



The Berry Basket

Newsletter for Missouri Small Fruit and Vegetable Growers

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From the Editors

by Marilyn Odneal

The Berry Basket certainly won't let you go dormant this winter! There are plenty of articles with diverse topics that will provide food for thought. There are meetings to plan to attend as well. Think about other topics you would like to see covered in this newsletter and let us know.

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“Normal Rainfall”-A 1999 Myth!

by Ben Fuqua

At the end of December, a local TV weatherman reported that southwest Missouri had received nearly 42 inches of rain, thereby meeting the requirements of an “average or normal” year for rainfall. But blueberry growers (as well as anyone else engaged in agriculture) know that moisture conditions in 1999 were anything but “normal”. Either excessive soil water conditions or extremely droughty conditions dominated most months during the year. These extreme fluctuations in soil moisture made it very difficult to maintain adequate levels of water for the proper growth, development, and production of blueberries. The fallacy of using “normal” in assessing soil moisture conditions becomes apparent when the relationships between the water requirements for blueberries and the components of rainfall are compared.

1. Plant Factors. The root system of blueberry plants consists of fine, fibrous roots that are primarily located in the mulch and upper few inches of soil. These roots lack root hairs and hence have a rather low absorptive capacity for both water and plant nutrients. Blueberry roots will grow anytime the soil temperature is above 43°F (about 9 months of the year in Missouri), if adequate water and nutrients are present. Although the greatest amount of root growth occurs in early spring and late fall, blueberry roots continue to grow regardless of whether the above ground plant parts are growing, dormant, or at rest. Even when there are no leaves on the plant, blueberry roots remain active by utilizing water and stored nutrients for growth.

2. Rainfall Factors. Rainfall **quantity** measures the amount of rain that reaches the earth's surface over a given period of time. Although this amount varies slightly from one part of the state to another, the 30-year average in southwest Missouri is 43 inches per year. The amount of water needed by blueberry plants to function properly changes at each stage of growth and development. For example, young, non-bearing plants require less water than larger, mature plants; mature plants need more water during fruit development and ripening than any other time of the year. In April and May, when plants begin flowering and setting berries, 3 to 5 inches of water are needed each month. During fruit development and maturation, (June, July, and August), between 6 and 7 inches of water per month are required. Even in September and October (and sometimes November), blueberry plants need a readily available supply of water to form fruit buds for the coming year. In Missouri, it is estimated that blueberry plants need a total of 30 to 40 inches of water per year for growth and development.

The **intensity** of rainfall, a measure of the rate of rainfall, influences the amount of water that is stored in the soil. A slow, gentle rain allows most of the water to enter the soil and be stored in the pore spaces for later use by plant roots. On the other hand, a very intense rain (with larger raindrops) strikes the earth's surface with a much greater force, often dislodging soil and mulch particles. In an intense rainstorm, much of the water will be lost via runoff, resulting not only in the loss of valuable water, but also increasing the potential of soil loss via erosion. While there is little that growers can do to change the rainfall intensity factor, there are cultural techniques that lessen the physical impact of the raindrops. Maintaining 4 to 6 inches of mulch around blueberry plants and keeping a grass sod between plant rows will keep the raindrops from directly striking the soil surface. This allows more of the rain to enter and be stored in the mulch and surrounding soil.

Rainfall **distribution** or the frequency of rainfall is another major factor in blueberry production, perhaps being even more important than either rainfall quantity or intensity. The low absorptive

capacity of blueberry roots makes it imperative that a uniform and readily available supply of soil water be present when the plant has a need for it. In June, July and August, when blueberry plants have their greatest need for water, an inch of water is used every 4 days. If rainfall does not supply this amount of water, irrigation will be needed or plant growth and production will suffer. Irrigation and irrigation scheduling thus become vital parts of a good water management plan.

