UNIVERSITY OF MISSOURI
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The Berry Basket

Newsletter for Missouri Specialty Crop Producers

Volume 9 Number 3 **Autumn 2006**

Contents:

From the Editors

by Marilyn Odneal, Managing Editor

I hope you are enjoying the fall rains along with the fall colors. Drought has been taking its toll on us lately and Ben addresses the issue of water management in his article. Time also takes it toll, but is measured beautifully by the Truman State Clock, reminding us to make time for our upcoming educational events listed on page 11. Have a great autumn!

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Erratum: Note that the Summer 2006 issue is Volume 9 Number 2 rather than Number 1 as printed.

Water Management

By Ben Fuqua
Professor, Soil Science
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Two consecutive drought years in Missouri are vivid reminders of the role water plays in the growth and production of plants, especially blueberries. The highbush blueberry plant has a rather unique root structure, fibrous roots without root hairs, which differs greatly from most other plants. The shallow, fibrous root system limits the growth of blueberry roots in tight, compacted soils as well as growth into excessively wet or dry soils. The root system also makes blueberry plants very inefficient in the absorption of both water and plant nutrients. Blueberry plants need an adequate supply of water throughout the growing season, but water is particularly critical during periods of bloom, fruit development, and flower bud formation. Since blueberry roots in Missouri are active for about 9 months during the year, a good water management plan is crucial for producing high yields of quality blueberries.

Available water: The term "available water" refers to water stored in the soil that is useable by plants. Both water and air are stored in the openings (pores) between the mineral and organic particles of soils. The size and distribution of the soil pores determines the amount of available water a particular soil will hold. All water in soil pores is not available to plants. For example, sandy soils are more coarse-textured (comprised mostly

of macropores) that drain well, but hold only a small amount of available water due to the large-sized pores. On the other hand, high clay content soils (comprised mostly of micropores) often retain large amounts of water, but can hold the water so tightly that plants cannot obtain it. Both situations are harmful to blueberry plants and generally result in poor plant growth, lower yields, and sometimes even plant death. Medium textured soils, such as sandy loams, silt loams, loams, clay loams, etc. have a better balance between macro- and micro-pores, possess a more favorable water to air ratio, and a higher available water capacity.

Irrigation and Mulches: Two cultural practices currently recommended for growing highbush blueberries in Missouri are also helpful in maintaining a uniform supply of "available water" to plants. Drip (trickle) irrigation systems are widely used by growers as a means of maintaining a relatively constant moisture level around plant roots. Drip irrigation is very efficient when compared to other irrigation systems; it uses less water than other irrigation systems, the amount of water applied is easier to control, and drip systems are adaptable to injection of liquid fertilizers and other water-soluble chemicals. For good water distribution around plant roots, irrigation lines should be installed between the center and the drip-line of plants and have emitters spaced at 2-ft (or less) intervals. Drip systems are not designed to supply large volumes of water in a short period of time, therefore growers cannot wait until plants wilt or show other visible signs of moisture shortages before irrigating.

A 6- to 8-inch layer of mulch around blueberry plants is invaluable in maintaining uniform soil moisture levels. Organic mulches, such as sawdust, wood chips, shavings, etc., hold more water than most mineral soils and maintains a better balance of water to air around the plant roots. Organic mulches also release some nutrients for plants upon decomposition.

Irrigation Scheduling: There are several good ways to assess soil moisture conditions. Tensiometers are instruments that measure the energy status or the tightness that water is held by soil particles. To determine soil moisture tensions, tensionmeters are installed in the soil between the blueberry plants (within the row) throughout the growing season. The gauge (meter) on the tensiometer reflects the soil tension which can be correlated to the amount of water available for plants. Tensiometers are relatively low cost instruments and are fairly easy to use. They do require some maintenance to insure reliable results.

Lower cost methods of irrigation scheduling include the "feel" and "checkbook" methods. In the "feel" method, the soil moisture content is estimated by the "appearance" or "feel" of the soil. While this process requires practice, most growers can get pretty close to the correct moisture content without much difficulty. To use this method, a sample of the soil is squeezed in the palm of the hand and the moisture content estimated by the condition of the soil. In a medium-textured soil at an ideal moisture level for blueberry plants, a wet outline of a ball should be evident when the soil is squeezed. The soil should also stick to bright, clean tools, such as a new trowel, hoe or similar tool. Good to fair moisture conditions are indicated when the soil forms a ball when squeezed, will stick together, and cling slightly to bright tools. Soil that only forms a weak (crumbly) ball when squeezed, is easily broken apart, and does not stick together nor stick to tools indicates the soil moisture content is below the optimum level blueberry plants.

