

Dixie Blueberry News

Georgia Blueberry Growers Association Newsletter

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Note: This is your last newsletter if you have not paid your membership. People who have paid membership have a *02 in front of their name on the mailing label. See the last page for membership information. Thanks

President's Column

by Rusty Bell

With the end of the first year as an Association, I'm pleased with the interest in our group. I have talked to several new members around the state in areas that I did not know had blueberries and I'm glad they have joined our organization.

The GBGA board is working on a project to promote blueberries in our schools in Georgia. With the recent USDA purchase of 5.5 million pounds of frozen blueberries, we are using some blueberry recipe cards and fact sheets that North American Blueberry Council has suggested for children's lunches and sending these to each school system dietician in Georgia.

We still need more members, so consider joining. It only costs \$25 per year. I hope everybody is going to Savannah for the 11th Biennial Southeast Blueberry Conference on Jan. 10-11, 2003, which is a good time to remember to bring a check for the Georgia Blueberry Growers Association membership.

Some Considerations for those Pondering Southern Highbush Blueberry Production

by D. Scott NeSmith
University of Georgia - Griffin Campus
Griffin, Ga.

The rising popularity of blueberries among consumers has many growers considering expanding production in Georgia. Also, new grower interest is being stimulated. Historically, Georgia blueberry production has been almost exclusively rabbiteye varieties, but in recent years, southern highbush blueberries have become increasingly popular. Typically, southern highbush varieties ripen early in the season, bringing potentially higher prices. However, these prices are offset by greater production costs and increased grower time as compared to rabbiteye blueberry production. I offer the following thoughts for new growers to consider as they explore southern highbush production in Georgia.

My number one piece of advice to those considering growing highbush is: management, management, management! This is not to imply that rabbiteye blueberry production does not require management; however, southern highbush typically require more attention by growers. For starters, southern highbush are more difficult to establish in a wide range of soil. These blueberries are much more vigorous in soils high in organic matter, and such soils are not widespread in Georgia. If a grower can locate an area of soil on his or her farm that is considered spodic soil, then this would be desirable for highbush blueberries. Contact your local County Agent or Soil Conservation Service Office, and they can give you

guidance concerning soil types located on your farm from soil maps. Typically, newly cut pine timber land is higher in organic matter. However, row crop land and areas that have been cleared for a number of years are very low in organic matter content. Especially be wary of using old row-crop land for blueberry production because soil pH is usually too high from previous liming. Both rabbiteye and southern highbush blueberries thrive best on acid soils, with soil pH values between 4.7 and 5.0 being ideal. When pH values exceed 5.2, blueberry growth and establishment is sluggish. You should always have a soil test run on sites you are considering for blueberry production. It is very difficult to correct soil pH problems after you plant!

So, what if you do not have high organic matter soil, is southern highbush blueberry production possible? The answer is yes, if you amend the soil with an organic material. The most suitable organic material for soil amendment and mulching for southern highbush blueberries is pine bark. This can be obtained from various sawmills across Georgia, but be aware that pine bark sources are becoming more limited, and the cost of the by-product is increasing. You can spread and incorporate the bark, apply a veneer or layer of bark as mulch, or some combination of both. Typically, a band of bark 3-4 ft. wide by 4-6 in. deep is a nice beginning mulch layer. You will need to add bark to the plants over time (perhaps every 3 to 5 years) to maintain good production. One caution when obtaining pine bark is know your source. There have been instances where pine bark came from lumber yards with limestone mixed in. Like soil, this limestone can cause the pH of the bark to be too high for suitable blueberry production.

Another problem associated with southern

highbush production is freeze damage during bloom. Southern highbush varieties generally are grown for their early production, and this early production is associated with earlier bloom dates, thus, subjecting plants to higher probabilities of freeze damage. Because of the early bloom dates, it is highly recommended that growers only produce southern highbush blueberries in areas that they can frost protect (likely with overhead irrigation). Using overhead irrigation for frost protection requires considerable knowledge of water delivery rates, weather, plant growth stages, and other issues. This is another area where a high level of management is required, and growers are urged to educate themselves concerning overhead frost protection before you ever begin production. There are a few southern highbush varieties that can be produced without frost protection due to their late bloom dates, however, the currently popular varieties typically bloom early. One of the goals of the University of Georgia's Blueberry Breeding Program is to develop later blooming southern highbush blueberries that still have the desirable early ripening dates.

