Integrated Cranberry Crop Management for Wisconsin

Cranberry

Crop Management Newsletter

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Contents:

MEASURING SOIL pH

Many of the variables of growing cranberries are not manageable. Weather is a primary variable that we can do nothing about. We can manage spring and fall frosts by sprinkling and we can cool vines in the summer by irrigating, but beyond that the weather happens. We can't control summer heat, or lack of heat; sunshine or lack of sunshine. We can't control populations of insects that move into marshes, but we can manage their populations in beds with pesticides.

One aspect that is somewhat manageable is soil pH. We know that keeping soil pH around 5.5 will provide optimal vine growth. We also know that conversion of ammonium to nitrate by soil microbes is minimal at 5.5 or below. Ammonium nitrogen converted to nitrate nitrogen by microbes will leach. Ammonium nitrogen typically won't leach out of beds. Thus, managing soil pH in the correct range is an important aspect of cranberry farming.

Phosphorus availability is also affected by soil pH. When the soil pH is too low phosphorus reacts readily with aluminum and iron to form insoluble compounds. When the soil pH is too high phosphorus is bound to calcium and is not available to plants.

Measuring soil pH is relatively easy. You can take samples and send them to a reputable lab. When you take annual soil samples soil pH is one parameter that is measured and reported. You can also measure pH yourself by mixing equal volumes of soil and distilled water, stirring the "mud" until well mixed, waiting 15-30 minutes and then taking measurements of the water in the top with a calibrated pH meter. Inexpensive digital pH meters are available from many companies. These provide satisfactory accuracy for measuring soil pH. It is important that these meters be calibrated before each use.

We asked the question "Does it matter where and when you take soil samples for measuring pH?" To answer the question we have taken soil samples monthly through the summer on individual beds at five marshes. We took 12 subsamples in a 15 meter grid and measured each subsample individually.

We found that it does make a difference where you sample. In a single bed we sometimes found differences in pH of greater than 1 pH unit. Usually the variability was less than half a pH unit. We did not find any consistent trends over time at a given location or set of locations. The time of sampling does not seem as important as location.

What does this mean for you? When you take soil samples to measure pH it is important to take samples from several locations in a bed and then pool the samples. As you take more samples and mix them together you will end up with a number that more accurately reflects the true soil pH. Taking one or two samples in a bed may give you the wrong answer. This may also influence the results of tissue tests, thus underscoring the importance of taking samples from many locations with a bed.

Managing soil pH in the appropriate range is a best management practice. Doing so will retain nitrogen in a form most useful for cranberries and will prevent leaching and it will maintain phosphorus in the most plant available form.

Teryl Roper, UW-Madison Extension Horticulturist

VIRGINIA CREEPER AND WILD GRAPE VINE IN WISCONSIN CRANBERRY BEDS

I am a student from the University of Wisconsin River Falls studying horticulture with an emphasis in greenhouse management and floriculture. I am presently completing my internship requirement in my area of interest. I am interning for Jayne Sojka and her scouting service, Lady Bug IPM. During this time I will be creating a weed manual for common Wisconsin cranberry weeds and also identifying a few unknown weeds.

Virginia Creeper (*Parthenocissus quinquefolia*)

This weed is a perennial deciduous woody vine. The leaves are compound containing five leaflets that are palmately arranged. Leaves can be anywhere from 2-6 inches wide and have serrated edges. It can grow very quickly and vines may reach a length of 30-50 feet. It spreads by its creeping vines and birds also deposit seeds. Vines easily root if in contact with the soil which helps make this a quick spreading weed. Flowers are white to green in color and will produce a small berry that is purple to black in color. The berries will persist through winter on the vines.

This vine is very adaptable to many soil and sun conditions. It is grown ornamentally for its great fall color but it easily escapes into areas where it is unwanted.

Optimum control is obtained by wiping on young, less woody vines.

For more information go to: www.weedalert.com/weed_pages/wa_virginia_creeper.htm

Wild Grape Vine (*Vitis spp.*)

This is also a deciduous vine but with simple leaves having 3 lobes. Leaves are usually serrated and somewhat resemble maple leaves. Vines spread by using tendrils to crawl along the beds. They are most commonly spread by seed from birds. Wild Grape flowers in late spring and early summer and produce a purple to black fruit. These vines are native to central and eastern North America.

This vine is adaptable to many cultural conditions. For best control vines should be wiped while the vine is young and still growing. Wild grapes may also be pulled or cut back.