The "checkbook" approach uses a daily accounting process of water use versus rainfall and/or irrigation inputs. In this method the water gain (rainfall plus irrigation) are balanced against water losses (evaporation and transpiration). Plant water use is estimated daily, based on the plants' stage of development and the climatic conditions, and compared to the water holding capacity of the soil. The checkbook balance is

started at 0 (usually after a soaking rain or a thorough irrigation). Additional amounts of rain or irrigation are added to the balance. If no water is added, the daily water usage, 0.17-0.23 inches, is subtracted from the balance. (The average daily potential evapotranspiration rate for Missouri during July and August is 0.17-0.23 inches per day, use 0.17 for cloudy, cool days; 0.23 for hot, sunny days). When the balance reaches a minus 1, supplemental water should be applied. Enough water should be added to bring the checkbook balance back to 0. (The rates of 0.10-0.15 inches per day should be used in the checkbook for the months of September and October, if irrigation is needed.)

Water Quality: One of the most overlooked items in a good water management plan is the condition of irrigation water. Ponds, reservoirs, streams, and wells used as a water source for irrigating blueberries should be tested for suspended soil materials (silts, clays, organic matter, etc.) and well as soluble chemicals to insure good quality water. Filtering or chemical treatments may be needed if the water contains excessive contaminants. Frequent flushing and cleaning of irrigation lines may be also be required to keep emitters open and working properly.

Another quality factor that can affect the growth and production of blueberries is the pH of the irrigation water. This is a particular problem for growers using wells or springs where water comes in contact with limestone. Water from these sources often have neutral or slightly alkaline pH (pH 7.0 +) readings. It is well documented that highbush blueberries grow best in the mineral soils of Missouri at a soil pH of 4.7-5.2 (pHs 4.5-5.0). Irrigating with high pH water tends to increase the soil pH and therefore creates problems with the overall health and vigor of blueberry plants. The late Dr. C. L. Scrivner was one of the first to recognize the detrimental affects that high pH water had on the growth and production of blueberry plants. He developed a unique system for injecting sulfuric acid into the high pH water prior to irrigating his own plants and was successful in maintaining the lower soil pH. Several other blueberry growers in Missouri have since adopted Dr. Scrivner's method of acidifying irrigation water for improving the quality of irrigation water being applied to blueberry plants.

Summary: Water is needed by all plants for growth and production. Highbush blueberries need ample water and do not perform well in either extremely dry or wet conditions. Growers should develop good water management strategies that will provide blueberry plants with "available" water during the growing season. Irrigation is definitely needed to grow blueberries in Missouri as evidenced by two extended dry periods in the past two years. While most of us would prefer a nice, gentle rain every 7-10 days throughout the growing season and not have to irrigate at all, it doesn't happen very often. An elderly neighbor gardener once told me that regardless of when it rained in Missouri, you were only 10 days from a drought. Based on the last two years, I'd say he was right!

High Tunnel Strawberry Production

By Jay Chism
Agronomy Specialist
University of Missouri Extension

In recent years many vegetable producers have been using high tunnels to extend the production season for many different crops. High tunnels are solar-heated structures (i.e., a cold frame) used to extend the traditional growing season of horticultural crops. Typically, no electricity is used in high tunnels to operate fans, vents, heater, etc. Manual ventilation is instead provided through roll-up sidewalls or through the end walls. Other typical components of high tunnels are that they are irrigated via drip irrigation system with crops grown in

"ground culture". The high tunnel environment has proven to be useful for many vegetable producers throughout the state. According to Lewis Jett, State Vegetable Specialist at Lincoln University, an annual strawberry production system can also be developed within a high tunnel.

Jett initiated a high tunnel strawberry evaluation using the 'Chandler' variety in 2005. 'Chandler' is the variety most commonly used in annual plasticulture systems due to high quality and superior yield to other June-bearing cultivars. The planting procedure is similar to field production of plasticulture strawberries. Plants are planted in the fall, mid September until mid October. Each plant is planted 12 inches apart within the row with rows spaced 12-15 inches apart. Using this spacing pattern approximately 1200 plants can be planted in a house that is 2500-3000ft^2.

