

# PLANT & PEST ADVISORY

CRANBERRY EDITION \$1.50

JULY 21, 2000



## INSIDE

**Cranberry Bog Water Update ... 1**

**The Garden State Ag Re-Engineering Initiative Program ..... 2**

**Cranberry Soil and Tissue Testing ..... 2**

**USDA Constituent Alert: Protecting Farms and Forestland .... 3**

**Weekly Weather Summary ..... 3**

### Cranberry Bog Water Update

*Raymond J. Samulis, Burlington County Agricultural Agent*

**D**ue to the mandatory crop cutbacks, many growers had to make changes in their operations. The late holding of water in some bogs has been a practice for many years. Late holding of water has been the focus of growers from the standpoint of controlling some insect pests. However, long before late water was used for insect control, it was used for delaying or eliminating bloom. Oxygen levels were monitored this season on numerous bogs to correlate phenological developments (like bloom) to the corresponding oxygen content of the water. On numerous occasions, the dissolved oxygen of floodwater did dip below the artificially established danger levels of 4 – 5 ppm. In fact, some recent oxygen measurements were below 1 ppm in ditch water. What exactly do the low oxygen levels mean, and what resultant flower bud abortion occurred? Currently, we are not seeing much in the way of serious vine injury despite the dangerously low oxygen levels. Continued observations throughout this season and actual yield measurements will tell the final true story.

Water movement in many bog ditches has slowed almost to a stop. Minimal movement is occurring mostly through cracks between boards and leakage. I have made many observations on aquatic weeds this season while testing bog water for dissolved oxygen levels. Earlier in the season the predominant problems in many ditches seemed to be filamentous algae (long strands). This was immediately evident after floodwaters were removed. In some instances, solid mats encrusted the tops of new vine growth. Growers commented to me that although it looked bad, the mats were easily broken up and washed away. The algae apparently grows under very cold water conditions.

It wasn't until soon after the growing season began that the algae seemed to be overtaken by bladderwort. This higher order vascular plant can easily be identified by the characteristic round bladders along the branches. The bladders actually play a role in the life cycle of the ditch water by trapping small aquatic insects. To further compound the weed problem, both sediment and algae are now growing on the surface of the bladderwort. Currently both species are competing for the already low water oxygen levels. Bladderwort control is difficult as it appears to be a rooted plant that

*See Water Update on page 2*

# The Garden State Agricultural Re- Engineering Initiative Program

The Garden State Agricultural Re-Engineering Initiative is a voluntary educational program sponsored by Rutgers Cooperative Extension in cooperation with the New Jersey Farm Bureau and the New Jersey Department of Agriculture. Its aim is to meet the ever-increasing needs of the state's agricultural producers and their families for financial risk management education and, in so doing, increase the number of successful viable farms in New Jersey.

In order to survive in today's rapidly changing agribusiness environment, the program enable you to:

1. Conduct in-depth financial analysis of your farming operations
2. Take a deliberate and knowledgeable approach to risk management
3. Establish and maintain periodic contact with outside expertise

The following is what the program offers:

- Use of Finpack, the most comprehensive agricultural financial planning and analysis software available
- Crisis-intervention strategies for financially distressed farms
- Small-group workshops and/or one-on-one consultations
- Evaluations of agronomic management practices
- Unlimited access to computers
- Flexibility to meet your individual needs
- Complete confidentiality

For more information on the program, contact:

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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, one time application of fertilizer in the early spring. In the vegetable industry, we have known the benefits of timing fertilizer applications according to phenology for thirty years or so.

The real value in either soil or plant tissue testing is the optimization of a fertility program reflecting the plant status in your fields under your specific conditions. At one time the main focus was on soil testing. Now, however, 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 N is negligible. Because of this, soil nitrogen tests are of limited value and we rely on the tissue tests predominately for N measurements.

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 some nutrients. If you have problem areas where growth is variable, or you suspect other nutritional imbalances, you can sample those separately. An advantage of soil samples over tissue tests is they can also evaluate the soil pH.

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 the year to sample is mid-August to mid-September just prior to harvest. Research has shown that nutrients have accumulated to their maximum in cranberry tissues at this time. Tissue samples should only be placed in paper bags and not plastic. In plastic rapid decay of samples can occur due to the increase in humidity and rampant spread of microorganisms.

Currently, Rutgers does not do cranberry tissue testing. Two laboratories that can handle the job are: A & L Eastern Agricultural Laboratories, Inc. (804) 743-9401 located in Richmond, Virginia or Brookside Laboratories, Inc. (419) 753-2448 located in Ohio. Sample analysis cost varies according to which elements are analyzed, but a basic test usually costs twenty to thirty dollars. □

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*Water Update from page 1*

grows only in shallow areas when it can get light. The truth is that bladderwort is actually a floating weed mat that can move if water currents are strong enough.

