



The Berry Basket

Newsletter for Missouri Small Fruit and Vegetable Growers

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Blueberries: "Fruit of the Year"

by Ben Fuqua

The first commercial highbush blueberry plantings in Missouri were established nearly 25 years ago. Since that time, both growers and researchers have gained a great deal of knowledge about the culture and marketing of this unique crop. Blueberry plants require rather specific soil conditions for optimum growth and berry production. To meet these requirements, Missouri growers have modified many of the cultural techniques commonly used in the more established blueberry producing areas. Soil acidification, drip irrigation, mulches, fertilization, and cultivar (variety) adaptability had to be changed for Missouri's soil and climatic conditions.

While growers were learning the ins and outs of how to grow and care for the blueberry plant, they also had to develop marketing strategies, plan advertising and product promotion, and educate consumers about this new crop. Growers have received a tremendous boost in promoting and educating the public about blueberries from the Blueberry Council of Missouri (the growers' association). The results of these activities are impressive; consumers like blueberries and there is a great demand for fresh, locally grown berries. The favorable comments on the blueberry sauce served by the Council at the Agri-Missouri's Legislative Appreciation Dinner and the Governor's Conference of Agriculture are proof that people have become quite familiar with this delicious, blue-colored berry. The 40+ pies, cakes, muffins, and

From the Editors

by Marilyn Odneal

We would like to wish the State Fruit Experiment Station a Happy 100th Birthday. The Centennial of the Experiment Station was celebrated on October 2 of this year and is featured in this issue of the Berry Basket.

The Paul Evans Library of Fruit Science now has a head librarian - Suzi Teghtmeyer. Suzi shares some internet resources with you in her article on page 4. Visit our website at <http://mtngrv.smsu.edu>. To subscribe or unsubscribe to the Berry Basket Newsletter go to <http://mtngrv.smsu.edu/newslet.htm>. For University of Missouri publications go to <http://muextension.missouri.edu/xplor/index.htm>. Surf on!

Please direct comments or suggestions to:
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internet: <http://mtngrv.smsu.edu>

bread entered in the “Blueberry Delight” contest at the 1999 Ozark Empire Fair are further evidence that blueberries have become a favorite fruit in Missouri. Although these tasty blueberry treats usually get the most attention, there are several other factors that have also helped make the blueberry a very popular fruit with consumers.

Availability: Blueberry season fits nicely between the strawberry and bramble harvests in Missouri, thus consumers can enjoy fresh fruit for most of the summer. Blueberries in Missouri normally start to ripen in early June and continue until mid-July (although late-maturing cultivars such as Coville and Lateblue can produce ripe berries until August). Blueberries ripen over a four to five week period, with the greatest yields and largest berries being produced during the first three weeks of harvest. Fresh, locally grown blueberries are available at the grower’s farm and can usually be purchased at other markets such as Farmers’ Markets, small groceries, roadside stands, etc.

Easy to Pick: Many people still like to pick their own blueberries. They seem to enjoy the getting out into the fresh air and being rewarded for their efforts with high quality blueberries. Surveys have shown that consumers usually pick 1 to 3 gallons per visit and often return to pick additional berries during the same harvest season. Customers like blueberries because they are “easy” to pick. Blueberry plants do not have thorns; most of the berries can be harvested while standing; mulches provide a nice cushion for knees when picking berries on lower branches; and blueberries can be harvested without climbing ladders. Most customers also like the fact that blueberries have no or minimal pesticides applied to the fruit.

Multiple Uses: Blueberries are a very versatile fruit. They are delicious as fresh fruit and can be eaten immediately after harvest. Blueberries can be stored for 10 to 14 days in the refrigerator (37 to 40° F) without loss of quality. (Recently, I had two people tell me that fresh blueberries were refrigerated for 4 weeks without appreciable deterioration.) Fresh blueberries can also be processed into pies, cakes, muffins, sauces, and other delightful treats. Blueberries can be frozen and

later used in place of fresh berries in most recipes.

In a survey recently conducted by the North American Blueberry Council (NABC), consumers stated they were willing to pay up to 30% more for products containing real blueberries. A large number (81%) of those surveyed stated that they were less likely to buy a product if they knew it contained artificial blueberries.

