

# The Blueberry News

Official Newsletter of the Florida Blueberry Growers' Association

Fall Issue, 2003

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**Editor:** Jeff Williamson (Professor, Horticultural Science Department, IFAS, University of Florida)

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## Fall Blueberry Short Course

Thursday, November 6, 2003

Florida Farm Bureau Building

5700 SW 34<sup>th</sup> Street

Gainesville, Fla.

**8:30 a.m. Late Registration** - Pre-registration is required to guarantee you a meal.

**9:00 a.m. FBGA Annual Business Meeting** - Jerry Mixon, FBGA president, presiding.

**9:15 a.m. Welcome** - Ms. Carolee Howe, assistant director, Agricultural Policy, Florida Farm Bureau, Gainesville, Fla.

**9:25 a.m. Current status of Indar Section 18 exemption and other fungicides for leaf disease management in blueberry** - Dr. Jeff Williamson, extension horticulturist, Horticultural Sciences Dept., IFAS, University of Florida, Gainesville, Fla.

**9:45 a.m. Update on insect pest management in blueberry** - Dr. Oscar Libard, extension entomologist, Dept. of Entomology and Nematology, IFAS, University of Florida, Gainesville, Fla.

**10:05 a.m. Break**

**10:20 a.m. Suggestions for fertilization of southern highbush blueberry in pine bark culture** - Dr. Gerard Krewer, extension horticulturist, Department of Horticulture, University of Georgia, Tifton, Ga.

**10:50 a.m. Agricultural water use permitting in the South West Florida Water Management District** - Mr. Ron Cohen, agricultural and irrigation engineer, South West Florida Water Management District, Brooksville, Fla.

**11:15 a.m. Worker protection regulations and what they mean to you** - Mr. Dale Dubberly, chief of compliance and monitoring, Florida Dept. of Agriculture and Consumer Services, Tallahassee, Fla.

**11:45 Dormex distribution and availability for 2003-4-** Mr. Rick Hill, Fresh Berries, Inc., Jacksonville, Fla.

**12:00 p.m.** Adjourn for lunch (directions provided)

**Important Information about the short course -**

**Registration** - Enclosed, please find a *pre-registration form* for the Fall Blueberry Short Course. **This form must be returned**

**postmarked by October 25 to guarantee your meal. There is no registration fee for FBGA members provided their membership is up-to-date. Non-members will be asked to join, and delinquent members will be asked to renew their membership, or pay a \$20 registration fee per person.** You can join or re-new your membership at the door but we need to know who is attending so **PLEASE RETURN THE PRE-REGISTRATION FORM by October 25.**

**Directions to the Farm Bureau Building in Gainesville** - Traveling north on I-75, take the first Gainesville exit on the south side of town (Williston Rd. or Hwy 121 exit). Go about 1,000 feet east toward Gainesville on Hwy 121 and turn south (right) on Hwy 23 (Rocky Point Rd /S.W. 34<sup>th</sup> Street). The Farm Bureau building is less than 1 mile south on the right side of the road. Drive around to the opposite side of the building which is the front of the building and faces I-75. Park there and enter. If you are coming on Hwy 441, turn west on Williston Rd. and go toward I-75. Turn south on 34<sup>th</sup> Street (Rocky Point Rd.) Just before you get to I-75.

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## A Message From the President

Another season has come and gone. As usual, this season had its own unique events and things that made you scratch your head and say WHAT?? One of the things that perplexed many growers from Florida to Georgia, was a lack of pollination. In talking with those most affected, they could not recall when poor weather and insufficient number of bee hives per acre combined caused such a major decrease in the projected quantity of berries. One thing that did hold consistent was the sooner our marketers know about the "real" amount of berries the better job they can do of marketing our fruit. As I saw it, the marketers believed there would be, by some thoughts, a bumper crop of berries, particularly in the May window. With that knowledge, the marketers accordingly went about marketing our berries striving to get the best prices possible. When reality hit and there were as much as 50% loss on some farms, the pricing could not recover to be more in line with the "real" quantity of berries available. All this points to the fact that growers and marketers, particularly us as growers, must continue to strive to know what our fields will produce, giving our marketers the most up to date and **accurate** forecast possible.

Moving ahead, it looks like we are going to have some new variety releases by May 2004. According to Jeff Williamson, our Emergency Sect. 18 label for Indar has been renewed, and if yours is like my farm, you had a summer of excellent rain—at least until about two weeks ago.