3. Rainfall Pattern in 1999. Last year, southwest Missouri received over 41.5 inches of rain, very close to the 30-year average and slightly more than the total amount of water needed annually by blueberry plants. Therefore, the quantity of rainfall was more than adequate for growing blueberries. The distribution of rainfall in 1999, however, was another matter. Over 30% of the total rainfall for the year occurred in the months of January, February, and December, a time when blueberry plants were dormant and had little need of water. Large amounts of rain (16.5 inches) were also recorded in March, April, and May, which resulted in wet, saturated soil conditions that tend to hinder early growth and berry development. In June, July, and August, only 7 inches (17% of the total) of rainfall was received and only 5 inches (10% of the annual rainfall) in September, October, and November. Thus, a total of only 12 inches of rain was received for the months of June through November, a time when nearly 30 inches of water were needed for fruit development, maturation, and formation of fruit buds.

4. Summary. Although 1999 may go down in the weather records as being a normal rainfall year, an in-depth look shows that it was a challenging year for blueberry growers. A year like 1999 certainly reinforces the necessity of having a good water management plan in place before you need it. Mulching, good weed control and a properly installed (and maintained) irrigation system are all crucial parts of this plan. If 1999 was "normal", perhaps we should wish for an "abnormal" rainfall year in 2000!

Blueberry Council News

by *Bob and Ronnie Hershey*

The Blueberry Council will meet after the blueberry session of the Small Fruit Conference on Tuesday, February 22, 2000. The time and place will be announced at the conference.

The council is a very important tool for all blueberry growers. We need to remain visible and vocal. Our organization might be small, but we are very well recognized in Missouri. Ever since the council was organized, we have made our presence known to state and university officials.

I challenge all of you as growers to sustain this organization by volunteering to serve on the board. New folks will mean new ideas. With all the health benefits of blueberries, we are in a position to make our industry grow in Missouri. Please! Give a little of your time and a lot of your ideas. We have a great organization and need your help to show support for its continued success!

The Governor's Agriculture Conference was a big success! At the "Taste of Missouri" banquet, we served over 900 attendees blueberry sauce. Special thank you to Dave and Mary Hinze, and Ronnie Hershey for their help that evening. An Extra Special thank you to Patrick Byers for his ever-supportive attendance at almost all of the functions the Blueberry Council participates in.

I'm sure some of you have had problems you have overcome on your farm . . . why not write an article for the newsletter? We are an organization dedicated to knowledge of growing blueberries. Some other member may be facing the same problem that you have solved. Marilyn Odneal is a great editor, and is good at fine-tuning articles.

Looking forward to seeing all of you on February 22nd.

A reminder from Ronnie:

Dues notices were mailed in December to members of the Blueberry Council of Missouri. There was a request to pay dues early so a current membership could be prepared for the February meeting. To help on the costs of postage, the Secretary-Treasurer did have a few questions which should be answered when sending the dues.

As of this Newsletter, there is only one box of picking bags remaining. Please note on your dues remittance the estimated cases of 1000 bags your farm possibly would need for the 2000 season. This will really help in securing a bid price. Thanks again for your input over the years!

Small Fruit Grower Association News

by *Rex Whipple*

It is now a new century and time to take stock of our plans for the future. This might be a good time to do some long range planning. At our farm we are thinking about some large expenditures. It might be a good time to consider how to solve our problem of water shortage. We just had a pond cleaned out so that it could hold more water. It should help us for frost control in the strawberries. Now the question is; what about the blackberries, gooseberries, mums and other crops? The ponds won't be enough to supply water for irrigation throughout the growing season. Maybe we should consider drilling a well. We are also discussing our parking problem for the customers. What about a new sign or two to help us advertise?

As you can see, there are all sorts of things that need our attention at this time. So why don't you sit down and have a long range planning meeting. Then put some of those plans into action. Remember, A PLAN WITHOUT ACTION IS ONLY A DREAM.

We hope that you have marked your calendar for the Small Fruit Conference on February 22 and 23. We hope to see all of you there. We will plan to have an association meeting at that time. The time will be announced at the meeting. Please plan on attending the association meeting. Dues will be collected during the meeting. We will also be electing some new officers for the coming year.