Blueberries are “Good for you”: Blueberries are receiving a lot of press as being the “healthy” fruit. Studies by the USDA at Tufts University have shown blueberries to be high in antioxidant phytonutrients and anthocyanins (blue color) that may help prevent cancer and slow the effects of aging. Another USDA study indicated that phytochemicals contained in blueberries may slow and actually reverse declines in motor skills, memory losses, and other age-related problems. Blueberries (and cranberries) are known to contain compounds that help prevent urinary infections. A recent study in Japan, found blueberry extract to be beneficial in preventing weak eyesight and in relieving tired eyes. Blueberries are also rich in Vitamins A and C; are high in fiber, low in calories and contain 0% cholesterol.

Summary: With all the positive attributes of blueberries, it’s easy to see why blueberries have become a favorite with consumers in Missouri in a rather short period of time. Blueberries were named “Fruit of the Year” by the Eating Well Magazine, attesting to its popularity with consumers. Blueberries are now the second most popular berry in the United States. While consumption of blueberries in the United States has increased 50% in the last 10 years; we can brag that consumption of “Missouri grown” blueberries has increased 100% in less than 25 years!

Blueberry Council News

by *Bob Hershey*

The Summer, 1999 edition of Northland Berry News had an article on this most important issue. The USDA was seeking comments on establishing a blueberry promotions, research and information order. The full proposed rule was published in the July 22, 1999 Federal Register with comments to be received until September 20th. I obtained a copy of the 13 page order off the Internet at www.ams.usda.gov/rpdocketlest.htm.

The North American Blueberry Council is recommending our industry support this national promotion program. The NABC represents about 70% of the grower groups, importers and exporters of blueberries in the United States. Folks, we as members of the Blueberry Council of Missouri, represent about 4/10ths of 1% (0.4%) of the nation's production of blueberries.

As president of the Missouri Blueberry Council, I knew we had to respond to this issue and at least be recognized. I conducted a phone poll of the officers and board members and outlined the following highlights of the proposed rule:

1. The rule will include all growers who produce over 2,000 pounds of blueberries, all importers and exporters in the USA.
2. The proposed check-off is \$12.00 per ton.
3. Importers will have to pay at port of entry.
4. The sole function of a national program is to generate dollars to fund generic market development and research activities. These research funds will benefit all growers.
5. Unlike a federal marketing order, this USABC program would not be involved in pricing, volume control, nor can funds be used for lobbying activities.
6. The fund is expected to generate 1.1 million dollars per year, and is a five year plan. A referendum vote would be held after 5 years.
7. The following quote from Paul Otten, editor of the Northland Berry News, sums up this proposal as well as anyone could. "We hope that our fellow blueberry growers will seriously consider and support the establishment of the

USA Blueberry Council so that we can all work together to create greater blueberry awareness and interest, increase consumption and gradually improve returns to our industry."

A copy of the letter sent on behalf of the Blueberry Council of Missouri to USDA on September 16, 1999 follows:

"The officers of the Blueberry Council of Missouri wish to add their support to form a USA Blueberry Council. A phone poll of the officers and directors was taken by the president. All eight officials were contacted with (6) six in favor of a USABC and (1) one opposed and (1) one abstaining vote.

The blueberry industry in Missouri is small. Less than 1/2 of 1% of the nation's production is from Missouri. Most of Missouri blueberry farms are small, 3 acres or less. The great majority of blueberries produced here are direct marketed or consumer picked. As U-pick operations are the norm here, we as directors would like to address the following questions:

1. How will this order affect U-pick farms?
2. What type of record keeping will be required by U-Pick operators, if any?"

(signed, Robert L. Hershey
Blueberry Council of Missouri)

Notice to Blueberry Council members: Just reminding you that on Sunday, December 12, the 1999 Taste of AgriMissouri Reception for the Governor's Agriculture Conference will be held. Volunteers are needed to provide blueberry sauce and serve it at the event. Contact the board secretary, Ronnie Hershey during the day at (573) 547-4502 or at home (573) 547-4448 if you wish to volunteer.