For more information go to: www.weedalert.com/weed_pages/wa_wild_grape.htm

Becky Everson, Lady Bug IPM

SAFETY IS EVERYONE'S JOB

When we think of safety on the farm too often we think of avoiding major accidents that threaten life and limb. While it is important to thoughtfully prevent these kinds of accidents, other sorts of farm safety issues are equally important. Acute accidents that cause loss of life or that put people in the hospital get a lot of attention. However, prolonged exposure to conditions that are normally found on farms can also cause long term problems. This article will seek to outline what some of these problems are and what can be done to prevent them.

Sun exposure. What is more pleasant than working outside on a warm sunny day? However, prolonged exposure to the sun without protection can lead to skin cancer. Skin cancer is one of the most common forms of cancer among Americans. Skin cancer is very treatable when caught early, but it is also very preventable. Preventing skin cancer is as easy as applying sunscreen every day—probably twice a day—to skin that will be exposed to sun. Use sunscreen with an spf of at least 15, preferably more. If you have fair skin (light complexion) using a higher number is even more important. Wear light colored clothing that will keep you covered. A shirt with short sleeves is not appreciably warmer than a tank top, but will protect your upper arms and shoulders. Wearing a hat with a wide brim will protect your face and neck from sunlight. Regular "farmer hats" don't protect the ears or neck from exposure.

Loud sounds. Agriculture is supposed to be a pastoral life of quiet endeavor. With farm mechanization we become more efficient, but we subject ourselves to an ongoing stream of background noise. Add to that the penchant for earbuds attached to ipods and mp3 players and you have a recipe for hearing loss. Use hearing protection of some sort whenever you are working around power equipment. I'm not sure if the sound equipment problems we've had at recent cranberry schools are a function of faulty equipment or decreased hearing capacity of growers. Once hearing is lost it cannot be regained. Prevention is the key.

Pesticides. Following state and federal regulations will minimize unnecessary exposure to pesticides. The worker protection standard found on all pesticide labels lists the personal protective equipment (PPE) required when mixing, loading, and applying each chemical. Wearing chemical resistant gloves is critical to reducing pesticide exposure. As I am on cranberry marshes the most frequent violation of the WPS requirements for PPE is for people applying Roundup. Glyphosate is relatively non-toxic, but the required PPE includes long-sleeved shirt and long pants with shoes plus socks. Some labels specify that protective eyewear be worn. I would add that it seems prudent to wear chemical resistant gloves when using handwipers.

Severe weather. Another real risk of working outside on hot days is heat stroke or heat exhaustion. Taking breaks in shady or cool areas and drinking lots of water are critical during the hottest parts of the hottest days. For maintaining hydration water is preferred to soda or other beverages. Caffeinated soda will actually encourage the body to eliminate fluids rather than to maintain them.

Seeking shelter during thunderstorms and other severe weather seems normal and sensible, but each year hundreds of people are struck by lightening. Paying attention to local weather forecasts is prudent.

Teryl Roper, UW-Madison Extension Horticulturist

ROUNDUP REMINDERS

With flowering over and fruit setting growers will once again be thinking about wiping weeds with Roundup. Be sure to read the product label before you begin an application. A few points warrant reminders:

- Coverage is the most important variable. You must have good coverage of the weed's leaf surface in order to get enough material throughout the plant to kill it completely. Dyes added to the wiping solution help you tell where you have wiped. Add dye per the package instructions.
- Increasing concentration does not make Roundup more effective. Concentrations that are too high may be detrimental as they can kill the contacted tissue before enough is translocated to kill the roots. A 10 to 20% Roundup solution works for most people. Even a 5% solution may be sufficient. This is a case where less is more. I am sure that the lack of control some growers experience is a result of using too much herbicide, not too little.
- Cut stump applications are allowed for woody brush. Cut the plant off then treat the stump with a Roundup solution. Making an emulsion with lanolin and then applying to the stump will help keep the Roundup on the surface so it is absorbed for a longer period of time.
- Adding ammonium sulfate per the label specifications can help entry of the active ingredient and will improve performance.
- Regular Roundup requires a 6 hour rainfree period following application to get into the plant. Don't apply if rain is imminent.
- Remember the 30 day PHI.
- Wear appropriate PPE. This includes a long sleeved shirt and long pants and shoes plus socks. Waterproof gloves are not required, but are prudent.
- Keep the wiper surface clean. If dirt, weeds or other debris covers the wiper too little solution will accumulate on weed leaves.

Teryl Roper, UW-Madison Extension Horticulturist

Don't Buy Pesticides From Telemarketers

MADISON-Aggressive telemarketers are once again targeting farmers, trying to sell them questionable pesticides with claims that these products are "more effective," "more concentrated" or "longer lasting," warns a state agriculture official. "My advice is to not to buy pesticides over the phone," said Dave Fredrickson, director of pesticide compliance with the Wisconsin Department of Agriculture, Trade and Consumer Protection.