MSFGA along with Agri-Missouri and SMSU are going to have a competition for value-added products at the conference. A Certificate of Merit will be awarded for the best in the following areas on the next page:

Best Color,

- a. Strawberry
- b. Blackberry
- c. Blueberry
- d. Raspberry

Best Taste,

- a. Strawberry
- b. Blackberry
- c. Blueberry
- d. Raspberry

Best Label,**Best Gift Packaging.**

All persons attending the Small Fruit Conference are cordially invited to participate in the competition.

Let's make this a big success. For those of you who are unable to attend the conference, you may still participate by sending your entries to:

Mr. John Avery
SMSU – Mountain Grove
9740 Red Spring Road,
Mountain Grove, MO
65711

Thanks for your time. We look forward to seeing you in Springfield.

Commercial Strawberry Plasticulture Workshop

by Patrick Byers

I attended the Commercial Strawberry Plasticulture Workshop, sponsored by the University of Arkansas and the Southern Region Small Fruit Center, on November 18, 1999. The meeting was held in Clarksville, Arkansas. The primary focus of the meeting was on strawberry plasticulture, but related topics in fumigation, row covers, cultivar performance, marketing considerations, irrigation, and pest management were also covered.

Dr. Barclay Poling, professor at North Carolina State University and director of the Southern Region Small Fruit Center, described the origins of the southeastern plasticulture system for strawberries. Perennial production systems such as the matted row were not well adapted to the southeast, especially in areas with pressure from anthracnose. Starting in the early 1980s researchers and growers in North Carolina began to adapt annual production

systems developed in California.

The advantages of the plasticulture system are several. The harvest season is earlier than matted row. Berries are larger, easier and quicker to harvest, and receive a better price compared to matted row. The production goal is 1 lb of fruit per plant, which should translate into over 17,000 lb of fruit per acre. Disadvantages include higher initial costs (about \$4,400 per acre) and the need for irrigation for trickle systems and overhead sprinkler frost protection. Management is intensive with plasticulture systems, and there is little margin for error.

Chandler, Camarosa, and Sweet Charlie are the dominant cultivars. Dr. Poling also expressed interest in Gaviota, from California, and the selections 9305 and 9508 (from the NC breeding program) and JP2. A good cultivar for plasticulture does not form excessive runners, produces 4-5 branch crowns, and around 60 flowers per plant. The trend in North Carolina is away from fresh dug plants to plug plants.

Plasticulture strawberry growers realize that cultural operations must be carried out correctly and in a timely fashion. Mitchell Wrenn (Strawberry Hill, Inc.), Victor Lilley (Reddick Rumigation), Aaron Goode (Chesterfield Berry Farm), Phil Tacker (University of Arkansas), and Larry Odum (Holland Bottom Farm) discussed several cultural aspects of plasticulture.

Site preparation is critical for the success of plasticulture strawberries. A minimum of 3 years rotation between strawberry crops is recommended. The rotation should include cover crops. The rotation/cover crop cycle is critical if a grower is not contemplating fumigation. The site soil is then worked. Proper soil moisture is important for the best performance of bed making equipment. Fumigation is an important component in the plasticulture system. Methyl bromide will no longer be available after 2005. The probable replacement is a mixture of chloropicrin and Telone.

Row covers are an important component in the plasticulture system. These covers, made from spunbonded polyester or polypropylene, are used to promote fall growth of plants, for overwintering protection, and to protect from late season frosts/

freezes. An interesting use of rowcovers for frost/freeze protection involves "igloos." Rowcovers are placed over the plants, overhead sprinklers are turned on at 32°F, and ½ inch of ice is allowed to form over the top of the rowcover. According to Dr. Poling and Mr. Lilley, this approach can actually protect unopened buds to 13°F for several hours. This approach works because the "igloo" traps soil warmth.

Irrigation is critical for plasticulture production systems. Dr. Phil Tacker led the discussion. Overhead sprinkling is used immediately following planting to cool both fresh dug and plug plants. This sprinkling is discontinued after a few days.

Overhead sprinkling is also used for frost/freeze protection in the spring. Sprinklers include impact types and wobbler types. A trickle line under the plastic provides moisture, and nutrients are supplied via fertigation. Thin wall plastic tubing is commonly used. Thickness ranges from 4 to 15 mil; 10 mil is recommended. Be sure to place the outlets up.