The Missouri Small Fruit Conference will be held on February 21, 22 and 23 (Monday, Tuesday and Wednesday). The Blueberry Council of Missouri will hold the Annual Business Meeting on Tuesday directly after the last session ends tentatively at 5:15 p.m. Please plan to attend. We will be electing new officers and this is the only meeting we will have before blueberry season starts, and we do need members input on projects, advertising ideas, brochures, flyers, etc., that you feel is beneficial, to help promote blueberries.

Anyone wishing to go ahead and pay their dues for the year 2000 may do so by sending their check to:
 The Blueberry Council of Missouri
 Ronnie Hershey – Secretary/Treasurer
 2607 PCR 616
 Perryville, MO 63775
 \$35 for membership, \$15 non-production membership.

By paying dues before January 31, I can have a current membership list ready for the Annual Meeting. Please note any changes to address or phone. Also, add the year you planted your first blueberries and the number of acres you now have. If you have “value-added” blueberry products which other farms may purchase, please note this or provide a price list.

Small Fruit Grower Association News

by Rex Whipple

Wow! What a hot summer we had in Missouri in the central and southern part of the state. The lack of rain adversely affected the blackberry crop. We feel that the very hot, dry summer probably will reduce next year’s strawberry yield. Most growers we have talked to ran out of irrigation water. The farmers in our area of the state are using this dry time to clean and bulldoze their ponds. My neighbors tell me that this has been the driest summer since 1936. All we can do is keep the faith, the weather will change.

Our farm is closed for the season. Our last crop of the year was pumpkins. Now is the time to do all the year end chores, such as putting straw on the strawberry field. We usually do this on Thanksgiving weekend when we have some free labor from the family. Several years ago we purchased a straw mulcher from Rusty Leffingwell Ag. Sales. He is at our winter conference in Springfield as a vendor. You might want to talk to him about this equipment.

This is also the time to do some planning for next year. Some of the areas you might think about are: shall we enlarge our production? What about

advertising, was it effective? Shall we consider some new or different equipment? What about value-added products, are they selling well? Do they have good eye appeal? Is the quality good? Do we have a good plan for marketing our farm? Isn’t the question really IS THIS A BUSINESS OR A HOBBY?

Thanks for letting me bend your ear for a few minutes. Don’t forget if you haven’t paid your dues, please do so as soon as you can. My family at Whip Haven Farm prays for you to have a wonderful Holiday Season. We hope to see all of you in Springfield.

Blueberry Festival

by Bob and Ronnie Hershey

We attended the 36th National Blueberry Festival, August 12-15. The four day event at South Haven, Michigan is at the peak of harvest season in a town which proclaims itself the “Blueberry Capitol of the World”. South Haven and Van Buren County is truly the hub of the blueberry industry. Nurseries, equipment manufacturers, processors, and farms abound. We got the nickel tour of the B. E. I. Plant. They are manufacturers of blueberry harvesting and packaging equipment. Why, they even have a machine that can sort out the green berries in a packing line. Equipment is made here to pick, wash, stem, sort, dry and pack blueberries without being touched by hand.

We also visited with the DeGrandchamp’s at their farm, nursery and packing center. For a small grower like us, it is mind boggling to see the equipment and work force required to operate a 400 acre blueberry farm. Blueberry farms in the area range in size from 5 – 10 acres to 600 – 800 acres.

The Blueberry Festival is held in the downtown and harbor area of South Haven, a very beautiful, clean, Lake Michigan resort town. Every storefront is painted with blueberry themes, sidewalk sales, craft show, pie eating contest, fish boils, fireworks display, and a blueberry parade are a few of the events that take place. The Blueberry Expo tent downtown is the hub of the activities. Michigan

Blueberry Growers operate the expo and hand out thousands of ½ pint samples of berries.

South Haven is home to The Blueberry Store, operated by Michigan Blueberry Growers and Marketing Associates. (A word of advice to husbands - persuade spouse to exercise restraint before she enters this store). Everything from blueberry crafts to clothing is found here.

