

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.

IN THIS ISSUE:

☞ Irrigation for freeze protection	1
☞ Non-irrigated fields damaged April 19. .	2
☞ Benlate voluntarily canceled	2
☞ Eye appeal	3

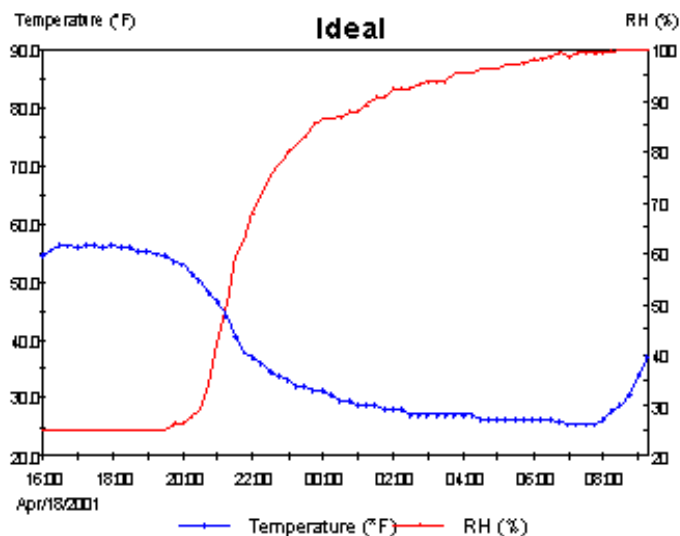
IRRIGATION MADE THE DIFFERENCE

Mike Mainland, Horticultural Science, NCSU
The following article appeared in the April 11th Pender Chronicle, remembering events 25 years ago. Mike Taylor, Pender County Library Director, prepares the "Pender Time Capsule":

25 Years Ago-April 14, 1976 -- Pender Farmers Hard Hit by Cold -- "The blueberry crop is finished!" was heard around Burgaw on Monday. "It's real bad" said Leonard Sansone, "from 75 - 90 percent loss depending on the variety and location." Sansone estimated the blueberry industry in Pender lost two million this weekend. Most growers estimate this April's cold has done more damage than the 1955 cold and definitely more than the 1963 cold. Reports from American Foods gives 18 degree temperatures in several fields. They estimate a 50 percent loss on strawberries. Pepper as well as tobacco will have to be reset.

The freeze of 1976 occurred on the morning of April 10th. Temperatures of 24°F were recorded at North Carolina State University weather stations in blueberry fields located in Pender and Bladen Counties. The station in a warm location in Duplin County recorded 28°F and the blueberry research farm near Castle Hayne was down to 20°F. As Mr. Sansone predicted the results were devastating. The 5-year average production, 1971-75 was 7.4 million pounds. In 1976, as a result of the freeze, production was 1.5 million pounds. This was an 80% reduction below the average. The 20% that was harvested came primarily from warm fields in Duplin County.

Conditions on the morning of April 19, 2001 (shown below) were very similar to those of 1976. Both were typical radiation freezes, with no wind. However, this time instead of an 80% loss statewide, the loss was probably less than 30%. The difference was irrigation for freeze protection. Almost no damage occurred in fields with irrigation protection. Without irrigation many fields lost the entire crop.



After 1976, the next severe freeze occurred on the morning of April 10, 1985. A field near Harrells in Duplin County was one of the few fields with freeze protection irrigation. In spite of temperatures as low as 18°F, there was a full crop at this site. Fields without irrigation had losses of 80 - 90 %. Seeing this successful use of the system for freeze protection prompted many growers to install irrigation.

Based on past frequencies of severe April freezes, the 16 years from 1985 to 2001 was an unusually long interval – but again in 2001, the importance of irrigation was proven.