I look forward to seeing you November 6<sup>th</sup> in Gainesville for our fall meeting. Be prepared to do the following:

1. Spend lots of money on our fund raising prizes. Due to its success in the spring, we will again have our silent auction. Remember this is the way we generate a large majority of our funds that go to research projects to help our farms be more productive.
2. Get your membership dues up to date for 2003 and if you feel so inclined pay for 2004. For some of you, this will be your last newsletter and meeting notification unless this is done. Remember, this is to generate funds for research projects.
3. Be prepared with an estimate of your Dormex needs for the coming winter. Orders usually need to be in by mid November.
4. And finally, be prepared to have a great time visiting with friends you may not have seen in a while and catching up on the latest.

See you in November,  
*Jerry Mixon*

## Indar Section 18 Exemption Renewed for 2003-4

As of September 15, 2003, EPA approved the request for renewal of the Section 18 exception for use of Indar to control leaf spot diseases on Florida blueberries. **This renewal is in effect until September 24, 2004.** If you plan to use the product, you will need to have the EPA approval letter in your possession. Your agricultural chemical supplier should have copies of this letter from EPA on-hand. Be sure to use *Indar*, not *Enable*. These are two formulations of the same active ingredient, although only Indar is approved for use on Florida blueberries. Our trials have indicated that Indar is quite effective against several leaf spot diseases that have caused serious problems for Florida blueberry growers.

## Blueberry Fruit Set as Related to Relative Humidity in North Central Florida During 2003

Southern highbush blueberries grown in north and central Florida normally flower from mid-February through mid-March and ripen from early April through late May. The cultivars range from partly to highly self-incompatible. Varieties are inter-planted to promote cross pollination, and 2 to 10 colonies of honeybees per acre are placed in fields during flowering. Native bees, notably southeastern blueberry bees (*Habropoda laboriosa*) and queen bumblebees (*Bombus* spp.) are also important in pollinating blueberries in Florida, but their abundance when needed for blueberry pollination varies greatly from year to year.

Following a cold winter, which provided above-average chilling, flowering was heavy in blueberry fields in north-central Florida during February and March, 2003, and in the absence of freeze damage, prospects seemed excellent for a large crop. By March 15, however, it was obvious in the Gainesville area that many berries on varieties such as 'Millennia' and 'Star' were not developing normally, and by early April, numerous undeveloped berries were falling from many varieties.

**Procedures.** Observations on flowering and fruit set during 2003 were made on two commercial blueberry farms in Alachua County, Florida, one near Archer and one near Windsor. Both farms are owned and operated by Straughn Farms. Each farm contained approximately 100 acres of blueberries planted on pine-bark beds at the rate of about 1800 plants per acre. The plants ranged in age from 1 to 10 years old on the Windsor farm and from 1 to 5 years old on the Archer farm.

Percent open flowers and percent corolla drop were recorded at various times during the flowering period for the major varieties and for numerous test selections. The fields were examined frequently throughout the flowering period to determine whether flower thrips, freezing temperatures, or botrytis flower blight were affecting pollination and fruit set. At several times during the period of berry development, the fraction of the berries that appeared to be developing normally was noted.

Flowering data for 2003 indicated that the period from 15 Feb. through 15 March included the days during which most of the flowers of all major varieties could have been pollinated at Windsor and Archer. The mean 24-hr relative humidities for these 29 days in 2003 were compared with climatic normals for the same period. Blueberry pollen sheds poorly from flowers during periods of high humidity, and cloudy, humid weather reduces bee flight. To obtain norms for relative humidity for the period 15 Feb. through 15 March, FAWN data from the Alachua station for the four years 2000 through 2003 were used. The data available were mean daily relative humidities at the 2 m level for each day.

**Discussion of Results.** 'Millennia' and 'Star' had large yield losses due to fruit drop and failure of many berries to size normally. 'Santa Fe' also had very poor fruit set, but was not as widely observed during the study. Numerous test varieties also suffered large yield reductions due to poor fruit set.

The plants at both Windsor and Archer entered the flowering season in good health with an abundance of flower buds. The plants flowered heavily and the flowers appeared healthy. The winter of 2002-2003 was unusually cold in north Florida, with almost twice the normal number of chilling hours in Gainesville. Damage from freezes was prevented after February 1 using overhead irrigation. Flower thrips in the blueberry flowers at Windsor were very few before March 18 but became abundant and damaging by March 20. Thrips were not a serious problem during the flowering of the southern highbush varieties on the farms observed for this study. If Botrytis blight was ever damaging at Windsor or Archer, it was only on the latest flowers of the latest varieties.

