

# North Carolina Blueberry News



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**North Carolina  
Cooperative Extension Service**  
NORTH CAROLINA STATE UNIVERSITY  
COLLEGE OF AGRICULTURE & LIFE SCIENCES

*A newsletter for commercial blueberry producers, edited by specialists and agents of the NC Cooperative Extension Service and supported by the NC Blueberry Council, Inc.*

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## NEW SUPERINTENDENT FOR CASTLE HAYNE STATION

*Source: NCDA&CS Field Notes, Jan-Feb 2002*  
Raleigh – NC Commissioner of Agriculture Meg Scott Phipps and N. C. State University Agricultural Research Service Director Johnny Wynne recently announced the appointment of **Robert “Robbie” N. Brogden Jr.**, of Mount Olive, as superintendent of the NCDA&CS managed, NCSU-owned Horticultural Crops Research Station in Castle Hayne. Robbie replaces Tom Blake of Burgaw, who retired June 30, 2001, after 32 years of service.

Robbie has worked for the NCDA&CS Plant Industry Division as the Witchweed Project Coordinator since 1994. Before that, he worked for the USDA’s Animal and Plant Health Inspection Service (APHIS) in witchweed, gypsy moth and fire ant control. Robbie holds a bachelor’s degree in business from Mount Olive

College and also attended UNC-Wilmington. On the home front, Robbie is married to Lori, and they have two daughters, Haley and Hannah – and twin boys on the way! Please join us in welcoming Robbie and his family.

Established in 1946, the Castle Hayne station is located on Highway 117, six miles north of Wilmington. Core research concerns at the station are blueberries and other small fruit crops, landscape plants, and horticultural disease studies.

## BLUEBERRY FREEZE PROTECTION -- A BRIEF REVIEW AND CHECKLIST



*Mike Mainland, Horticultural Science, NCSU*

**How early in the year?** Irrigation for freeze protection on blueberries in southeastern NC has been attempted in late February, but not with very much success. The second or third week of March is usually soon enough to be ready. During the past 33 years there has not been a freeze before April that has destroyed a large part of the crop.

### **What are the steps in getting ready for freeze protection irrigation?**

- T Reinstall suction lines and check primers.
- T Test and service the pumping unit, replace diesel

filters and have spare filters.

T Treat diesel tanks for water and algae.

T Check lines and sprinklers in the field for leaks and clogged nozzles.

T Check water pressure on ends of distant lines.

T Make sure roadways around the field will withstand traffic at night during irrigation.

T Have a high-intensity spot light ready to plug into the truck to check sprinkler operation.

T Make sure drainage is open around the field and any control structures can be opened.

T Fence ponds that are frequented by wild or domestic animals (food safety).

T Put shielded minimum thermometers in cold, average, and warm areas of fields.

T Hang a few ribbons in trees or on poles around fields to detect slight breezes.

T Watch the Weather Channel on cable or from satellite.

### **Consider additional weather monitoring, such as:**

T Subscribing to a weather service that issues freeze warnings (AWIS, SKYBIT).

T Purchasing a monitor that calls you when the temperature gets low (Phonetics).

T Hand-held wind meter (inexpensive) or an anemometer to measure wind speed.

T Sling psychrometer or hygrometer to measure wet bulb temperature, dry bulb temperature, relative humidity and dew point.

### **Freeze night essentials:**

T Rain suits and boots for everyone responsible for checking during irrigation.

T Wires to unclog nozzles. The wire surveyor's flags work well, and are not easily lost.

T Half-inch box end wrench, to remove clogged nozzles that will not clear with wire.

T Wrench and spare sprinklers to replace ones that stop turning. (Caution! Unless risers are installed with quick-couples it will be very difficult if not impossible to remove and replace nozzles and sprinklers with pressure on the line.)

**The day before an anticipated freeze.** If the above preparations are complete, there will not be very much to do before and anticipated freeze. It may even be possible to get a little rest! Forecasts from weather services appear up to 10 days ahead of the anticipated freeze, and by two days ahead they become much more accurate. The best forecast is the morning before the expected cold that night. Test the system again during the day. If there are many clogged sprinklers, unclog them and shut the system down. Start again and again unclog sprinklers.

**When do I begin protection?** All stages of blueberry flowers and fruit will withstand 28° F. You must decide if the temperature will drop below 28° F before sunrise. Record temperatures every 30 minutes if the temperature is dropping rapidly, or every hour if it is dropping slowly. This will help predict how low it could go. Project the drop rate to sunrise. If it appears that temperatures will go below 28° F and humidity is high, begin pumping when the temperature gets to 33° F in the coldest areas of your farm. With lower humidity, start at 34-35°, because the flowers and fruit will be chilled an additional 2-3 degrees due to evaporative cooling when the first water hits the plants. Pressure can be low at first, just enough to wet the bushes. As the temperature drops, increase the pressure. By 24° F the pressure should be up to 55-60 psi at the sprinklers. At lower temperatures use all the pressure you have or all you think the system will tolerate.