NON-IRRIGATED FIELDS DAMAGED APRIL 19, 2001

Bill Cline, Plant Pathology, NCSU

Severe cold injury occurred in many fields in southeastern NC as a result of low temperatures on the morning of April 19. Where freeze protection irrigation was used, the injury was largely prevented. Generally speaking, temperatures must drop below 28°F for damage to occur on blueberry flowers and fruit. On the morning of April 19, temperatures at the NCSU Ideal tract near Castle Hayne were below 28°F for six hours - from 1:30 am until 7:30 am. The lowest temperature, shown near the far right of the graph on the previous page, was 25.5°F. Growers have reported temperatures as low as 18°F on the same night.

If your farm sustained a crop loss due to freeze and you are in one of the NC counties covered by the Federal Crop Insurance Corporation's blueberry pilot program, contact your insurance provider as soon as possible. Federal disaster support may also be available, but you must notify your local FSA office.

Mowing damaged fields -- We have observed some fields with injured stems caused by the cold temperatures. This type of injury often leads to infection by the blueberry stem blight fungus, and can result in entire canes dying back to the ground. In young bushes, this can kill the plant. In fields where the crop has been lost due to freeze injury, you may want to consult with your insurance provider about the need to mow off the

tops of bushes, both to remove this diseased tissue and to begin managing bush height for the 2002 harvest season.

DUPONT WITHDRAWS BENLATE FROM MARKET

Bill Cline, Plant Pathology, NCSU

On April 19, 2001, DuPont announced that by the end of the year it would cease selling the fungicide Benlate (benomyl), after 33 years on the market. The following statement was issued by the company:

WILMINGTON, Del, April 19, 2001 – Today DuPont informed its customers around the world that it will discontinue the manufacture of its fungicide benomyl and will phase out sales of Benlate® in all its forms from the global market. No sales will occur after December 31, 2001, and we expect all product will clear the channels of trade by the end of 2002.

DuPont advised customers that this is not a product recall, but a voluntary business decision based on a review of global market conditions and other factors. The decision is part of the recently announced restructuring to improve the overall competitiveness of its agricultural businesses. A significant element of the reason to withdraw is that the company is no longer willing to bear the high and continuing costs of defending the product in the U.S. legal system where factors other than good science can influence outcomes. In addition, there are significant ongoing costs and resources necessary to meet increased regulatory requirements around the world and keep the product active. The company believes those resources are better applied to other areas of the business. DuPont remains fully confident that Benlate® is safe when used as directed. The 30-year-old fungicide has been an excellent crop protection option for growers worldwide.

Additional comments from the *Pesticide Action Network North America*: “DuPont's legal and financial problems with Benlate began in 1989 when the company was forced to temporarily recall the product due to

contamination with the herbicide atrazine. In 1991, U.S. farmers filed hundreds of lawsuits against DuPont alleging that using Benlate caused millions of dollars in crop damages. After years of litigation, the company settled the majority of the claims at a total cost of approximately \$ 750 million. Although this was the largest settlement to date, it only marked the beginning of the company's legal troubles with Benlate.

In June 2000, DuPont was ordered to pay over \$100 million to two Texas fruit companies for damage to their orchards due to Benlate. And in December and February 2000, DuPont lost two separate lawsuits to Ecuadorian shrimp farmers and was ordered to pay US\$10.2 million and \$12.3 million respectively. The shrimp farmers contended that Benlate runoff from banana fields had poisoned their shrimp farms.

Total litigation costs associated with Benlate have so far cost DuPont an estimated US \$1 billion dollars, and the company has set aside additional money to cover future losses and litigation expenses bringing Dupont's total financial cost to an estimated \$1.3 billion dollars.”
(Source: PANUPS newsletter)

What does the loss of Benlate mean to NC blueberry growers?

Benlate has long been our standard recommendation for the control of several diseases – twig blight, leaf spots, blossom blight, and the secondary stage of mummy berry. Most of these diseases can be controlled with Fenbuconazole (Indar), but Indar is currently only available via Section 18 emergency registration, which must be renewed each year.