Pollination weather, as determined by mean daily relative humidity at the Alachua FAWN station from February 15 to March 15, was unusually bad during the flowering season of 2003 in Alachua. In addition, there were many rainy days during the pollination season. Only 3 days out of 29 were in the best 3 pollination-weather classes in 2003, compared to 12, 10, and 11 days for the previous three years. In 2003, 19 days were in the worst three pollination-weather classes, compared to 5, 9, and 8 for the three preceding years.

Examination of the pollination weather on specific days in 2003 relative to the stage of flowering of specific cultivars supports but does not prove the link between poor fruit set and bad pollination weather. For example, 'Millennia', on which only the first-open flowers produced normal-sized berries, had 20% open flowers on February 22, and the only two days with good pollination weather during 'Millennia's' flowering season were February 23 and 24.

Several varieties that flowered at approximately the same time as 'Millennia' and 'Star' had excellent fruit set. These include 'Emerald', 'Jewel', and 'Sapphire' as well as the test selections FL86-19, FL96-96 and FL98-358. Berry samples from these varieties were examined for seed content, and nearly all the berries had some well-developed seeds. There are several possible explanations for why these varieties were pollinated sufficiently during the same period that 'Millennia' and 'Star' were not being pollinated. Their flowers may have been unusually attractive to bees, the flowers may have had the ability to set fruit when self-pollinated, and the flowers of these varieties may have shed large amounts of pollen without the assistance of bees.

Although both 'Star' and 'Millennia' had much-reduced crops, apparently due to pollination problems, the two varieties behaved quite differently. Both varieties had 20-30% of a normal crop of large berries that ripened early. These early berries

constituted nearly the entire crop for the year for 'Millennia'. 'Star', however, after the early, large berries had been harvested, ripened numerous smaller but still marketable berries over a 3 to 4 week period. These late berries had few or no well-developed seeds. Thus, the ability of 'Star' to retain and bring to maturity seedless berries greatly increased its yield in 2003 compared to 'Millennia'. It is estimated that half of the pounds of fruit harvested from 'Star' in 2003 on these farms came from seedless or near-seedless berries that ripened 2 to 4 weeks after the seeded berries.

Several other observations worth mentioning were made during 2003.

1. Fruit set was not a serious problem in blueberry fields south of Orlando. These fields flowered 2-3 weeks earlier than in the Windsor-Archer area, at a time when the weather was much less rainy. Fruit set was poor on most commercial acreage of southern highbush blueberry in Clinch County, Georgia (Homerville area), where the flowering period was very wet. Five consecutive days of rain during the second week of April resulted in poor fruit set on 'Croatan', 'Reveille', and 'Bladen' which flowered during that time in eastern North Carolina. Fruit set on later-blooming varieties in North Carolina, such as 'Duke' and 'Bluecrop', was normal.
2. Fruit set was excellent in the high-density seedling nurseries at the University of Florida Plant Science Unit in Citra and at the University of Florida Horticultural Unit in Gainesville. Both locations are within 30 miles of Archer and Windsor. This can be explained by the relatively small acreage at both locations, which probably resulted in a high bee number to flower number ratio.
3. In Windsor and Archer, 'Millennia' and many other varieties dropped a large number of undeveloped berries 4-5 weeks after the flowers opened. Many of the berries that appeared to be undeveloped on 'Star' at that time continued on the bush and ripened late in the season as smaller berries.
4. Several growers in north Florida and southeast Georgia reported that bumblebees and/or southeastern blueberry bees were numerous in blueberry fields before heavy rain fell on February 16, but were almost entirely absent thereafter.

**Summary and Conclusions.** Reduced fruit set observed on many southern highbush varieties in north Florida and southeast Georgia in the spring of 2003 was probably due, in part, to frequent rains and high relative humidity during the time of flowering. Although pollination weather this bad is not frequent during the period of blueberry flowering, poor pollination is always a possible cause of reduced yields. It is expected that pollination issues will become increasingly important as the size of blueberry farms increases. Ways to minimize pollination problems in blueberries include maximizing the availability and activity of both native solitary bees and honeybees, inter-planting in close proximity highly cross-compatible varieties that shed pollen abundantly, and choosing varieties that are easy to pollinate.