While the above two issues, soil organic matter and freeze risk, are major factors to consider in production of southern highbush blueberries, they are not the only issues. Highbush blueberries seem to be more attractive to deer, and therefore, deer feeding damage is more common. In some areas, most of the blueberry crop can be lost to deer feeding on shoots, blooms, and fruit. Another major pest can be birds. The early ripening fruit of southern highbush often coincides with certain migratory birds that love them. Also, because these fruit are some of the first to ripen, they attract many native birds as well, particularly in small production areas

surrounded by woods. So, deer and bird protection measures may have to be considered for successful production of southern highbush blueberries.

One way to combat several of the problems of growing southern highbush blueberries is to produce the crop in a smaller, high density environment. This requires using pine bark to make production beds, coupled with overhead irrigation for water supply and frost protection. Plants are placed very close together (perhaps a 3 ft x 5 ft spacing as opposed to the 5 ft x 12 ft spacing typically used for rabbiteye blueberry production). These areas can also be protected from deer and birds by fencing, netting, or other means. High density blueberry production has been used for years in Florida with success. However, the concept is relatively new to Georgia growers. Like all new production systems, "bugs" have to be worked out, and modifications have to be made to suit individual growers. It is recommended that one start with a small high density production system to determine if this method of production suits your management style. Also, the cost of high density production can be \$10,000 to \$15,000 per acre, which is another reason to start small. You need to choose your cultivars wisely in order to have the highest value crop possible when producing in this environment. Research is under way at the University of Georgia Blueberry Research Farm to screen varieties and selections of southern highbush blueberries for production in high density systems.

These are only some of the major issues associated with highbush blueberry production in Georgia. You also will need to pay attention to irrigation (don't keep too wet or too dry), fertility, and pruning. Southern highbush blueberries will become increasingly important

to Georgia's blueberry industry; however, they may not (likely will not) be for everybody. These are just a few thoughts for your consideration. Good luck!

Report from the 9th North American Blueberry Research and Ext. Worker Conference

by Gerard Krewer, Ext./ Res. Horticulturist

In mid-August I had the privilege of attending a conference and tour on blueberries held in Nova Scotia.

A number of items of interest to Georgia growers came out in the meeting, tours and conversations.

Dr. Eric Hanson reported on a long term calcium (lime or gypsum) application study in Michigan on blueberry yield and quality. In a field with a pH of 4.2 there was no response to calcium in relation to yield and fruit quality.

Dr. Steven Javorek spoke on the need to maintain a diversity of wild flowers near low bush blueberry fields for maintaining populations of native bees. The more wildflowers in the area, the greater the number of wild bees working the blueberry crop. He also addressed field shape. Long, narrow blueberry fields surrounded by natural areas had higher populations of native bees than big square fields. The lesson here is: 1). If you want to promote populations of native bees, do not destroy fields of native wild flowers by mowing or harrowing during the summer. 2). Leave natural areas for nesting and native bee foraging around blueberry fields when possible.

Mr. Bill Cline from North Carolina spoke on problems with diseases in blueberry

propagation beds. *Cylindrocladium* fungal rot was the most common problem in N.C. Reusing infected rooted media resulted in complete loss of cuttings. However, methyl bromide fumigation was successfully used to sanitize infested media. The lesson for Georgia is always use clean, fresh, well drained media when propagating blueberries. I also like the idea of using one and two gallon pots instead of beds for propagation. If a pot becomes diseased infested, discard it. A one gallon pot will hold about 15 cuttings and a two gallon about 30 cuttings. Flats with deep cells (about four inches) are also a good choice. Spraying a Benlate (1 tablespoon per gallon) / Captan (4 tablespoons per gallon) mixture about once a week on the cuttings (after the mist goes off in the evening) can also be helpful, if diseases are a problem.

Dr. Willy Kalt from Nova Scotia spoke on some recent health benefit discoveries. Blueberries reduced damage to the brains of rats recovering from strokes.

Drs. Danka, Sampson and Villa reported on bee foraging activity and fruit set in Tifblue in Mississippi. Twenty-one fields were monitored and fruit ranged from 44-91%. Fruit set was positively related to densities of southeastern blueberry bees and honey bees. Maximum fruit set was reached at densities of about 0.5-1 southeastern bee or 4-5 honey bees per 1000 open flowers. There were not many bumblebees present the year of the study. Bee activity and fruit set were greater in smaller fields.

Blueberries May Help Old Folks Keep Their Smarts

By Anne Harding

BOSTON (Reuters Health) - A cup of

blueberries a day may keep “senior moments” away, new findings suggest.

A team of Massachusetts and Florida researchers has shown that the fruit reduces aging-related damage in rat brains, and can also prevent mental decline in mice genetically engineered to develop Alzheimer’s-like plaques in their brains.

The findings, along with early results from human study, suggest a healthy diet can go a long way toward preventing the mental decline that often accompanies aging. Dr. James A. Joseph of the Center on Aging at Tufts University in Boston and USDA Human Nutrition Research told Reuters Health.