Fertility management is also important. About 50% of annual N needs are incorporated into the beds before planting. Growers emphasize foliar testing in the spring to schedule fertigation. Separate petiole and leaf blade samples are collected every 10-12 days, beginning in early spring through harvest. Usually 0.5 to 0.75 lbs of actual N are injected daily, beginning in early spring.

Anthrachnose is a potentially devastating fungal disease of strawberries. Larry Odum discussed Quadris, an anthrachnose fungicide that received a Section 18 emergency use label for Arkansas in 1999. Zeneca Ag Products manufactures Quadris, which is a member of the strobilurin group of fungicides.

A proceedings of the Commercial Strawberry Plasticulture Workshop workshop was available at the meeting. Contact Dr. R. Keith Striegler at the University of Arkansas, Plant Science Room 316, Fayetteville, AR 72701, phone 501-575-2790 or e-mail kstrig@comp.uark.edu for more information.

Classified

A 22 acre berry farm for sale in north-central Arkansas. Call 870-425-7028 or go to smittysupick.com.

Biotechnology - A Consumer Choice

by Gaylord Moore

Biotechnology and genetic engineering are two terms that have become common "buzz" words the past 3 or 4 years with new developments in science and technology within the agricultural industry. About as much controversy has been generated with this technology in plant development as with Dolly the sheep. Often those involved in discussions about this subject become very emotional and have very strong opinions about the values of these technologies in both plant and animal development.

In the last twenty years, scientists discovered that DNA (those units called genes) is interchangeable among animals, plants, bacteria, and other organisms. Scientists can now transfer genes that determine many desirable traits from one plant or animal to another.

In regard to horticultural crops, in the past, traditional plant breeding was used to improve fruits and vegetables. Plants were cross bred to achieve desirable traits such as increased yields, resistance to insects and diseases, improved taste, color and handling. These improved plant varieties were the result of manipulating genes long before genetic science was well understood. Examples of horticultural plants that are subject to genetic engineering are tomatoes and sweet corn. The Flavr Savr™ tomato was developed in 1994 to enhance the flavor and quality of shipping tomatoes. Recently, field and sweet corn have been genetically altered to drastically reduce the damage by lepidopterous insects such as the corn borer and corn earworm. Corn altered to reduce the incidence of such pests is referred to as Bt-corn. In Bt-corn, the *Bacillus thuringensis* toxin production has been inserted into plants so that seeds carry the instructions for plants to produce Bt toxins for insect resistance. When Bt.-sweet corn is grown, the larvae of the corn earworm will start to feed on the newly emerged silks and the ingestion of the Bt causes the insect to stop feeding and die.

This development for sweet corn growers may sound too good to be true. However, research and demonstrations have shown almost 100% control of

corn earworms. Sweet corn varieties are available that exhibit outstanding eating quality such as the sugar enhanced or super sweet varieties. Novartis Seeds, Inc. presently has seed stock available. Other companies are close behind in offering seed. Seeds are costly at about \$675 for 25 pounds and supplies are somewhat limited.

I am not necessarily promoting the use of Bt-corn or other genetic engineered plant materials. I only want to let you know what is available and that many other developments are probably on the horizon. The United States Department of Agriculture (USDA), the Food and Drug Administration (FDA), the Environmental Protection Agency (EPA) and most state governments closely monitor the development and testing of genetically engineered products and can provide pages of test results concerning its safety. However, in the end, only consumers themselves can decide if using a product, whether it is developed by genetic engineering or traditional methods, is right for them. Regarding sweet corn growing, I see five possible choices for the future. 1) use Bt-corn seed sources; 2) spray insecticides for the control of the corn earworm and other related insects; 3) select varieties that can alter development and presence of the worm in the ear; 4) cut off the insect infested parts of the ear; or 5) develop a taste for worms.

It's Winter and the Surfing is Indoors

by Suzi Tegtmeyer

It's winter, and what are you going to do when you can't work outside? Surf the Internet, of course! I've identified three sites that are worthy of a closer look.

