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University of Massachusetts Extension
Cranberry Station Newsletter
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Cranberry Experiment Station
Glen Charlie Road
East Wareham, MA 02538

NUTRITION. *Yellow vine syndrome (YVS).* YVS is thought to be associated with stress which causes a temporary pH imbalance or shift in the Mn, K, and/or Fe in the plant. If the stress is showing primarily in the old leaves and is not extreme, the best thing to do is just wait things out. If the new growth is very affected, or it appears to be moving from the old up to the new leaves, you can apply a foliar feed fertilizer with Magnesium (like Sorba-Mag) in it to help restore the K/Mg balance. Carolyn is doing some plot work testing various materials that might remedy YVS. We will keep you posted.

DISEASE MANAGEMENT. Usually around this time of year, growers bring in berries to see if they are scalded or decaying from one of the many fruit rot fungi. There is an easy way to distinguish between rotted and scalded berries, particularly if the berries are still mostly green. Fruit that are infected with a fungus will produce anthocyanin, a red pigment, at the edge of the infection. Look at the discolored part of the berry. If there is a thin rim or line of red between the brownish rotted part and the green part of the berry, chances are very good that the damage is from a fruit rot fungus. If there is no red margin, i.e., the brownish color blends right into the green of the healthy portion of the fruit, chances are this is scald damage.

Once the berry has ripened, this difference is much less obvious. We would need to culture the berry to see if we could isolate fruit rot fungi from the berry to verify it is actually fruit rot. An isolation is typically done anyway to make sure it is a fungal infection, even if the visual symptoms indicate fruit rot infection.

WEED MANAGEMENT. From now until harvest you can weed map your bogs (before any postemergence herbicides render identification difficult). Accurate maps of your bogs can help you plan next year's control program so you get the most effective and efficient control. Weed maps can be useful in helping you choose herbicides, spotting serious problems early, prioritizing your weed problems and keeping track of weed problems over the years. I have an article available detailing what you need to do in order to make a weed map. Call me at the station to receive one.

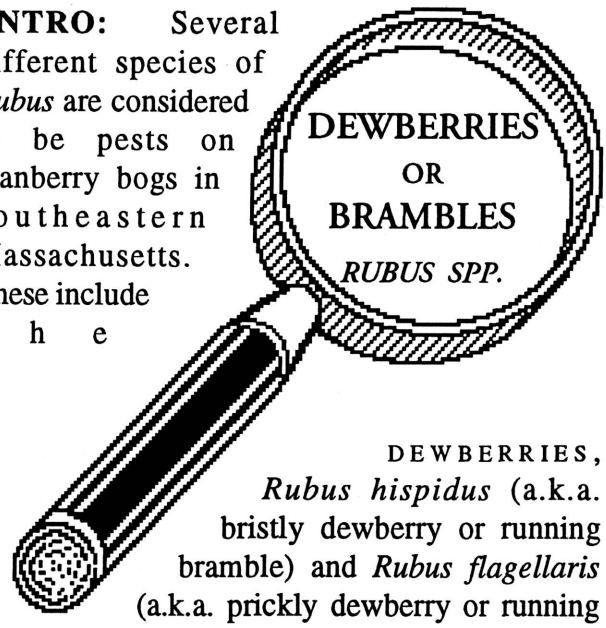
CODE-A-PHONE. Due to work obligations for the next few weeks, I will continue to update the Code-A-Phone on Mondays until further notice. The next update will be Monday August 5th.

COOPERATORS WANTED

Don Weber of Ocean Spray and Monika Weldon of Clean Sweep Cranberry Consultants, are studying alternatives to Omite for Southern red mite management, under a grant from the Cranberry Institute. So far this year has been a relatively quiet one of mite infestations. However, this study needs a few additional study sites to investigate use of new miticides, adjuvants, and predatory mites for Southern red mite suppression. All cranberry growers (regardless of handler) are encouraged to contact Don (508-946-7802) or Monika (508-880-2633) to participate in this research.

University of Massachusetts, College of Food and Natural Resources, United States Department of Agriculture, and Massachusetts counties cooperating. Cooperative Extension offers equal opportunity in programs and employment.

PEST PROFILE



INTRO: Several different species of *Rubus* are considered to be pests on cranberry bogs in southeastern Massachusetts. These include the DEWBERRIES, *Rubus hispidus* (a.k.a. bristly dewberry or running bramble) and *Rubus flagellaris* (a.k.a. prickly dewberry or running bramble). Another species found on bogs is *Rubus allegheniensis* (a.k.a. upright bramble or common blackberry). *Rubus* spp. can rapidly colonize a bog. These weeds, especially the dewberries (running brambles), will quickly crowd out and kill vines if allowed to spread. When left unchecked, the only control option for serious infestations of dewberries may be expensive bog renovation.