**When can I shut down?** If no ice forms and the temperature rises, you can stop at any time. If there is ice, the ice must break freely from branches, indicating a water layer under the ice.

## FINAL CHILLING HOUR TOTALS FOR 2001-2002

*Benny Bloodworth and Bill Cline, Plant Pathology, NCSU*

Chilling hour accumulation has been well below average this winter. Chill hours refers to adjusted total hours below 45 degrees Fahrenheit, and this is directly related to how well blueberry bushes will break dormancy and produce new growth in spring. In a warm winter with low chill hours, leafing and flowering can be significantly delayed.

Low chill hour totals in 1999 resulted in delayed leafing and flowering on Croatan and sporadic or delayed leafing on Reveille. Northern highbush cultivars with high chill requirements (such as Jersey) had many flower buds that dried up and fell off without ever opening, and leafing was significantly delayed. Similar chill responses may occur this spring.

### Chilling Hours as of 1 March

| <u>Location</u> | <u>2002</u> | <u>2001</u> | <u>2000</u> | <u>1999</u> |
|-----------------|-------------|-------------|-------------|-------------|
| Rowan           | 911         | 1936        | 1246        | 1038        |
| White Lake      | 968         | 1941        | 1309        | 1007        |
| Ideal Tract     | 853         | 1586        | 1168        | 908         |
| Average:        | 911         | 1821        | 1241        | 984         |

## BLUEBERRY ASSESSMENT VOTE

Blueberry growers in North Carolina have for many years conducted a voluntary assessment to support *“research, education and the general welfare of blueberries”* in the state. These funds have been used very successfully to develop new cultivars, conduct pest control experiments, and to support basic research on health benefits and antioxidants. Your money also supports extension efforts, like this newsletter!

The assessment must be approved by the growers every six years, and a vote is due to be conducted in 2002. In conjunction with this vote, the directors of the North Carolina Blueberry Council met recently and agreed to change the blueberry assessment unit from the old, obsolete 11 lb flat weight (remember pulp cups?) to the modern weight of 9 lbs per 12 pt flat. They also decided to increase the assessment amount for the first time since the program was initiated in 1987.

More information about assessment changes and the time and location for voting will appear in this newsletter, and in local papers thirty days prior to the meeting. The vote is tentatively scheduled to be held on the evening of April 30<sup>th</sup> in conjunction with the Bladen County blueberry meeting.

This newsletter and other blueberry information is available on-line at: <http://www.smallfruits.org>

## ADVERTISING

Do you have blueberry plants or equipment for sale? Call (910) 675-2314 or e-mail ([bill\\_cline@ncsu.edu](mailto:bill_cline@ncsu.edu)) and we will list it in this newsletter -- There is no charge for this service!

**BLUEBERRY PLANTS** -- FINCH BLUEBERRY NURSERY, PO Box 699, Bailey, NC 27807. (252) 235-4664 or: 1 (800) 245-4662 -- Free Brochure.

**BLUEBERRY PACKING LINE FOR SALE** – Contact Ralph Carter Jr., (910) 862-6495.

**MOORE'S MACHINE SHOP** – Machining, welding, burning, fabricating. Contact Kenneth R. Moore, Owner/ Operator, Phone/Fax (910) 283-7288.

**COMMENTS REQUESTED** -- If you have questions, comments or suggestions for improving this newsletter, Please contact: Bill Cline, Editor, NC Blueberry Newsletter, NCSU Horticultural Crops Research Station, 3800 Castle Hayne Road, Castle Hayne NC 28429. Tel: (910) 675-2314, Fax: (910) 675-0242 E-mail: [bill\\_cline@ncsu.edu](mailto:bill_cline@ncsu.edu)

RECOMMENDATIONS OF SPECIFIC CHEMICALS ARE BASED UPON INFORMATION ON THE MANUFACTURER'S LABEL AND PERFORMANCE IN A LIMITED NUMBER OF TRIALS. BECAUSE ENVIRONMENTAL CONDITIONS

AND METHODS OF APPLICATION BY GROWERS MAY VARY WIDELY, PERFORMANCE OF THE CHEMICAL WILL NOT ALWAYS CONFORM TO THE SAFETY AND PEST CONTROL STANDARDS INDICATED BY EXPERIMENTAL DATA. ALL RECOMMENDATIONS FOR PESTICIDE USE WERE LEGAL AT THE TIME OF PUBLICATION, BUT THE STATUS OF REGISTRATION AND USE PATTERNS ARE SUBJECT TO CHANGE BY ACTIONS OF STATE AND FEDERAL REGULATORY AGENCIES. ALWAYS READ AND FOLLOW THE LABEL.

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