In Jett's evaluation, harvest began on April 12, 2006 at the Bradford Research Farm near Columbia. Harvest was at least 3-4 weeks earlier than traditional matted-row strawberries. The average marketable yields across all high tunnels were 1.2 lbs of berries per plant. Harvest continued until June 8, 2006.

Pollination of strawberry flowers was also evaluated in Jett's research. While many fruit and vegetable growers are familiar with using bees to pollinate, in a high tunnel, pollination is critical to get desired berry size and weight. Jett found that honeybees were the most effective and easiest to handle pollinators, but that bumblebees gave similar results.

High tunnel strawberry production may fit nicely into a growers system if an early market can be developed for top quality fruit. Production cost and the purchase price of the high tunnel structure would need to be considered before using strawberries as the primary crop in this protective structure.

For a copy of his Growing Strawberries in High Tunnels publication contact Lewis W. Jett, State Vegetable and Small Fruit Specialist, Lincoln University, 111 Allen Hall, Jefferson City, MO 65102.

Blonde Drupe of Blackberry

By Marilyn Odneal
Horticulture Outreach Advisor
Missouri State University

Blackberries are an aggregate fruit consisting of many little drupes (fleshy indehiscent fruit with a single seed) or "drupelets" (see figure 1). Through the years we have seen a "blonde" or "tan" or "white" symptom on blackberries and during a hot spell in 2006, we saw it again (see photo). This symptom has been related to stink bug damage during blossom or solar radiation/heat stress near harvest or some unknown physiological problem. In any case, when it comes up it is always somewhat confusing.

Dr. John Clark of the University of Arkansas was kind enough to have a look at several photos of the blackberry grower's problem and wrote that "This fellow has the most classic sunburn I have seen on Arkansas blackberries" and went on to explain that the large areas of many drupelets indicate this. The individual ones may be due to less heat or the difference in the susceptibility of the blackberry cultivars. Some varieties of blackberry are more susceptible than others with 'Apache' being the worst and 'Navaho' the best.

Unlike the hard, dry, scab-like berry lesions caused by the anthracnose fungus when it affects the fruit, the blond drupes are not dry and are similar to the regular drupes but are the lighter color. This affects the fresh marketability of the berry, but does not seem to affect product if the berries are processed.

This is one problem that when you see it, it is too late to do anything. If it is reoccurring in your field, and you are growing a particularly susceptible variety like 'Apache', you may consider the use of shadecloth applied before the berries turn red. If you haven't planted your

rows yet, you can orient them north and south if possible to avoid the sides of the rows exposed to the southern sun and avoid strong winds that may aggravate the situation. Other methods including specialized trellising and evaporative cooling were also mentioned in an article on bramble diseases (Heidenreich).

No matter what problem you have on your small fruit crops, the **Berry Diagnostic Tool**, on the web and referenced at the end of this article, is a helpful resource and a companion to the NRAES Production Guides for Strawberries, Raspberries and Blueberries. Even though it was developed to assist "with the identification of diseases, insects, chemical injury and physiological disorders that affect berry crops in northeastern North America and eastern Canada", keeping those geographical areas in mind, it is still a good tool in identifying small fruit problems here in Missouri.

Blonde drupe of blackberry

References

Pritts, Marvin. Berry Diagnostic Tool http://www.hort.cornell.edu/department/faculty/pritts/BerryDoc/Berrydoc.htm Dr. Gina Fernandez administers the blackberry portion of the tool.

Heidenreich, Cathy. 2005. Bramble Disease Fast Facts. New York Berry News, Vol. 4, No. 8 (13 - 14).