Ronnie's rebuttal: Restraint is highly overrated by husbands. I caught this article before Bob submitted it . . . I just wanted to add that for those of us looking for blueberry products and ideas to promote our blueberries, The Blueberry Store is definitely a "point of interest" on a visit to this area of the United States. I found stationary, towels, candles, soaps, magnets, jackets, tee shirts, sweatshirts, caps, banners, books, calendars, gift baskets, and much more. This experience gives you ideas of the many ways to increase your (excuse me here, please) "value added" for your farm sales. It was enjoyable!! We did enjoy blueberries too! We attended a blueberry pancake breakfast and later we had blueberry popcorn, blueberry tea, and my favorite - a wonderful blueberry fudge. Blueberries! The Fruit of the Millennium!

Small Grains as Winter Cover Crops

by Gaylord Moore

Cover crops have long been used to reduce soil erosion, add organic matter to improve the soil and provide some weed control. The use of cover crops for soil protection during the winter becomes even more important where significant slope is present and plant residues are not available. It may be a little late to establish cover crops for winter protection but it's never too late to consider this practice for the future.

Small grains such as wheat and rye are very effective winter cover crops. They also can be harvested as forage, straw, or grain, or left in the field to provide mulch and organic matter. When planted early enough in the fall, they provide good winter cover and take up nutrients left in the soil from the summer crop. Each small grain crop has its

advantages and disadvantages.

Rye (*Secale cereale*) is perhaps the best overall small grain cover crop. Rye germinates quickly, grows fast, and provides good winter cover if not planted too late. Early planting in September is important for soil protection and uptake of nutrients left over from the previous crop. It resumes growth early in the spring and may produce too much top growth if not killed soon enough. For seeding as a cover crop, use two bushels of seed per acre.

Wheat (*Triticum aestivum*) is also an excellent cover crop. It is easier to manage and more versatile than the other small grains. Early plantings are important for good winter cover. Use two bushels of seed per acre when planting as a cover crop.

Seeding and Managing Small Grains:

Small grains are usually drilled or broadcast on clean-tilled soil and covered to about one inch. In gardens or small areas, shallow tillage with a rototiller can be used to cover seed. If intended only for a cover crop, do not add nitrogen fertilizer. If small grains grow too tall in the spring, it may be helpful to mow before tilling.

Some Potential Problems:

If wet weather delays spring tillage, too much top growth may be produced by the cover crop. This is more likely to be a problem with crops such as rye that tend to start growth early in the spring and to grow quickly. It may be best to avoid these crops for garden use.

If heavy crops are plowed down in cool, wet conditions, they may release toxins or tie up nutrients as they decompose. Under these conditions, more time is needed for decomposition to take place before seeding or transplanting crops.

Cover crops may become a weed problem by volunteer seeding where or when they are not wanted. However, with the small grains, generally there is little problem. Just remember, always use high quality seed to ensure good stands and reduce the risk of introducing weeds.

Far and away, the benefits of using cover crops far outweigh the potential problems. In addition to erosion protection, increased organic matter, and weed suppression, several other advantages may be present with the use of other cover crops. Some of

clovers can provide winter protection if planted early enough while fixing valuable nitrogen to be released for future crops as the roots decay. All in all, cover crops help your soil become richer and healthier. Even if it is too late for this year, it's never too late to make a New Year's (New Millennium's?) resolution to plant cover crops.

Paul Evans Library of Fruit Science - More Than Just Books!

by Suzi Teghtmeyer

Greetings from the Paul Evans Library of Fruit Science! Paul Evans is the library at the Missouri Fruit Experiment Station located in Mountain Grove. The collection of books, journals, state and federal government documents dates back to the mid-1800s. The subjects of the collection focus on the science of fruit culture, viticulture and enology (wine science). The Library's mission is supporting the research conducted by the scientists and growers here and across the Ozarks. In the information age of today, information and communication cannot only be found in books and journals but also via the Internet and email. As we all have seen on television, most companies and organizations have homepages. The fruit industry is no exception. Through these homepages growers and sellers at all levels can communicate the latest advances, tried and true remedies, and find a supportive network of friends within their particular industry. Below I have described a number of webpages of fruit and berry organizations.

US Apple Association - <http://www.usapple.org/>
This is a national trade organization to promote apple production and marketing. Included are facts about apples, apples issues being addressed by the federal government, and a members' network. You need to become a member to access some information.