## **Blueberry Products and Services**

**Bob's Blueberry Farm and Nursery.** West Pasco County. (727)863-4214 or toll free (888) 654-4214 Year around plant sales, southern highbush blueberry plants, all sizes and varieties, over 40,000 on hand. Call for prices and availability. Plan ahead, have the plants you need when you need them. Lic. no. 47227344.

**Call the Doc!** Doc Applications, Inc. is booking orders for the fall 2002 and beyond. We grow the latest varieties including Gulfcoast, Sharpblue, Sapphire, and Emerald bare root and in containers. Call Dave Weber (863)325-8215 for price and availability. Lic. no. 47219637.

**Elixon Wood Products, Inc.** Pine bark - shredded, nuggets, or fines available. Ph (904) 964-6649.

**Honey Bees for Blueberry Pollination.** We use the Buckfast strain, which pollinates at temperatures 20 cooler than other strains. Bees guaranteed for strength. \$20.00 per hive. Call Robbie Bell toll free (800) 822-1558; home (863) 285-7785; mobile (863) 698-9525.

**Island Grove Ag. Products.** Don't buy plants until you've talked to us. We have all varieties including the new highbush releases from U of F. We will grow specifically for your needs. Call Sheri Brothers or Ken Patterson at (352)481-5558. Lic. no. 47217870.

**Jacto Sprayers.** Save time and chemical cost with a Jacto Airblast Sprayer. Jacto is the number one sprayer in the blueberry and nursery industry and has proven itself in helping productivity. For more information or a demonstration, call Kenny Mitchem at Henry Mitchem Equipment, Leesburg, FL at (352) 787-4109.

**Miller Blueberry Nursery.** Rt. 3, Box 5700, Palatka, FL 32177, Telephone (386) 325-7373. Let us supply your blueberry plants. All varieties. All sizes. Bare root and potted. Please call for prices. Lic. no. 04720531.

**Mixon Family Farm, Inc.** We have excellent quality blueberry plants for sale. We have Misty as well as all the newest releases from the University of Florida including Sapphire, Jewel, Star and Sante Fe. We will custom grow for your specific needs. Call Jerry Mixon (863)439-8335 for price

and availability. License no. 472255191

**My Blue Heaven Blueberry Nursery.** Southern highbush varieties. Centrally located in Dade City. Give us a call, we're happy to help. Debra Troyer (352) 567-4256, 18414 Lawrence Rd., Dade City, FL 33523. Lic. no. 47221916.

**Strickland Blueberry Farms and Nursery.** 4956 Slaten Rd., Plant City, FL 33567. Phone (813) 754-3866. FAX: (813)754-8717. 'Gulfcoast' and 'Sharpblue' in 1, 15 and 25 gal. containers. Large quantities available. Come see an alternative planting method. Lic. no. 47220729.

**Twenty-nine Acre Farm** established in 1976, 5 acres are planted to blueberries, 7 more acres are ready for planting, and 17 acres in pine and cypress. All hwy frontage. Residence, 2 barns, tractor, overhead irrigation. Will divide if needed. Exc. pH levels. 3 miles north of Hwy 40 on C-314, Silver Springs, Marion County (352) 625-2378. Lester and Arlene Dinkins.

### **Advertising Information**

We welcome advertising from blueberry nurseries and suppliers. The cost is 30 cents per word per issue of the newsletter in which your message appears. Send your blueberry-related message and a check payable to **FLORIDA BLUEBERRY GROWERS' ASSOCIATION** to our address given below under membership information. Advertisements and claims therein do not constitute an endorsement by the Florida Blueberry Growers' Association or the University of Florida.

### **Membership Information**

To join or renew your membership to the Florida Blueberry Growers Association, mail a check payable to **FLORIDA BLUEBERRY GROWERS' ASSOCIATION** to our address at:

Florida Blueberry Growers' Association

P.O. Box 141733

Gainesville, FL 32614

**The Association annual dues depend on which membership category you fit best.**

1. Regular Florida Member - \$10.00 per acre of blueberries, except a minimum of \$50.00 and a maximum of \$200.00.
2. Out-of-state member - \$50.00
3. Associate member - \$100.00 (Equipment and chemical companies, etc.)
4. Educational and Research - \$10.00 (University and USDA personnel who do not grow blueberries commercially)

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