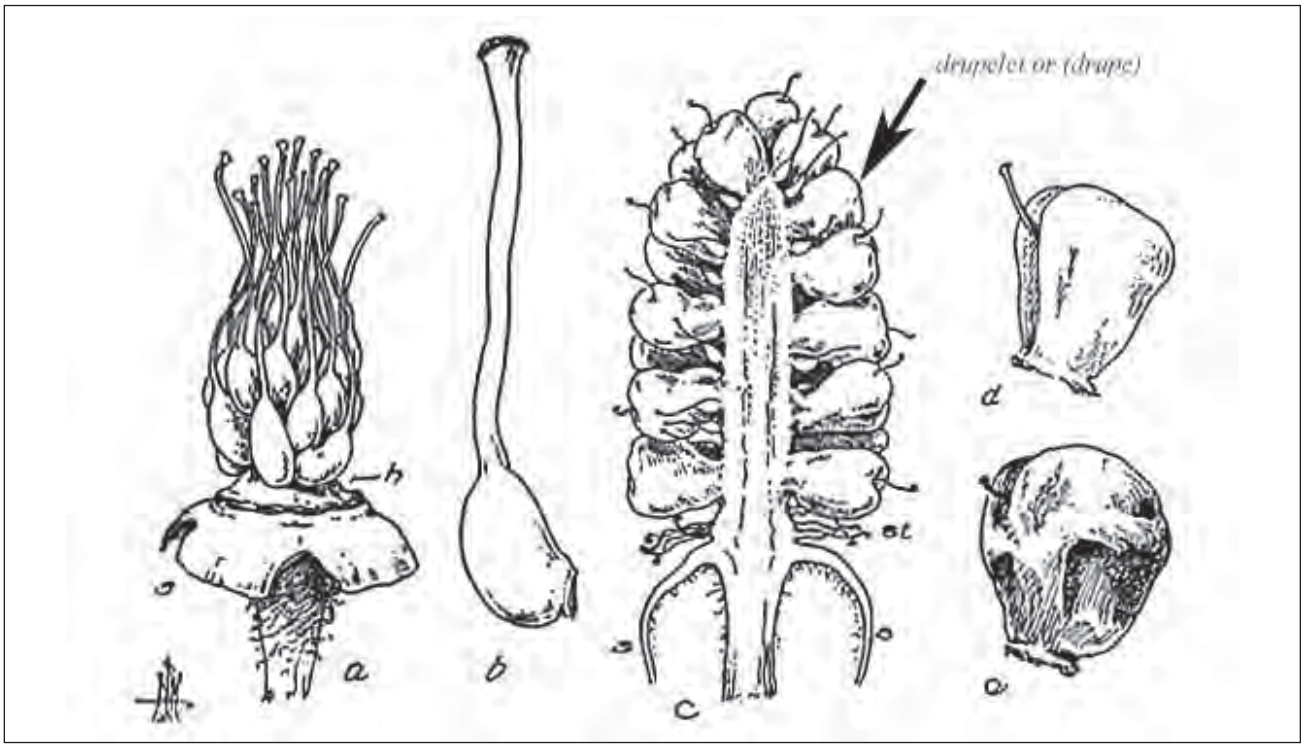

Figure 1. *Blackberry (Rubus); a, the polycarpellate gynœcium; b, carpel; c, median section of the aggregate fruit; d, a young drupelet; e, mature drupelet; h, hypanthium; s, sepals; st, stamens*

Preparing the Garden for Next Year

By Gaylord Moore
Regional Horticulture Specialist
University of Missouri Extension

After a dismal growing season in the vegetable garden, you may be looking forward to next spring. Fall is the best time to prepare the garden for next season. Gardeners are like farmers; they are eternal optimists. Next year will be better! With proper and timely preparation, it will be better.

The main preparations are cleaning up garden refuse, sowing cover crops or adding organic matter, and plowing the soil. Don't forget a soil test if that has not been done the past five years or the garden is experiencing potential nutritional problems.

Many organisms overwinter in garden debris. Destroying leaves, stems and old fruit reduces the potential for disease and insect problems in the following year. The cleanup should be done following the first killing frost. I prefer not to place diseased plants into a compost pile or turning into the soil. Destroying by burning is my first option. If this is not acceptable, collecting the refuse and hauling away from the garden area is then suggested.

Most disease-causing organisms are soil invaders. Even fall plowing of supposedly clean disease free residues helps prevent the overwintering of many of these organisms if they should be present.

Compost, rotted manures and other organic products are best tilled or plowed down in the fall. Further decomposition of organic materials will help reduce the potential of nitrogen tie up high carbon materials next spring. In addition, manures not fully composted now and if plowed down will be less likely to cause problems such as burn to the plants next spring.