Joseph presented his findings here Monday at the American Chemical Society’s annual meeting.

Cell-damaging products of normal metabolism known as free radicals can injure tissue, an effect known as oxidative damage. Antioxidants – found in several fruits and vegetables, including blueberries – help prevent this damage, which has been implicated in a number of conditions including cancer, Alzheimer’s and heart disease. Oxidative damage is also a factor in aging.

Aged rodents that consumed the human equivalent of one cup of blueberries a day showed less oxidative damage in tissue from two distinct brain regions, Joseph and his team found.

To evaluate whether this effect might extend to behavior, Joseph and colleagues David Morgan, Gary Arrendash and David Diamond from the University of South Florida, put mice through a three-armed maze.

Half of the mice were genetically engineered to develop Alzheimer’s-like plaques in their brains, while the rest were not. In each group, half of the animals were given blueberry-based pellets.

Testing began when the mice were young, before the genetically modified animals had developed plaques. The study lasted a year.

The mice with pseudo-Alzheimer’s that didn’t eat blueberries performed worse and worse on the maze over time. But the genetically modified animals given blueberries showed no decline, they performed just as well as normal mice, even though they still developed plaques.

Joseph said he believes the berries’ brain protecting power goes beyond its known antioxidant and anti-inflammatory effects. Blueberries seem to “directly influence the way neurons communicate,” he told Reuters Health.

Preliminary results from a new study, he added, show that people who ate a cup of blueberries a day appeared to be protected from aging-related mental decline. Joseph expects the study will be published late this fall.

The next steps, the Boston researcher said, will be to do more tests in transgenic animals, evaluate which chemicals in blueberries find their way into the brain, and study how the fruit might be protecting the brain.

11th Biennial Southeast Blueberry Conference

Savannah Civic Center

Friday, Jan. 10 and Sat., Jan. 11, 2003

Friday, Jan. 10

11:00 a.m.-5:30 p.m. Trade Show Open

Moderator: Mr. Bob Boland, County

Extension Coordinator, Brantley Co., Ga.

Sat., Jan. 11, 2003

1:30-1:40 p.m. Welcome: Mr. Donnie Morris, Incoming President, GVGA and Georgia Representative, U.S. Highbush Council, Baxley, Ga.

1:40-2:00: Spreading the blueberry message at home and abroad, Mr. Mark Villata, NABC and U.S. Highbush Council, Eldorado, Cal.

2:00-2:20: Performance of new southern highbush cultivars, Dr. Paul Lyrene, UFL, Gainesville, Ga.

2:20-2:40: Fertilizing southern highbush in pine bark culture, Dr. Gerard Krewer, UGA, Tifton, Ga.

2:40-3:00: Pruning southern highbush blueberries, Dr. Jeff Williamson, UFL, Gainesville, Fla.

3:00-3:30: Break-Visit trade show

3:30-3:50: Blueberry weed control in pine bark beds, Dr. Mark Czarnota, UGA, Griffin, Ga.

4:10-4:20: Bush diseases of southern highbush blueberries and their control, Dr. Barbara Smith, USDA, Poplarville, Ms.

4:20-4:40: How to use the Georgia Environmental Monitoring Network to help with freeze protection, Dr. Gerrit Hoogenboom, UGA, Griffin, Ga.

4:40-5:00: Deciding when to turn on and turn off overhead irrigation for freeze protection, Dr. Paul Lyrene, UFL, Gainesville, Fla.

8:30a.m.-11:00: General Session- TBA

11:00 a.m.-2:30: Trade Show

Moderator: Mr. Danny Stanaland, CED, Bacon Co., Ga.

2:00-2:15 p.m.: 'Ochlockonee', a new cultivar of high-yielding rabbiteye blueberry, Dr. D. Scott NeSmith, UGA, Griffin, Ga.

2:15-2:35: Understanding nozzles and how they are used in disease, insect and weed control, Dr. Tim Crocker, UFL, Gainesville, Ga.

2:35-3:05: TBA

3:05-3:25: Update on thrips research, Dr. Blair Sampson, USDA, Poplarville, Ms.

3:25-3:35: Research results with CPPU on blueberries, Dr. D. Scott NeSmith, UGA, Griffin, Ga.

3:35-3:50: Break

3:50-4:10: Blueberry leaf spots: epidemiology, yield losses and control, Dr. Harald Scherm, UGA, Athens, Ga.