North American Blueberry Council - <http://www.blueberry.org>

This organization addresses highbush blueberry production in the US and Canada (although there are numerous Japanese links). Nutritional information, growing recommendations, even lesson plans for teachers are included on this very informative site.

GrapeTalk - <http://www.grapetalk.com/>

This is a website designed to share viticulture information. The site is divided into 3 sections: the free area (industry news, research, etc.), members only (nominal membership fee required), and discussion groups. Each provides a unique forum addressing viticultural information in a different manner.

North American Strawberry Growers Association (NASGA) - <http://www.fvs.cornell.edu/GrowerOrganizations/NASGA/WELCOME.HTM>

This international corporation addresses in some manner just about all aspects of strawberry research and production, even recipes!

In support of the research conducted here at the State Fruit Experiment Station I have assembled these sites and many more on a single webpage to make internet research quicker and easier: <http://library.smsu.edu/paulevans/frtlinks.htm>. If you have any suggestions please contact me, Suzi Teghtmeyer (Librarian) at srt175f@mail.smsu.edu, or 417-926-4105.

Missouri Small Fruit Conference Date Set

Please mark your calendars for the Y2K Missouri Small Fruit Conference. The dates are February 21, 22 and 23 and it will be held at the Clarion Inn and Conference Center in Springfield. Keep posted on program dates by visiting our website at <http://mtngrv.smsu.edu> and click on the news and events button. We will have the most current information on the web.

Commercial Strawberry Plasticulture Workshop

9 am - 4 pm, November 18, 1999

University of Arkansas Fruit Substation
Clarksville, AR

Contact: Dan Chapman, 501-754-2406

Centennial Celebration

by Marilyn Odneal

The State Fruit Experiment Station marks 100 years of public service on November 15, 1999. The Station was established by an act of the legislature to serve the fruit production and processing industries of Missouri. Dr. Jim Moore serves as the sixth director of the State Fruit Experiment Station having been preceded by Kenneth Hanson (1963-1984), Paul Shepard (1934-1961), Frederick W. Faurot (1918-1933), Paul Evans (1903-1918), and John T. Stinson (1899-1902). J. T. Stinson is credited for the saying "An apple a day keeps the doctor away".

Our Centennial was celebrated on Saturday, October 2. The Mountain Grove High School Band kicked off the event. Dr. Jim Baker, Chancellor of the Research Campus at Mountain Grove, welcomed participants. Representative Mary Lou Sallee of the Missouri House recounted the history of the area and Senator John Russell discussed market development.

Performances by Judy Domeny, folksinger; Debbie Anderson, storyteller; Wright County Bluegrass; Betty Dale and Friends, gospel singers; and the SMSU Dues Band were enjoyed throughout the day. Craft exhibits and demonstrations included apple butter making, antique tractors, wood carving, basket weaving, soap making, wool spinning, trapping and hunting, jewelry making, and horse shoeing. Wagon tours of the Orchard and Vineyards were provided, and cider pressing and apple grading were demonstrated.

Throughout the last 100 years, fruit crop research and advisement was carried on by the station. At the turn of the century, outreach education was carried out in railroad cars moving displays and scientists from town to town. Research projects were carried out to find out how to improve production methods and a breeding program was begun to develop varieties adapted to the Ozark region. The breeding program was discontinued in 1984.

The celebration marked the first 100 years of the operation the State Fruit Experiment Station. The official date of the centennial is November 15. To

commemorate this date, a Centennial Tree will be planted on the grounds. This tree planting notes the establishment of an arboretum and horticulture demonstration garden for public education to be developed on the SMSU Research Campus in the new century.

(PHOTOS NOT SHOWN)

**COOPERATIVE EXTENSION SERVICE
U.S. DEPARTMENT OF AGRICULTURE
UNIVERSITY OF MISSOURI
CLARK HALL
COLUMBIA, MO 65211**

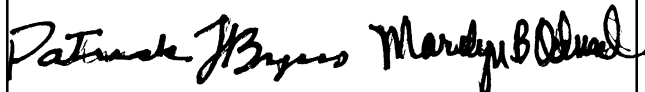
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