Crop rotation is an important measure that is used to control certain diseases. Planning where to plant certain crops well in advance is a good practice to implement crop rotation. Whenever possible, avoid planting any vegetables within each of the following groups in the same location more than once every three years:

- Cabbage Family – broccoli, Brussels sprouts, cabbage, cauliflower, Chinese cabbage, kohlrabi, mustard, radish, rutabaga, and turnip.

- Cucumber Family – cucumber, gourd, muskmelon, pumpkin, squash, and watermelon.

- Tomato Family – eggplant, pepper, potato, and tomato.

- Onion Family – chive, garlic, leek, onion, and shallot

A green manure crop such as winter wheat or rye may be used as a good cover crop. This practice is valuable where wind or water erosion may be a problem. Consider planting about 3 pounds per thousand square feet of either wheat or rye. Plow under next spring prior to seedbed preparation.

The final gardening chore before winter's arrival is the cleaning and winterizing of all garden equipment. It is always good to start out the spring with clean, sharp tools and easy-to-start engines. Clean your hand tools so that they are free of dirt and rust. After the dirt and rust are removed, sharpen the tools and, if necessary, coat all exposed metal surfaces with oil for protection against moisture.

I recommend draining or using out the gas in your tiller and start with fresh gas next spring. However, now is the time to tune up engines or change oil so you will have time to sit back, relax, and go through garden catalogs. They will be arriving in your mail box before you know it!

Botanicals on State Quarters and in State Mottoes

By Suzi Teghtmeyer
Head Librarian
Paul Evans Library of Fruit Science

Although not directly related to fruit culture, I thought it would be interesting to share with you my observations of botanical representations on the new State Quarter releases, and their potential connection to their state mottoes. The designs for forty quarters have been officially released so far (the ten releases scheduled for 2007 and 2008 have not; more on these later). Of the forty, nineteen have a plant represented on them, three of which have two different plants. Alas, only one coin has a fruit on it, and that is Georgia's quarter with a peach (Georgia's motto is The Peach State). Fifteen have trees or tree parts: Iowa - a deciduous tree; Maine (the Pine Tree State), Minnesota, Oregon and Colorado – general evergreens; California – a Sequoia; Alabama – Southern Longleaf Pine; Georgia – Live Oak; Connecticut – Charter Oak; Maryland – oak leaves; South Carolina and Florida – Sabal Palm trees; Nevada (the Sagebrush State) – Sagebrush; Vermont – Sugar Maples; and Mississippi (The Magnolia State) – Magnolia blossoms (representing the state flower, state tree, and motto). As for flowers (all state flowers), South Carolina also has Yellow Jessamine; Alabama also has Camellias, and Kansas (the Sunflower State) has the Sunflower. The remaining three quarters have a crop; South Dakota – wheat; Wisconsin – corn; and Arkansas – rice.

Georgia's peach quarter

As a side note, five states have mottoes which refer to botanicals or habitats, but their quarters do not reflect it: Ohio – The Buckeye State; New Jersey – The Garden State; Kentucky – The Bluegrass State; Illinois – The Prairie State; and Nebraska – The Cornhusker State. As for the remaining ten quarters, the five releases for 2007 have been approved by their respective states, but not officially released by the US Mint. Of those, only Washington (The Evergreen State) has a plant, that being evergreen trees. The 2008 releases are still in the voting stages in their states. The submitted designs can be viewed at http://www.quarterdesigns.com/ For more on the State Quarter program, visit http://www.usmint.gov/mint_programs/ and click on "50 State Quarters Program".

Shenandoah Pawpaw

By Patrick Byers
Fruit Grower Advisor
Missouri State University

The Missouri State University State Fruit Experiment Station is conducting research on several alternative fruit crops, including the pawpaw, *Asimina triloba*. A replicated trial of 8 pawpaw cultivars was initiated in 2003. One of these cultivars, Shenandoah, produced fruit in 2006. "Shenandoah", a seedling of the old cultivar "Overleese," originated in the breeding program of Neal Peterson, a leading advocate of this native fruit (see http://www.petersonpawpaws.com/ for information on Mr. Peterson's pawpaw interests). While the following information on Shenandoah from the Mountain Grove trial should be considered observational, I was quite impressed by the characteristics of this cultivar in its first season of production. The harvest for Shenandoah began August 30, and lasted for 2 weeks. The fruit size averaged 239 grams per fruit, and fruit were oval in shape. Fruit quality was described as good to excellent by several tasters. The fruit averaged 7.2% seed by weight. In addition to Shenandoah, the cultivars Overleese, Sunflower, PA Golden, and Wells produced fruit in 2006. Stay tuned for more information on this study!