4:10-4:40: New equipment
Dry destemmer and soft berry machine, Mr. *Jeff McKibben, McKibben Mfg., Grand Junction, Mich.
*Reverse belting, fill by weight machine, on-top fruit handling machine, Mr. "Butch" Greiffendorf, BBC Technologies, South Haven, Mich.
*Ozone sanitation machine, Mr. Roy Sykes, Sykes and Sykes, Inc., Ivanhoe, NC

4:40-5:00: Benefits of IQF processing of rabbiteye blueberries, Dr. Romeo Toledo, UGA, Athens, Ga.

5:00-5:30: New discoveries about blueberry health benefits, Ms. Barbara Shutkitt-Hale, USDA Human Nutrition Research Center on Aging, Boston, Mass.

5:30-5:45: Business Meeting of the Georgia Blueberry Growers Association, Mr. Rusty Bell, President, Bristol, Ga.

For registration information call:

GFVGA toll free at 1-877-99GFVGA (1-877-994-3842)

Registration before Dec. 21, 2002

Full conference: \$95 (includes one lunch and reception)

Friday only: \$45

Sat. only: \$60 (includes lunch and reception)

Trade show only: \$25

*At this time the Marriott Courtyard (912-790-8287), a new hotel next to the Civic Center still has rooms. Price is \$99 if you mention "Fruit and Vegetable Conference" before Dec. 9, 2002.

*Days Inn (912-236-4440) on Bay Street (across street from Hyatt), has rooms for \$86 till Dec. 9, 2002. Mention "Fruit and Veg. Conference"

*Hyatt Regency (912-238-1234), at the time of this writing, rooms at the special rate were sold out.

Other Upcoming Blueberry Meetings

*Fla. Fall Meeting, Oct. 24, 5:30 pm., Bartow, FL (RSVP) 352-392-1996 Ext. 226 or 303

*Deep South Meeting, Dec. 4-6, 2002 Biloxi, Ms., call 601-892-3731

*NC Blueberry Open House, Jan.13-14, 2003, Clinton, N.C., call 910-675-2314

Suggestions for 2003 Planting

by Gerard Krewer

What to plant? No cultivar is perfect, but some perform much better than others. Here are a few suggestions for new plantings in various parts of the state. The ones I think should form a major part of the planting are listed as Major and the cultivars I would suggest planting in smaller quantities are listed as Minor. The southern highbush cultivar selection situation is somewhat cloudy, but this is what I would plant at this time.

Lower South Georgia:

Southern highbush: Star (major), O'Neal (minor), Emerald (minor, new, blooms early but is cropping OK in Clinch Co.), Millennia (minor, new)

Rabbiteye: Alapaha (major), Austin (major), Premier (minor-unless you are hand picking), Brightwell (major), Powderblue (major)

Upper South Georgia:

Southern highbush: Star (major), O'Neal (major), Millennia (minor, new); Bladen (major) pollinate with Reveille (minor)

Rabbiteye: Same as Lower South Georgia

Piedmont: Rabbiteye: Alapaha (major), Austin (major), Brightwell (major), Powderblue (major), Tifblue (major), Ira (minor, new, late blooming

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Blueberry Products and Services: Do you have blueberry plants, equipment or related items for sale? Call 229-386-3807 and we will list it in this newsletter. There is no charge for members for this service. Up to three lines free. Additional

words \$.30 per word.

*Blueberry Farm for Sale, 60 acres, 25 acres of blueberries, two-six inch wells, pond, 30x50 metal building, Dublin, Ga., Bennie Fitts, 478-275-1984

*Rabbiteye plants for sale, 1 to 3 gallon, Bottoms Nursery, 770-884-5661, Concord, Ga.

Rabbiteye and southern highbush plants for sale, liners to 3 gallon, Alma Nursery, 912-632-5708, Alma, Ga.

Island Grove Ag Products: Don't buy plants until you have talked to us. We have all southern highbush varieties. We will grow specifically for your needs. Now taking orders. Call Ken Patterson (352) 481-5558

Sandy Run Farm and Nursery. Jubilee, Biloxi, Misty and Pearl River southern highbush for sale. Tim Goggans. 601-296-0630 or 601-286-7952.

Membership Information

To join the Georgia Blueberry Growers Association, mail a check payable to **Georgia Blueberry Growers Association** to our address:

Danny Stanaland, Sec./Treasurer
Georgia Blueberry Growers Association
Bacon Co. Ext. Service, 203 S. Dixon St., Suite 3, Alma, Ga. 31510

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

Jan. 1-Dec. 31, 2002 Membership:

1. Regular Georgia Member-\$25
2. Out-of-state member- \$25
3. Associate (industry) member-\$50
4. Education and research-\$10 (University and USDA personnel who do not grow blueberries commercially). Email newsletter free to education and research personnel. Send request to gkrewer@uga.edu