USDA's Agriculture Marketing Service (AMS) – <http://www.ams.usda.gov/standards/> If you are thinking of value-adding to your fruit operation and want to insure quality control and standards compliance, click over to the USDA's Agriculture Marketing Service. This USDA service employs specialists who provide standardization, grading and market news services for fruits and vegetables, and other commodities. They enforce

federal laws such as the Perishable Agricultural Commodities Act and the Federal Seed Act, as well as set the quality standards for fresh fruit and vegetables, frozen fruit, fresh fruit for processing, and canned fruit. These standards are available in Adobe Acrobat PDF format (which is free) on the web.

EPA's Surf Your Watershed – <http://www.epa.gov/surf3/locate/> Are you thinking about adding property to your operation and are unsure of the quality of the land? Head over to the EPA's Surf Your Watershed to examine the ecology and health of the area. This site allows you to identify your watershed (easiest way is to type in your zip code near the bottom of the page), and then discover all about the land you live on. **Environmental Profile** allows you to find "Impaired Waters", "Hazardous Wastes" and "Superfund Sites" among others.

Water tells you your aquifer and the bedrock type, the number and mileage of streams and rivers, and provides a link to the Safe Drinking Water Information System for your area. This section also links to sites of the USGS concerning water, including "Science in Your Watershed" information on the studies conducted within your watershed. Other sections include **Land** (square mileage and vegetation types), **People** (watershed interest groups), and **Air** (local facilities regulated by EPA).

Missouri Digital Soil Survey – <http://www.cares.missouri.edu/soils/> Generally we concentrate on the stuff above ground – but what about the soil we trod upon? The Missouri Digital Soil Survey is a starting point for Missouri soil insight without having to dig a pit. This ongoing project of the Center for Agricultural, Resource and Environmental Systems (CARES), the Department of Natural Resources (MDNR) and the Natural Resource Conservation Service (NRCS) "develop[s] in digital format individual county soil layers for selected counties in the state of Missouri using available GIS and scanning technology". Begun in 1997 the project is making progress, but fewer than half of Missouri's 114 counties are completed. However, it does provide general information on soil management, a glossary, and makes use of basic soil mapping capabilities.

Replacing Lost Plants

by Bob Hershey

Over the years I have tried to replace lost plants with little success. I have tilled, covered the bare spots with clear plastic to kill disease and weeds, purchased container-grown plants, all to no avail. Finally, I have found a way that works for us.

First, find a place to create a “borrow” area for soil, kind of like a “soil bank”. On a 25’ X 40’ herbicide-free area, I put 2-3 inches of well rotted sawdust, a small amount of aged manure, and enough sulfur to lower the soil pH. I plow and disk to incorporate all to a depth of 6 inches. After a light rain to add moisture, I pile up approximately 15 cubic yards. This pile sets for 6 months to age and let the sulfur work.

In the blueberry field, cut your irrigation lines and remove all existing soil and mulch. Where I needed to replant, I removed at least 2 feet on each side of where the new plant will be placed. The plant that was there died for some reason. By removing everything, any disease or herbicide residue will be gone. I think residue is the biggest reason replanting has failed for me in the past. A tractor loader or better yet, if you have many plants to replace, a skid-steer loader (bobcat type) is a great help. I also rented a concrete buggy to haul old soil and mulch out and to put clean soil from the “soil bank” in. These self-dumping carts can be found in most construction equipment rental stores, they turn a small area and can move a lot of material in a short time.

This method is a lot of work but has been very successful for us. In fact, we have not lost any plants replaced last year by using this method. After planting, water the new plants and splice back your irrigation lines. We place double layers of newspaper over the ridge before re-mulching with sawdust. The paper really helps control weeds the first year.

If you use herbicide for weed control, read your label before spraying new plants. Some herbicides cannot be used until plants are established for one year or more.

Berry Good Protection for Aging Brains

Article by Janet Raloff, September 18, 1999, reprinted with permission from SCIENCE NEWS, the weekly newsmagazine of science, copyright 1999 by Science Service.

