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# CRANBERRY VINE

August 1998

## BOG MANAGEMENT

**Tip Worm.** In the past this insect hasn't been much of a problem, but recently we have been seeing it on more and more beds, particularly in Grayland. There is not much to see and it likely will be unnoticed unless you are looking for it. This time of year look for cupped leaves at the tip of the upright. Also look for uprights that appear to have had frost damage (killed tips with side shoot growth). I am sure some growers have been thinking they have had frost damage when it actually is tip worm. In some beds we have noticed up to 50% of uprights infested with these small midges (⅓ the size of a mosquito). What are the losses from tip worm and what can be used to control it? We don't have the answers yet!

The level of damage from tip worm is hard to assess. In other growing areas where levels are higher, you can get increased flower bud formation. This has been noted in years and areas with a long growing season. During a cool summer, there may be inadequate time for uprights to recover from the damage and form a flower bud or form a side shoot and get an additional upright with flower bud.

Tip worm has a preference for Howes, McFarlins and Ben Lears. It tends to be less of a problem for Stevens. There are four to six or more generations per year, each about three to four weeks apart. After the second or third generation they are difficult to separate out (they become asynchronous). The damage you see now (cupping of leaf tips) is the result of second or third generation infestations that likely occurred during bloom. For this remaining season, there are no control options, other than assuring that your beds have adequate nutrition to possibly recover and form flower buds. However, growers should examine McFarlin beds and look for cupping. If you have questions about what you are seeing ask Kevin Talbot or me. We are interested in sites with severe infestations so we can follow up with economic damage analysis. Sites with heavy infestation should be on a scouting program for tip worm next spring. Two prebloom spray timings aimed at the early larval stage of the first and second generation are likely to be needed for control. Diazinon and Guthion, unfortunately, are the best treatment options.

**Fireworm.** You should be trapping for second generation fireworm adults and looking for damaged fruit if you had poor control of the second generation larvae. Because we had an early season, it is feasible that damage could occur to the fruit from third generation larvae about three weeks after the adults emerge. Nothing is recommended for treatment at this time, but new generation Bt spray such as Mattch or Crymax could be appropriate.

**Girdler.** Look for damage--dieback, bronzing, girdling of vines. It is too late to treat with Diazinon, but nematodes and flooding are still control options.

**Fruit Worm.** The incidence of fruitworm appears to be on the upswing. If you are finding infested fruit, it could be fruit worm and not fireworm. The difference between them is in head capsule and color. If you suspect fruit worm, give us a call and we will put out a monitoring trap.

Fruit worm adults lay their eggs on pea sized green fruit sometime during the mid to late bloom period. Stevens fruit appears to be most prone because it has the right size fruit at the right time. There is no control at this point, but if you have significant amounts a monitoring and spray program will have to be designed for you next spring. Unfortunately, we currently do not have a spray program that is likely to be very effective.

**How are your uprights?** Flower buds for next year are forming and on some varieties, such as Stevens,

they are already large terminal mixed buds. Mixed buds can continue to form during the growing season. Normally, fruit bud density is good on uprights that don't have fruit this year.

The key to good production is getting a lot of fruit buds to form on currently fruiting uprights. Greater than 50% return bloom would be considered good; greater than 80% is excellent. Some of this is determined by variety; the rest is cultural management.

**Weeds.** If you have not done so, consider wiping Aster and Lotus with Stinger (1% to 2%) prior to the 60 day PHI. Use Poast (1%) for control of various grass species on the beds (50 day PHI). Bear in mind that there is significantly less control of grasses at this time of year than earlier in the season.

For new plantings most of the spring herbicides should have worn off by now and new flushes of weeds may be on their way. Consider follow up treatment with preemergent herbicides, but be attentive to the fact that they work only if the weeds are caught early in the emerging phase.

**Casoron Stress.** Sites with a bit too much Casoron can benefit from extra fertilizer. Something like a 6-24-24 seems to help these stress spots recover and set buds for next year.

**Heat protection.** Should the weather decide to be a little more like Texas than Siberia, we may need protection against heat scald. I've seen scald damage only a few times in Washington. That was on Stevens vines on sand which were stressed with Casoron. Good healthy vines on peat or muck rarely get scald. Therefore, where you set your sensor depends on what you are protecting. Sensitive vines may need protection in the mid-80's. Location of the sensors also makes a difference. Shaded sensors will give completely different readings than those exposed at vine tip (the preferred location). New plantings on sand or those that are shallow rooted are also sensitive to heat damage and need to be carefully monitored.