Even though ditch water oxygen levels are currently low, the water is still teeming with life such as small fish, aquatic insects and other organisms. I am currently evaluating a relatively new biological control material for algae in bogs and farm ponds.

With increased regulations, laws, and oversight by various groups, I feel that knowing about the supply, quality, and biology our water will be of paramount importance to us in days to come. □

# USDA Constituent Alert: Protecting Farms and Forestland

The U.S. Department of Agriculture's Policy Advisory Committee on Farmland Protection is hosting a listening forum on *Wednesday, August 9, 2000 from 9:00 a.m. to 12:00 p.m. at the Frelinghuysen Arboretum in Morristown, NJ.* The Committee is soliciting policy feedback and anecdotal information on what works and what doesn't from a community's perspective in working with federal tools designed to maintain land as farm and forestland. The input received from these forums will be synthesized into a report that USDA will issue on this subject later this year.

Public comment is being sought on the following questions:

1. What are the economic, environmental and social benefits of farms and forested lands for communities, especially those in rapidly growing regions;
2. What are the challenges that communities and individuals face in trying to maintain farms and

forested lands, especially in rapidly growing areas;

3. What prospects exist to capitalize on market opportunities (e.g. direct marketing and agri-tourism) to encourage maintenance of farmland and forestland; and

4. What role could the federal government play to better support farmers and forest operators in taking advantage of these opportunities?

*The forum is open and free to the public. However, those wishing to make extended comments should pre-register by contacting Ms. Mary Lou Flores at (202) 720-4525. Those who wish to submit written statements can do so by submitting 25 copies of their statements on or before August 7, 2000. Please send them to Ms. Stacie Kornegay, Natural Resources Conservation Service, P.O. Box 2890, Washington, DC 20013, Room 6013. The written form of the oral statements must not exceed 5 pages in 12-point pitch. Oral presentations should be no more than three minutes each in duration. For more information regarding the forum, contact Irene Lieberman at (732) 246-1171 x 124. □*

## Weekly Weather Summary

*Keith Arnesen, Ph.D., Agricultural Meteorologist*

Temperatures averaged much below normal. Extremes were 93 at Atlantic City Marina on the 11th and 48 degrees at Charlotteburg on the 13th. Weekly rainfall averaged 1.69 inches north, 1.26 inches central, and 1.32 inches south. The heaviest 24 hour total was 2.40 inches at Belvidere on the 16th to the 17th. Estimated soil moisture, in percent of field capacity, this past week averaged 71 percent north, 65 percent central and 54 percent south. Four inch soil temperatures averaged 68 degrees north, 71 degrees central and 72 degrees south.

### Weather Summary for the Week Ending 8 am Monday 7/17/00

WEATHER STATIONS	RAINFALL			TEMPERATURE				GDD BASE50		MON %FC
	WEEK	TOTAL	DEP	MX	MN	AVG	DEP	TOT	DEP	
BELVIDERE BRIDGE	3.30	24.11	6.49	88	53	70.	-3	1293	79	100
CANOE BROOK	1.75	16.13	-2.59	85	53	70.	-3	1423	207	93
CHARLOTTEBURG	1.50	19.40	.50	86	48	67.	-3	1031	50	85
FLEMINGTON	1.03	17.04	-1.00	89	55	71.	-3	1459	203	71
LONG VALLEY	.88	18.74	-.57	88	54	68.	-3	1147	91	76
FREEHOLD	1.02	12.68	-4.89	91	59	73.	-1	1573	216	72
LONG BRANCH	1.93	16.92	-.59	91	60	71.	-3	1349	67	93
NEW BRUNSWICK	.60	15.93	-1.45	91	55	72.	-3	1510	73	74
PEMBERTON	.56	14.69	-2.67	92	54	72.	-3	1963	568	50
TOMS RIVER	1.59	17.68	-.12	91	54	72.	-2	1487	195	93
TRENTON	1.88	15.23	-1.25	91	58	72.	-4	1582	85	100
CAPE MAY COURT HOUSE	.98	16.19	.68	90	60	72.	-3	1534	157	53
DOWNSTOWN	1.91	18.00	1.84	91	57	73.	-3	1631	121	100
GLASSBORO	1.71	18.36	1.14	91	60	74.	-2	1752	263	100
HAMMONTON	.16	15.97	-1.11	92	58	72.	-4	1575	91	42
POMONA	1.96	17.58	2.17	91	57	72.	-3	1513	138	93
SEABROOK	.81	18.72	3.11	91	61	73.	-3	1731	212	63
ATLANTIC CITY MARINA	1.73	16.40	1.65	93	64	73.	-1	1533	239	87
SOUTH HARRISON	1.24	21.12	3.76	92	62	74	NA	1730	NA	NA

Maximum thermometer at Pemberton has been replaced. Temperatures have been averaging much too high and therefore Growing degree days units are too high.

WES KLINE — GDD BASE 40 PINEY HOLLOW Last Week 230 (Ending 7/10/00) This Week 232 (Ending 7/17/00)

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