




University of Massachusetts Extension Cranberry Station Newsletter



IPM EDITION -- MAY 17, 1996

Volume 6, Issue 4
Cranberry Experiment Station
Glen Charlie Road
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WHAT'S NEW ON THE BOG

SCOUTING. Preliminary scouting on May 5 and May 11 showed that first instars of false armyworm, gypsy moth, blossomworm, and green spanworm are out on the bog. No sweep catches had numbers exceeding the action threshold on Sunday May 5, but more recent sweeps have detected populations of gypsy moths over the action threshold (AT). May 5th sweeps were conducted in the Hanson-Duxbury area. May 11th sweeps were in the Carver area. Even though you may find some cutworm or spanworm counts are over the AT, sweep at least once more before applying treatments.

B.t. products work well on small caterpillars (less than 1/2"), however, the insects have to be doing a certain amount of damage for it to be worth the expense of an application. Try to time your applications to target the majority of the hatched population as it can be expensive to treat several times with some B.t. products.

As mentioned in the last newsletter, limited quantities of a new product, Pheast®, which is supposed to enhance the feeding activity of caterpillars on leaves treated with B.t. products are available. Call me at the station if you would like to try some.

Remember, do not include sawflies into your cutworm counts. These caterpillars look like they are all legs (they have 6 pairs). There is no real need to be concerned about sawflies unless you are

finding large numbers of them (30+ per sweep). During this part of the season, you will want to carry a 10X lens to help you see whether or not a caterpillar is a cutworm or a spanworm. A few cranberry weevils were found when several blueberry bushes were scouted during the first weekend of May.

Black Vine Weevil and Strawberry Root Weevil. Beneficial nematodes can be applied in the spring for control of Black vine weevil and Strawberry root weevil. Both larvae and pupae can be controlled by nematodes. Soil temperatures should be above 56°F and the wind should be calm for best results. Irrigate before and after application. Look for grubs associated with damaged areas. Root weevil larvae are small, about 1/2" long. They are yellowish-white, have no legs, and curl into a 'C'. Their feeding is not as deep into the runners as cranberry girdler feeding.

Pheromone Traps and Lures. Pheromone traps are used to help time control strategies for *Sparganothis* fruitworm (Spag), cranberry girdler (CG), and black-headed fireworm (BHF). Traps and lures are used to determine the peak of moth flight or the end of moth flight. They do not give information on the intensity of damage to be expected from a certain number of moths.

Several trap styles are available for purchase. The Pherocon II trap is typically used for CG and BHF and the wing trap is used for Spag. The wing trap can be used for all three if desired. If you are monitoring all three pests, you should have three separate traps set out. Put one lure in each trap. Traps should be set out on the *upwind side* of

your bog. Figure out where the prevailing winds are, and set your traps up so the plume of pheromone will blow across the majority of your bog. Secure the traps to some kind of stake (e.g. bamboo or steel). Use 1 trap (per pest) for every 10 acres. This can be modified as conditions warrant. For example, if you suspect a CG problem in one spot and it is not the 'prevailing wind' spot, you can set a trap up in both areas. Try to space the traps at least 100 feet from each other.

Lures contain a sex pheromone specific for each moth. Be sure you purchase the correct lures for the pests you want to monitor. Manufacturers suggest changing the lure every 4 weeks. It may need to be more frequent if the weather has been hot and/or windy. If you order many lures at once, you may want to date the bags. Spag and BHF lures should remain viable for 2 years and CG lures for 1 year when stored in the freezer or refrigerator.

Check the traps at least once a week; twice if you have very high counts (especially with Spag). Change the trap as needed. Transfer the lure from one trap to another whenever possible. Remember to record your counts.

DISEASE MANAGEMENT. If you are using Bravo® Ultrex for upright dieback control, you must have a copy of the supplemental label in hand when you make the application due to the fact its use is granted under the Special Local Needs regulation.

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May 17, 1996 Vol. 6, Issue 4

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Cooperative Extension Mailing Signoff


Hilary A. Sandler, Cranberry IPM Specialist

NUTRITION. Bud-break fertilizer applications typically go on around mid-May. Apply 35% N (percent of the total nitrogen planned for the year) in a slow release fertilizer if using a slow-release program; apply 100% if you are using a 4-6 month active formulation; If using a combo fish-granular program, apply 20% N in the form of fish; If using a 4 fish application program, apply 25% N during bud-break; if you're doing the 2 fish application program, apply 50% of the N dose at bud break. If using a granular program, wait until roughneck before applying 20-25% of your nitrogen.

Be sure your vines are at bud break before applying fertilizers. The season has been progressing slowly. Inspect many vines to determine the general stage of growth. Fertilizer should not be applied until the soil has warmed to at least 55°F *and* the plants are actively growing. Since the soils are cold and wet, little native nitrogen can be released. Keep this in mind when deciding how much spring fertilizer to use. Under these conditions, response of the plant may be slower.

FROST PROTECTION. Early Blacks and Howes on State Bog are at a 27°F cold tolerance as of the afternoon of May 15th. Ben Lears and Stevens are at 29.5°F. After mid-May, all buds on all varieties should be protected for at least 27°F regardless of any physical appearance indicating a lower tolerance. In general, by the middle of May the buds have gone through enough internal changes to make them sensitive to temperatures below 27°F.