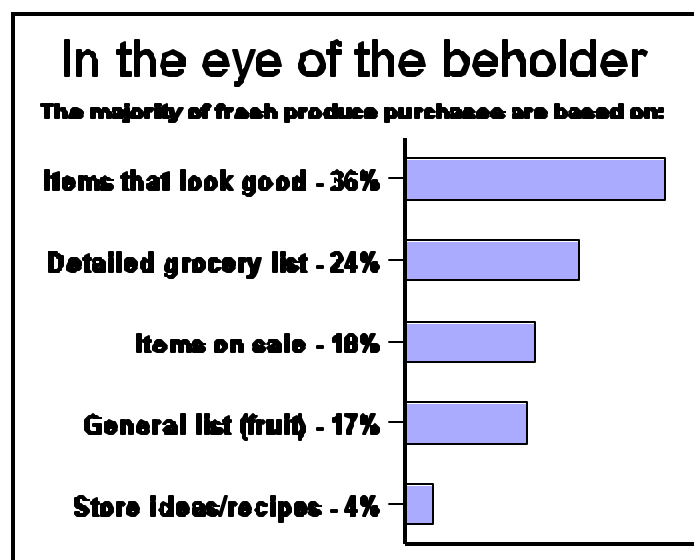
Contaminated Benlate was suspected of causing injury to blueberries on several farms in North Carolina in 1991. However, the benefits we have received over the years far outweigh any losses.

In the 1960s, Dr. Bob Milholland of the Plant Pathology department at NCSU demonstrated the activity of Benlate against blueberry stem canker caused by *Botryosphaeria corticis*. Although most of the canker-susceptible cultivars were already on the way out by the time Benlate was labeled for use, I suspect that it has

done us quite a lot of good in suppressing canker on susceptible new cultivars like O’Neal and Blue Ridge.

QUALITY IS THE KEY

An interesting table appeared recently in *The Grower*, illustrating the importance of “Eye Appeal” in the purchase of fruits and vegetables. While these findings have implications for advertising as well, the most important factor upon which purchases are based is whether an item looks good in the store.



(Source: *The Grower*/April 2001)

Perhaps the best way to enforce quality in the field is by having pickers harvest into buckets, then “pour up” field trays in front of a crew leader or field supervisor. Also, growers and crew leaders must emphasize certain key points:

- U** Sanitation– including regular hand washing. Remember that blueberries are a food product and are often eaten unwashed.
- U** Avoid rough handling-- “stripping” handfuls of fruit damages ripe berries and knocks off green berry clusters.
- U** When picking, get ALL ripe berries– ripe fruit left behind will be overripe by the next harvest.

(Continued)

U Keep filled containers in the shade – berries absorb heat and quickly “cook” in direct sunlight.

U Cool fruit as soon as possible -- forced-air cooling greatly retards postharvest decay.

Best wishes for a successful harvest season!

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) 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 PLANTS – Darden’s Blueberry Nursery, 106 Yellow Cut Road, Rose Hill, NC 28458. (910) 289-2849, nights.

FOUND – at the NC Blueberry Council's Open House in January – sunglasses, black frames, brown lenses, “Serengeti 6211” brand. Contact Bill Cline at 910-675-2314

North Carolina Blueberry News
NCSU Horticultural Crops Research Station
3800 Castle Hayne Road
Castle Hayne, NC 28429

FOR SALE – EIGHT HUNDRED 30-LB PICKING LUGS, in very good condition, \$2.50 each. Call Sam Rose, (910) 669-2624.

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

BLUEBERRY FARM – Hampstead NC - 25 acres planted - additional acreage available. One BEI harvester, complete automated packing line, two tractors, 2 trucks, and all needed equipment for maintenance and harvest including a 30' X 60' building with additional 24' X 60' covered loading dock. Contact Bob or Marcelle Austin at (910) 791-8826 e-mail maustin@cape-fear.net

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

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.