It’s depressing to contemplate the memory loss and physical infirmity that so often accompany aging. Federal scientists, however, now report that the blues may constitute a palatable prescription for fighting the ravages of growing old – if, that is, those blues are berries.

The body creates oxidants, chemically reactive molecular fragments to eliminate old cells, infectious agents, and damaged tissue. When all goes well natural antioxidants quickly step in to limit the process before it gets out of hand. As animals age, however, their antioxidant production wanes. Indeed, oxidation underlies many degenerative changes that come with aging (*Science News* 8/10/96, p. 95).

Last year, chemists at the Agriculture Department’s Human Nutrition Research Center on Aging (HNRC) at Tufts University in Boston found that blueberries are a rich source of pigments, called flavonoids, that show strong antioxidant activity. Their earlier data showed that spinach and strawberries contain copious amounts of other antioxidants.

Colleagues in a neighboring lab have now supplemented the standard rodent food with a powdered form of blueberries, strawberries, or spinach. The researchers added the supplements in amounts having equal antioxidant activity. Ten 19-month-old rats received each type of supplemented rations. In terms of life span, these animals were on par with people in their 60’s.

After 8 weeks, the scientists put each animal through a number of tests. These included mazes, walking a narrow plank and balancing on a spinning rod. Afterward, the researchers removed and examined each animal’s brain.

Though all supplemented animals performed better on memory tests than the 10 rats that got undoctored chow, only the blueberry group showed

notable improvements over the control group in every test of motor coordination. James A. Joseph of HNRCA and his colleagues report their findings in the Sept. 15 issue of *Neuroscience*.

After eating blueberry-laced chow for 2 months, 21-month-old animals outperformed unsupplemented, younger rats, Joseph says. "So, we got reversals in age-related declines." The blueberries that each animal downed were equivalent, when adjusted for body weight, to 1-cup daily in a person's diet, he notes.

The scientists measured a variety of chemical-signaling characteristics in each rat's striatum, a brain region pivotal to coordination. Each supplement showed a different benefit pattern. Joseph says, suggesting that blueberry protectiveness may trace to more than oxidant quenching.

"A next important step in the research will be to see if the improvements are long lasting," says Molly Wagster of the National Institute on Aging in Bethesda, Md., which funded the study in part.

The differential benefits seen with the three diets reinforce what many other recent studies have suggested. "All antioxidants aren't alike," observes William S. Pryor of Louisiana State University in Baton Rouge. Some reach different places in the body, others do more than halt oxidation, he says.

It's therefore important, he argues, not to rely on supplements containing a single antioxidant, such as vitamin E. "You've still got to eat plenty of different fruits and vegetables," Pryor says. Since pigments can be very potent antioxidants, he prizes deeply colored foods - especially "anything blue".

2000 Missouri Small Fruit Conference

by *Patrick Byers*

The annual Missouri Small Fruit Conference, scheduled for February 21-23, 2000, offers many opportunities for commercial and home fruit growers. Springfield is the home of the conference, now in its 20th year.

The first day of the conference, February 21, is the **Back to the Basics** workshop. A presentation on the basics of small fruit production will kick off the session. The next presentation, *It's Tax Time Again*, discusses in a down-to-earth manner the realities of taxes for farmers. Marketing strategies are the subject of a panel discussion with three successful horticultural producers. The conference will then visit the SMSU State Fruit Experiment Station for an afternoon workshop on pruning techniques for brambles, blueberries, grapes, and tree fruits.

On Tuesday, February 22, the conference resumes with the keynote presentation on the healthful aspects of small fruits. The general session will include talks on a vision for the new American farm, an update on the Food Quality Protection Act, and details on the certification process for organic producers. The table grape/alternative crop session will include such diverse topics as new seedless grape varieties, elderberry research, and medicinal herb production. The blueberry session features organic production practices for blueberries, management of diseases, and maintenance of drip irrigation systems.

The conference continues the morning of Wednesday, February 23, with the strawberry session. Annual production systems, organic practices, and experiences with corn gluten meal as a weed management tool make up this session. The bramble session, with talks on new blackberry varieties and fall bearing raspberry varieties, rounds out the conference.