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Hilary A. Sandler, Editor

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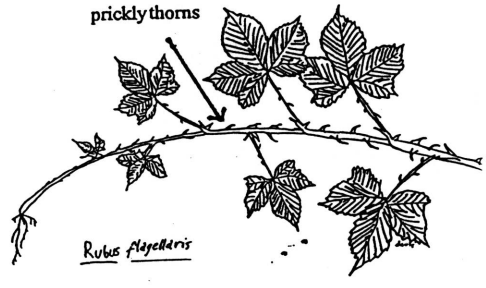
Cooperative Extension Mailing Signoff

Hilary A. Sandler, Cranberry IPM Specialist

GENERAL DESCRIPTION: Dewberries and upright bramble are considered to be spreading perennials. They may initially invade a bog by seed. After they are established, however, these weeds reproduce by means of runners or underground structures called rhizomes. The underground root system can be very extensive and makes dewberries difficult to control. These weeds can spread rapidly, invading and out-competing healthy cranberry vines. The dewberries spread on cranberry bogs by rooting at the tips of the canes (stems) and producing offspring (daughter plants). All species of *Rubus* can be highly variable in appearance. Similar species or intermediates among the two dewberries and upright bramble may be found on many MA bogs.

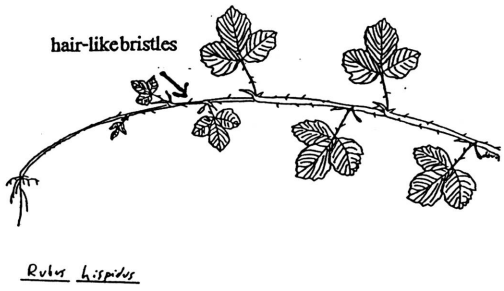
Prickly dewberry (*R. flagellaris*)

- Very serious weed problem (Priority one).
- Plant spreads along the ground, growing among the vines or just on top of them.
- Leaves are large, light-medium green, in groups of 3 or 5.
- Prickles are long and curving (like rose thorns).
- Canes are very stout, large, and long (8-15 feet).
- White flowers and large, flavorful black berries.



Bristly dewberry (*R. hispidus*)

- Very serious weed problem (Priority one).
- Plant spreads along the ground, growing among the vines or just on top of them.
- Leaves are shiny, dark green, in groups of 3, and smaller than prickly dewberry.
- Has hair-like bristles, rather than thorns.
- Canes are shorter and more delicate than prickly dewberry (1.5-4 feet).
- White flowers with somewhat bitter black berries.



Upright bramble (*R. allegheniensis*)

- The least serious of the *Rubus* species.
- Plant growth is upright, not trailing; grows as bush or large patches of individuals; plants are typically 1-3 feet tall.
- Leaves are light to medium green, in groups of 3.
- Prickles are short and stout (similar to rose thorns).
- May see undersides of leaves covered with a bright orange rust.
- Not as common as the dewberries.

DAMAGE: *Dewberries.* Plants will spread rapidly if not controlled (see example below). The canes will root at the tips and produce several offspring. Dewberries will crowd out and kill healthy vines. Dewberries can significantly reduce yields.

Upright bramble. Even though closely related to the dewberries, it is not as common on cranberry bogs. Like the dewberries, it will spread, forming large patches and cause yield losses.

MANAGEMENT: *Dewberries.* The most effective way to manage the dewberries is TO ELIMINATE THEM AS THEY INVADE THE BOG. Control populations on the ditch banks as well as on the bog. **Remove young plants by pulling or digging** out by the roots. Chemical control is difficult for the dewberries because they grow so close to the vines. Sparsely or moderately colonized areas can be controlled with **hand-wipes of glyphosate**. **Knife-raking** in the fall may help uproot daughter (offspring) plants.

Research studying the mortality of dewberry plants indicates that **late water floods** may adversely impact populations. Late water bogs had approximately 50% mortality compared to the natural mortality of about 30% on early water bogs.

The example on Page 4 shows the potential progression of an unchecked population compared to populations held under later water floods every 2 or 3 years. Observations have shown that one plant usually has between 2-8 offspring (daughter plants). This number may vary with species, habitat, and probably water management or other factors. The average of 2 and 8 is 5, so that number is used in the example. The survival factor used in the calculation is 70% survival in each year of early water and 50% survival in each year of late water (assuming no other control measures are used).

Upright bramble. This weed is not as common as the dewberries. Since it does not trail on the ground, it can be controlled with glyphosate wipes. Young plants can be pulled or dug out by the roots. Spread of this weed may have been reduced by an orange rust frequently found on the underside of the leaf.

Glyphosate wipes. If you opt to wipe these weeds, try to wait until late July-August. This ensures that the sugars which carry the glyphosate through the plant are moving *down* into the root system. Wipe all canes or shoots within a patch. Apply the herbicide to *healthy* leaves close to the base of the plant.

REFERENCES

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Sandler, H.A., I.E. Demoranville, and R.M. Devlin, 1996. **Weed management** in, 1996 Cranberry chart book-Management guide for Massachusetts.

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Illustrations by David Nolte.

POTENTIAL DEWBERRY GROWTH

LATE WATER
VS.
EARLY WATER

NUMBER OF DEWBERRY PLANTS RESULTING FROM ONE PLANT AFTER 9 YEARS
(Assuming an average of 5 offspring per plant per year using late water floods as the only management tool.)

	Number of years				
	1	3	5	7	9
Early Water	4	43	525	6,434	78,816
LW every 3rd yr	2.5	31	268	2,345	28,723
LW every 2nd yr	2.5	22	191	1,675	14,654

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