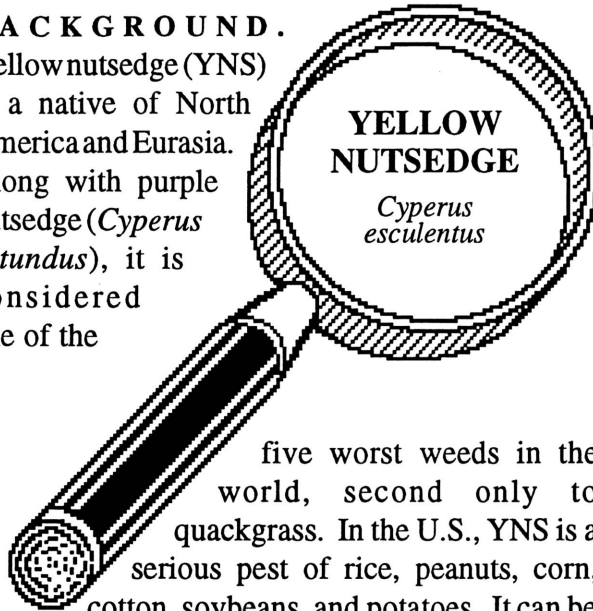
LATE WATER. Late water bogs that are inland should hold their floods no later than May 15. Coastal Plymouth county bogs should release late water floods between May 20-25. Cape Cod bogs should release flood waters towards the end of the month. The cold tolerance of vines held under a late water flood is considered to be 29.5°F as soon as the flood is removed.

WORKSHOPS. The next Station Workshop is Thursday May 23, 9-10 AM. Topics include: what's out on the bog, current disease and fertilizer issues, and an on-bog sweeping demonstration. Please arrive at the library a few minutes before 9 o'clock so that we can get started on time.

PEST PROFILE

BACKGROUND.

Yellow nutsedge (YNS) is a native of North America and Eurasia. Along with purple nutsedge (*Cyperus rotundus*), it is considered one of the



five worst weeds in the world, second only to quackgrass. In the U.S., YNS is a serious pest of rice, peanuts, corn, cotton, soybeans, and potatoes. It can be a serious pest especially on new plantings of cranberry vines as YNS tends to compete well in bare spots and/or among unproductive vines.

SEEDLINGS. When growth begins in early May, YNS emerges as a pale green spike, similar in appearance to a grass seedling. It is not a grass; it has no ligules (a minute 'tongue-shaped' outgrowth found at the base of grass leaves) or nodes. Viewed from above, the leaves are arranged in groups of three (grasses are arranged in groups of two). The leaf blades are much stiffer than those of grasses.

BIOLOGY. Yellow nutsedge is an erect, grasslike perennial member of the sedge family. The leaves arise from a central triangular stem to form a clump that grows up to 3 feet high when found outside a cranberry bog. On bogs, YNS typically reaches a height of one foot. Leaves are 1/8-1/2" wide, shiny or waxy on the upper surface. Each leaf has a characteristic fold where the blade bends up along its midvein. This bend forms a distinct crease. The lower surface of the leaf is lighter in color and dull rather than shiny.

Yellow flower clusters appear in July and August at the top of the stalk. A single seedling can develop a plant system capable of producing 90,000

seeds with 50-90 percent viability. The mature seeds are easily scattered by harvesting operations or by flooding. In late August-September, the fruiting clusters may become tiny plants instead of seeds. These can also be easily scattered as they can float in the fall flood waters. Additionally, yellow nutsedge can propagate through the formation of 'nuts', swellings (tubers) which form at the end of the underground roots. These nuts serve as starch reserves for the plant and are more important in terms of reproductive power for the plant than the seeds.

Tubers. The tubers can survive temperatures as low as 20°F. Studies in other crops show that tubers will not last more than three seasons. Interestingly, the tuber skin contains a chemical that must be washed off by soil moisture before the tuber can sprout. Therefore, YNS does well in wet areas like cranberry bogs. It also does well in acidic soils (pH 5-7), but does not tolerate shade. The PSU fact sheet states that in a single year, the outward growth of rhizomes from one tuber can produce 1,900 new plants and 7,000 new tubers, covering an area of 6 feet in diameter. Even though frost may kill the top part of the plant, the tubers may sprout the following spring.

(continued on Page 4)



Figure from: Knobel, E. 1980. *Field Guide to the Grasses, Sedges, and Rushes of the United States*. Dover Publications, Inc., NY.

PEST PROFILE - YELLOW NUT SEDGE
(continued)

MANAGEMENT. YNS is a perennial sedge and is considered to be a weed of less concern relative to other bog weeds. However, populations can be abundant, especially on new plantings. Management can be rather difficult. The tubers provide excellent energy reserves and multiple buds. Thus, the nuts have an excellent chance of surviving poor weather, crop competition, and chemical treatments. Also, tubers can have many buds and even if a chemical treatment kills one, the other(s) can still sprout. In order to be effective, a chemical treatment must outlive the ability of the tuber to resprout. Research in other crops has shown this period to be about 10-12 weeks. Another complicating factor is that the elimination of other weeds might actually favor YNS and allow it to gain a competitive advantage on the bog.

The most effective chemical treatments are preemergence herbicides that affect the young shoots before they emerge as well as the root system of young plants. Devrinol®, Evital®, or dichlobenil applied in the spring or fall offer good control of this weed. Experience has shown that Devrinol and Evital tend to give a longer period of control than dichlobenil.

Excerpted from: Lanini, T.W. and B.A. Wertz, 1986. **Yellow Nutsedge Fact Sheet No. 9**, Pennsylvania State University, Cooperative Extension Service, University Park, PA, and Demoranville, I.E., 1984. **Weeds of Massachusetts Cranberry Bogs, Part 1.** UMass Extension Publ. No. SP-148, Amherst, MA.

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