The Missouri Small Fruit Conference includes other activities of interest to fruit growers. The trade show includes commercial suppliers for many of the needs of small fruit growers. The Taste Test Table offers samples of many Missouri-made value-added products. A new addition to the conference in 2000 is the commercial jam and jelly competition, sponsored by the Missouri Small Fruit Growers Association. For more information on the conference or to request a schedule/registration form, please contact Patrick Byers, Fruit Grower Advisor, Department of Fruit Science, SMSU Research Campus, 9740 Red Spring Road, Mountain Grove, MO 65711, call (417) 926-4105,

or email plb711t@mail.smsu.edu. A complete schedule of the conference with a printable registration form is posted at the Department of Fruit Science website, <http://mtngrv.smsu.edu/calendar>.

Southwest Missouri Spring Horticulture Conference

by *Andy Thomas*

The Spring Horticulture Conference will be held on Saturday, March 25, 2000 from 9:00am – 3:20pm at the SMSU Research Campus in Mountain Grove. The Mountain Grove Campus is located at:

9740 Red Spring Road
Mountain Grove, MO 65711
phone: 417-926-4105

Topics and speakers

Welcome to the Ozarks – Gaylord Moore
Home Greenhouses – To Be Announced
Tree Walk – Gary Oakley
Daylilies – Faye Coble
Hostas – Mary Lou and Ernest Braswell
Home Winemaking – Patrick Byers
Propagation – John Avery
Tour of the Fruit Experiment Station – FES
Composting – Andy Thomas
Nut Production – Bill Knaust and Gerald Gardner
Lawns – Erik Ervin
Organic Gardening – Ted Berger
Home Orchards – Patrick Byers
Landscaping with Native Plants – Scott Woodbury

Cost of the program is \$10.00 per person including lunch. Please note that a vegetarian lunch is available and indicate this on the registration if you would prefer this option. Attendance is limited to the first 110 registrants, therefore, pre-registration is highly recommended. Sessions will be held both indoors and out, so please dress appropriately. For more information, contact Patrick Byers (417-926-4105) or Andy Thomas (417-466-2148).

Fruit Recipes on the Web

by *Marilyn Odneal*

This is a call for help! On the home page of the SMSU-Mountain Grove the Department of Fruit Science features some recipes of fruit in season. February will be a tough month to think of one. Everyone is pruning, so how about “prunes?” Do you have a favorite fruit-filled recipe you would like to share? We will credit your contribution. Please send your recipes to: Marilyn Odneal, SMSU-Mountain Grove, 9740 Red Spring Road, Mountain Grove, MO 65711 or e-mail me at mbo774t@mail.smsu.edu. If you are going to attend the Small Fruit Conference or the Southwest Missouri Spring Horticulture Conference, bring your recipes. Here is one of January’s recipes.

Pear and Cranberry Pie

15 oz Package refrigerated piecrusts
3 c Sliced peeled pears - 3 medium
1 1/4 c Cranberries, fresh or frozen, coarsely chopped by hand or food processor
1 c Sugar
2 tbsp Cornstarch
3 tbsp Cranberry juice, orange juice, or water
2 tbsp Margarine
5 tbsp Confectioners’ sugar
1 1/2 tsp Cranberry juice, orange juice or water (actually 1 to 2 teaspoons)

Heat oven to 425 degrees Fahrenheit. Prepare piecrust according to package directions for two-crust pie using 9-inch pie pan. In large bowl, combine pears, cranberries, 1 cup sugar, cornstarch and 3 tablespoons juice; mix lightly. Spoon into piecrust-lined pan; dot with margarine. Unfold second crust; using 2-inch cookie cutter, cut out desired shapes in several places. Place crust over filling; flute. Brush underside of 2-inch cutouts with water and place on top of crust. Bake at 425 degrees for 40 to 50 minutes, or until golden brown. Cover edge of piecrust with strips of foil after 15 to 20 minutes of baking to prevent excessive browning. To make a glaze, blend confectioners’ sugar and juice in a small bowl, adding enough juice for desired consistency. Drizzle over warm pie. Garnish as desired. Makes 8 servings.

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