanasia involves trapping and euthanizing captured geese according to methods approved by the American Veterinary Medical Association (AVMA). An example of a commonly used AVMA-approved method is a carbon dioxide gas chamber. (For more information see: Paulin, J. B. and D. Drake. 2004. FS1029 "Canada goose Management Series: Capture and Euthanasia." Rutgers University, Rutgers Cooperative Research and Extension).

Additional Sources Of Information Available Through Rutgers Cooperative Research And Extension

Note: Many of the Rutgers Cooperative Research and Extension Factsheets and Publications mentioned above and below are available through county Extension offices or on the web at:

<http://www.rcrc.rutgers.edu/pubs/> under Natural Resources and the Environment.

Drake, D. and J. B. Paulin. 2003. FS1027. "Positive benefits and negative impacts of Canada geese." Rutgers University, Rutgers Cooperative Research and Extension

Paulin, J. B., D. Drake and J. L. Bucknall. 2003. FS1017. "Regulations Governing the Management of New Jersey wildlife." 4pp. Rutgers University, Rutgers Cooperative Research and Extension

"Canada Goose Damage Management Resource Guide." NJAES/Center for Wildlife Damage Control at Snyder Research and Extension Farm in partnership with United States Department of Agriculture and Animal Plant Health Inspection Service, Wildlife Services

Contact Information

- Your local Rutgers Cooperative Research and Extension County Agent. Refer to the blue pages of your local phone book for listings.
- Rutgers Cooperative Research and Extension, Wildlife Extension Program, 732-932-1509
- New Jersey Division of Fish and Wildlife, 609-292-2965.
- United States Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services, 908-735-5654.
- United States Fish and Wildlife Service, Migratory Bird Permits, 413-253-8643. □

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www.rce.rutgers.edu/pubs/plantandpestadvisory

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