**Leaf Tissue Analysis.** Tissue testing is recommended on one to two year cycles and soil tests on a two to three year cycle. Mid-August is the best time to take samples for analysis of mineral nutrients and spring, for soil tests. Nutrients are at their most stable period in the leaf at this time; standards for deficiencies and normality are all based on samples taken in August. For more information read "Cranberry Tissue Testing for Producing Beds in North America" available from this office or on the Web at http://osu.orst.edu/.

Why consider tissue analysis? It provides you with 1) an evaluation of your fertility program and what you may need to do to change it next year (not this year), and 2) it is a means of diagnosing deficiencies in mineral elements. For sample collection, take two cups of vegetative and reproductive uprights (minus fruit, roots and trailing woody stems) across a transect of your bed and put the sample in a paper bag (not plastic) and mail it off. Ask for nitrogen to be run on the samples. It is best to have separate analyses for different varieties and locations. Compare your results with those presented below from "Cranberry Tissue Testing for Producing Beds in North America" and adjust your fertilizer program next year. Keep the records for future comparisons.

Cranberry Tissue Standards for Producing Beds in North America

| Nutrient | Normal Concentration[1] |
|---|---|
| Nitrogen (N) | 0.9 - 1.1% |
| Phosphorus (P) | 0.1 - 0.2% |
| Potassium (K) | 0.4 - 0.75% |
| Calcium | 0.3 - 0.8% |
| Magnesium | 0.15 - 0.25% |
| Sulfur | 0.08 - 0.25% |
| Boron | 15-60 ppm |
| Iron (Fe)[2] | >20 ppm |
| Manganese (Mn)[2] | >10 ppm |
| Zinc (Zn) | 15-30 ppm |
| Copper (Cu) | 4-10 ppm |

[1] Normal levels are based on samples taken between August 15 and September 15.
[2] Cranberry researchers have not found a normal range for Fe and Mn.

**Irrigation Scheduling.** Over-irrigation is common in cranberry beds. The actual water use demand is usually a lot less than what is practiced. In general, aim for 1 inch/week during peak summer demand. The easiest way to figure your irrigation rate is by putting a dozen

jars or cans throughout the bed and checking to see how full they are after one hour of irrigation, or if you know sprinkler output and sprinkler heads per acre, you can figure the irrigation rate by back calculating from 27,000 gal/1 acre inch of water.

**Weed mapping.** August is a good time to make a weed map for weeds that may require different treatment than the rest of the bed next spring. For example, those small patches of horsetail and yellow weed may need a little extra late Casoron that you don't want to put across the whole farm.

## MISCELLANEOUS

**Resources.** One web site that has been useful for me is http://www.greenbook.net/. You can get any pesticide label or MSDS sheet you need. It's handy if you need it fast.

## WEATHER

| | Rainfall (Inches) | | | | | Growing Degree Days | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Month | 1998 | 1997 | 1996 | 1995 | 20 yr av. | 1998 | 1997 | 1996 | 1995 | 10 yr av. |
| January | 18.5 | 14.9 | 9.8 | 14.9 | 10.8 | 58 | 43 | 51 | 108 | 40 |
| February | 11.4 | 5.6 | 13.1 | 7.4 | 9.3 | 69 | 21 | 86 | 84 | 55 |
| March | 10.2 | 16.2 | 3.4 | 8.3 | 9.5 | 97 | 38 | 108 | 90 | 72 |
| April | 3.0 | 6.5 | 12.9 | 7.4 | 5.6 | 99 | 91 | 190 | 133 | 116 |
| May | 3.8 | 4.7 | 4.3 | 2.8 | 3.8 | 265 | 344 | 231 | 280 | 216 |
| June | 1.8 | 5.1 | 1.8 | 3.0 | 2.8 | 350 | 362 | 315 | 372 | 323 |
| July | 1.1 | 1.2 | 1.6 | 0.9 | 1.9 | 476 | 476 | 460 | 516 | 421 |
| August | | 2.7 | 1.0 | 1.6 | 1.7 | | 543 | 440 | 418 | 440 |
| September | | 6.9 | 2.7 | 3.9 | 4.1 | | 477 | 385 | 514 | 363 |
| October | | 15.6 | 11.5 | 10.0 | 6.5 | | 229 | 245 | 268 | 217 |
| November | | 6.5 | 14.2 | 17.3 | 11.4 | | 144 | 67 | 183 | 99 |
| December | | 9.0 | 18.4 | 13.7 | 12.6 | | 38 | 20 | 82 | 41 |
| TOTAL | | 94.7 | 94.7 | 91.2 | 80.5 | | 2806 | 2598 | 3048 | 2402 |



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