Truman State University's Solar Clock Garden

By Dr. Steven B. Carroll
Division of Science
Truman State University, Kirksville, Mo.

Students at Truman State University now have less reason to be late for class. In spring 2005, a sundial and floral clock were installed on campus. Now students always know what time it is, especially if the sun is shining. This large project, which occupies approximately 3500 square feet south of Magruder Hall, Truman's newly renovated and expanded science building, includes two main elements: a horizontal sundial constructed of low concrete walls; and a floral clock garden planted within the sundial. Together they comprise the Gaber Solar Clock Garden, named for Drs. Ron and Elsie Gaber, local residents who generously provided funding to get this project off, and into the ground.

The Sundial

Construction of the sundial was completed in spring 2005. The design emerged from an interdisciplinary class taught by Associate Professor of Physics, Dr. Matt Beaky. He took ideas proposed by student groups and modified these to fit the available site. The sundial's concrete walls were built by Truman's physical plant staff. A 12-foot tall post – the gnomon – was milled from a red cedar tree that formerly grew on the site but that had to be cut to accommodate construction of the building. The gnomon indicates time by casting its shadow across "hour lines" that radiate across the site.

An interesting addition is the presence of three cross walls. These walls intersect the hour lines and are positioned such that the tip of the gnomon's shadow follows the far arc on the winter solstice (shortest day, longest shadow!); the close arc on the summer solstice (longest day, shortest shadow); and the singlek, straight, middle path on the two equinoxes. These three cross walls, as well as the "local noon" hour marker, were made wider than the others to allow visitors to walk out into the garden.

Time Will Tell

Of course, the first question people usually ask is, "Does the clock garden work?" The sundial works extremely well, especially for those willing to adjust for the "precession of time." (Sundial enthusiasts know what this means!)

Overall, the floral clock also "works," though with some qualifications. Our placement was nearly perfect for some species but a bit off for others; in addition, some species were more consistent in their time of opening than were others.

Among the more reliable plants were the *Gazania* hybrid cultivars, which were planted in front of the "equinox wall," in the 9 a.m. to 10 a.m. cell. These were among the stars of the garden; not only did they contribute color during nearly the entire growing season, but they consistently opened during their "appointed" time. It wasn't until late summer, perhaps due to cooler temperatures, that these plants began sleeping later in the morning!

We planted two cultivars of blue pimpernel (*Anagallis monellii*), and we hedged our bets. We planted `Blue Lights' in the 9-10 a.m. section, and that's when it opened; a smaller-flowered cultivar was planted in the 10-11 a.m. section, but it also tended to open before 10:00. We planted the Missouri native rock pink (*Talinum calycinum*) in the 2-3 p.m. section, and its buds would begin unwrapping "like clockwork" each afternoon, right on cue.

One of the garden favorites was the native passionflower (*Passiflora incarnata*), which we grew on two trellises in the back of the 11-noon and noon-1 p.m. sections. (Remember, during Daylight Savings Time, the shadow falls along the "local noon" line at 1 p.m., not at noon.)

The spectacular flowers of these climbers would usually begin opening around 11:30 or so, and depending on conditions (temperature? humidity?), the length of time required for these flowers to open tended to vary. One day I watched a flower go from closed bud to fully open in less than five minutes. Not only did I watch the petals and corona uncurl and flatten, I watched the stamens flip over and I could hear the parts moving against each other! I got in the habit of going out to the garden to observe and photograph this spectacle and I think students got in the habit of walking on the other side of the street so I wouldn't drag them over to watch this show yet again! Each flower on this plant lasts but a single day, after which it partially closes and fades. We got our plants into the ground late the first year, so they didn't have quite enough time to fully sweeten; this year, however, they are fully laden with plump, delicious, sweet fruit.

