

PLANT & PEST ADVISORY

CRANBERRY EDITION \$1.50

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Cranberry Soil and Tissue Testing

Raymond J. Samulis, Burlington County Agricultural Agent

Our fertility recommendations in cranberries have come a long way over the last eight years or so. In order to obtain the high yields we now get, we had to forego the simple, single application of fertilizer in the early spring. Now, we have the benefit of timing fertilizer applications according to phenology.

The real value in soil and plant tissue testing is the design of a fertility program created to meet the needs of the plants in your fields, under your specific conditions. Previously, the main focus was on soil testing. Now, the most valued information is obtained from cranberry tissue samples or the combination of tissue and soil samples.

Soil samples are generally taken in the spring after bog water removal. In New Jersey, due to the sandy soil types and low cation exchanges, the residual nitrogen (N) is negligible. Because of this, soil nitrogen tests are of limited value. So we rely mainly on the tissue tests for N measurements. One advantage of soil samples over tissue tests is that they can be used to evaluate the soil pH.

When taking soil samples, be sure to take multiple cores that accurately represent the average of the field. Take samples from the 4" to 6" depth and avoid poorly drained areas that tend to accumulate nutrients. If you have problem areas where growth is variable, or you suspect other nutritional imbalances, you can sample that area separately, afterward.

Tissue samples of cranberries should consist of vine samples that fairly represent the entire bed. Samples should consist of 20 tips from 10 different locations. The best time of year to sample is mid August to mid September, just prior to harvest. Nutrients have accumulated to their maximum in cranberry tissues at that time. Tissue samples should be placed **only** in paper bags and **not** plastic. Rapid decay of samples can occur in plastic, due to the increase in humidity and rampant spread of micro-organisms.

Currently, Rutgers does not do cranberry tissue testing. Two laboratories that can handle the job are:

A & L Eastern Agricultural Laboratories, Inc.

Richmond, Virginia (804) 743-9401

Brookside Laboratories, Inc.

Ohio

(419) 753-2448

The cost of a sample analysis varies according to which elements are analyzed, but a basic test usually costs twenty to thirty dollars. □

New Jersey Cranberry Field Notes

Dan Schiffhauer, Ocean Spray Cranberries, Inc.

Where have all the *Sparganothis* gone? Pheromone trap catch of *Sparganothis* moths have been very, very low this season. The reason(s) for this precipitous drop are unknown; perhaps natural enemies have rebounded due to more a more intensive approach to IPM by growers. *Sparganothis* has long been considered a classic secondary outbreak species, a pest that emerges from the background when spraying for other insects kills off the natural enemies holding it's numbers down. This phenomenon is well known in other crops such as cotton. Although pheromone trap counts are not exact, they do give a pretty good read on relative population pressure. The fact is a post-pollination spray may not be warranted in many instances this year.

While we ponder the need to spray for *Sparganothis* at all, our neighbors to the north are fighting a desperate battle against resistant *Sparganothis*. We must avoid resistance if at all possible. Blossom worm is already resistant to Guthion in NJ and overuse of Lorsban could definitely lead to problems. I urge growers to try and use Lorsban no more than once per season. There are plenty of alternatives, even if most are OP's as well.

Blackheaded fireworm catch in pheromone traps was basically nil across the state. That is good news, but not unexpected. Blackheaded fireworm has not traditionally been a major problem in NJ. Interestingly, in the few areas where traps caught a significant number of moths, there was no subsequent larval outbreak. Blackheaded fireworm are not strong fliers and conventional wisdom holds that trap counts reflect a population on the cranberry bed where the trap is placed; obviously, it's not always true. The point is that growers should not automatically spray if a blackheaded fireworm trap catches moths - look for eggs and larvae first.

Bee activity during pollination was excellent and certainly was not limiting in any way this year. Bumblebee numbers were not nearly as high as they have been during the last few years, but fortunately honeybees more than made up for the gap. Fruit set has occurred on most beds by now and a lot of uprights are showing two or more fruit at this point. It remains to be seen how many will actually size. Fertilizer decisions made at this point are key to not only this year's crop, but also next year's.

Scald is a subject of concern to many, now; it's not well understood and there are no easy ways to predict. Some of the obvious factors include heat, wind, and humidity. Scald tends to occur on days with low humidity, when solar radiation is most intense. Scald is also a function of the developmental stage of the fruit.

Chuck Kusek, formerly of Ocean Spray, once noted that scald seemed most likely to occur when the fruit was large enough to cause the uprights to fall over, thereby exposing the fruit to sunlight in a more perpendicular fashion. Generally, scald seems to happen most often in exposed areas where vines are thin. Scald likelihood is also influenced by the water resources of the plants. Therefore, as in many other aspects of cranberry growing, good vine health and attention to the water needs of the plants likely has a lot to do with scald incidence. Don't forget that cranberry plants still use considerable amounts of water on cooler, less humid days. □

A post-pollination spray may not be warranted in many instances this year.

Water Quality Update

Raymond J. Samulis, Burlington County
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Much has happened since my last article on this subject. Things are progressing at a rapid pace. States surrounding New Jersey have implemented all types of programs for abatement of non-point source pollution. As I write, state organizations are requesting names of farmers, farm mailing lists, and other types of information. Groups of volunteers are being trained to walk streams and then report problems.

I believe it necessary for us to begin collecting **our own** data, **fairly** portraying the status of water in New Jersey's bogs, streams, and irrigation ponds. To better confront this criticism of agriculture, I will study the quality of agricultural water in New Jersey. I will gather information about pH, dissolved oxygen, temperature, salinity, conductivity, and turbidity. To look at seasonal variations, I will take samples from designated bog sites over time, on a regular basis. By random sampling of many sites, I hope to compile information on the overall status of farm water quality. Shortly, I will be calling upon many growers of cranberries, vegetables, fruit, and other crops to participate in this segment of the study. I expect to use the data in a positive vein to counteract the continued criticism of agriculture and its alleged negative affect on water quality. Stay tuned . . . □

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