Investigators have found many cases where telemarketers misrepresented the product, or the product did not live up to the claims made, were a waste of money, or worse. "An orchard owner recently received a sales call with the offer to buy an herbicide that would last for six years, all for the incredible price of $99 a gallon," Fredrickson said. Fortunately, the orchard owner refused then contacted the department.

"This is similar to a past case in which a farmer nearly bought a product that was supposed to control weeds in his pasture for up to five years. That particular pesticide turned out to be a soil sterilizer. It would have killed the weeds, but it would have killed the pasture too," Fredrickson said. Other complaints indicate that some telemarketers are also misrepresenting themselves. "One telemarketer told the farmer that they were from their local agricultural co-op. Fortunately, the farmer

contacted the co-op and discovered that this was not true," Fredrickson said.

According to the department, many of the telemarketed products are not registered for use in Wisconsin, which is illegal. Unscrupulous pesticide telemarketers may also be violating Wisconsin's No Call List. The No Call List identifies you as someone who does not want to receive telemarketing calls. "If you have joined the No Call List, the pesticide telemarketers cannot contact you to sell products," Fredrickson said. To protect your wallet and your farm operation, buy pesticides from your local farm supply dealer or ag co-op, Fredrickson recommends. "Stick with the businesses that you know and trust. If you have a problem with a pesticide that you've purchased, you have someone to contact."

If you have questions or complaints about pesticide telemarketing phone calls or if you have purchased farm chemicals from telemarketers, call the department at 608-224-4500 or the Consumer Protection Hotline at 1-800-422-7128. Any questionable sales calls should be reported to these numbers. If you are able, also report the name of the pesticide offered for sale, the company, the claims made, the price and the date and time of the call.

Jane Hewston Larson, WDATCP

I could not an any age be content to take my place in a corner by the fireside and simply look on. Life was meant to be lived. Once must never, for whatever reason, turn one's back on life.

Eleanor Roosevelt

We are not endeavoring to get ahead of others, but to surpass ourselves.

Hugh B. Brown

DISPOSAL OF PESTICIDES AND CONTAINERS

To avoid having to dispose of a tank load of the wrong pesticide, check out the job carefully before selecting the pesticide. After you have selected the proper pesticide, mix only enough for the job. Preventing a pesticide surplus is the best way to prevent a disposal problem.

Despite your best efforts, however, you cannot always avoid surplus pesticides, and you must take steps to dispose of them properly.

If you mix too much pesticide for a job, try to find other areas with the same pest problem and use any extra tank mix or rinse water on these areas. In some cases, small amounts of surplus pesticide can be diluted and reapplied to the treated area. Take extreme care to prevent excessive residues, especially with herbicides, by making sure that the total application rate does not exceed the maximum rate for which the pesticide is labeled.

To dispose of large quantities of pesticide, contact the Wisconsin Dept. of Agriculture, Trade and Consumer Protection for assistance in properly disposing of excess pesticides in an environmentally safe manner.

So-called empty pesticide containers are not really empty. They still contain small amounts of pesticides, even after they have been properly rinsed. All containers, regardless of their type, should be rinsed three times before disposal. The rinse water should be dumped into the sprayer tank. Otherwise, the rinse water must be treated as a surplus pesticide and disposed of properly. Rinse water should never be dumped on the ground. Use the following rinse-and-drain procedure to prepare containers for disposal:

1. Empty the container into the spray tank and drain in a vertical position for 30 seconds.

2. Refill the container one-fifth to one-fourth full with rinse water or other recommended solution.
3. Rinse thoroughly, pour into the spray tank and drain in a vertical position for 30 seconds.
4. Repeat steps 2 and 3 until the container has been rinsed three times. Empty the container into the spray tank and drain in a vertical position for 30 seconds.

Rinsed containers should not be used for any other purposes except where the label allows the container to be reused or recycled.

Disposal of any pesticide container or pesticide-related waste by open dumping or open burning is illegal. Although empty containers that have been properly cleaned can legally be placed in a sanitary landfill, recycling in one of the container recycling programs is the preferred method of disposal. For assistance in disposing of rinsed containers, contact the Wisconsin Dept. of Agriculture, Trade and Consumer Protection.

Pesticide containers that are not empty cannot be accepted at a sanitary landfill. Some of these waste pesticides are classified as hazardous waste and must be managed according to applicable state and federal laws.

SUMMER FIELD DAY

The 2005 Cranberry Field Day will be held in Warrens, Wisconsin on Wednesday July 10. Headquarters will be near the Cranberry Discovery Center. The host marsh for the event is the Gebhardt and Whiskey Creek Cranberry Companies. Registration materials will soon be distributed by the Wisconsin State Cranberry Growers Association. Put this date on your calendar and plan to attend.