The late afternoon section of the garden was also popular, for it was here that we planted species whose flowers either opened or secreted nectar late in the day or during the evening. The combined aroma of flowering tobacco (*Nicotiana alata* `Lime Green' and `Grandiflora'), night phlox (*Zaluzianskya capensis* `Midnight Candy'), and night-scented stock (*Matthiola longipetala*) would sometimes stop passersby in their tracks. We also planted the Missouri evening primrose (*Oenothera macrocarpa*), whose flowers are macro – very large – indeed. And this spring we added moonflower (*Ipomoea alba*) and night-blooming cereum (*Epiphyllum*), both of which attract a lot of attention.

Two edible species, okra (*Abelmoschus esculentus*) and a dwarf summer squash (*Cucurbita pepo* `Floridor') added another somewhat unusual element to the garden. These each have large flowers that open in the morning and close later the same day, and they provide a nice link between horticulture and economic botany. I got in the habit of placing the day's harvest in a basket next to the sidewalk along with recipes.

We had successes, but we also had disappointments. The moss roses, or eleven o'clocks, (*Portulaca grandiflora*) were nice to look at but were unpredictable in their opening; on sunny days they almost always opened earlier than 11:00. The four o'clocks (*Mirabilis nyctaginea* and *M. jalapa*) were similarly unpredictable, sometimes opening early, sometime late but they did add nice color and texture to the afternoon section of the garden. By spending as much time as possible in the garden and taking note of what each species was doing, we can make adjustments next year, especially since many of the plants are annuals and will need to be replanted.

Are We There Yet?

As all gardeners know, a garden is never finished. Because we still have some holes to fill, we didn't plant the entire bed, which increased the need for weeding. As mentioned above, we also placed some plants in the "wrong" cells, and they must either be moved or planted in different sections next spring. And there are new species to include, new cultivars to try, compost and mulch to add, weeds to pull, and the list goes on…

We have also been busy on other fronts. Four undergraduates in a Design & Layout class developed a descriptive brochure and web site for the clock garden. The brochure has been printed and placed in the garden, much like one sees at state and national parks. You can visit the garden online at //solarclockgarden.truman.edu

This article first appeared in the Plant Science Bulletin 2006 52:11-15. It has been shortened to fit this newsletter. The full story can be found at (www.botany.org/PlantScienceBulletin/psb-2006-52-1.php).

Landscape Design with Missouri in Mind

By Barbara Fairchild
Grow Native!

Learn how to use native plants to improve your landscaping projects at *Landscape Design with Missouri in Mind,* a day-long workshop offered Jan. 12 and 13 at the Missouri Department of Conservation's Springfield Nature Center.

Keynote speaker is Dave Tylka, who literally wrote the book on using native plants to beautify property. His *Native Landscaping for Wildlife and People* gives step-by-step instructions for integrating native plants into yards and small acreages. Tylka's approach to using native plants is practical and systematic, an approach that will appeal to landscape professionals and home gardeners alike.

Other sessions include native plant basics; an introduction to landscape design elements; an overview of native plants used in landscaping; an overview of the natural habitats of southwest Missouri; and a session that explains how to install and maintain native plants.

In addition, Ann Wakeman, a native plant enthusiast with extensive experience will tell how she converted her property from fescue to prairie and share her success stories and what she would do differently.

Landscape Design with Missouri in Mind is sponsored by Grow Native!, a joint program of Missouri Department of Conservation and Missouri Department of Agriculture, along with these partners: City of Springfield Public Works Department, Show-Me Yards & Neighborhoods, Springfield/Greene County Choose Environmental Excellence, Missouri State University and University of Missouri Extension.

The day-long workshop is offered from 8 a.m. to 5 p.m. Friday, Jan. 12, 2007, and Saturday, Jan. 13, 2007. While content is much the same for both workshops, the Friday workshop is geared toward landscape professionals and the Saturday workshop toward the general public. For more information or to register, call Debra Hausmann at (573) 522-4171 or e-mail her at grownative@mda.mo.gov The registration fee is $25 and may be sent to Debra Hausmann, Grow Native!, P.O. Box 630, Jefferson City, MO 65102.

This pairing of Aromatic Aster (Aster oblongifolius) and Prairie Dropseed (Sporobolus heterolepis) is colorful for many weeks in late Fall.
Photo source http://www.grownative.org

2007 Missouri Small Fruit and Vegetable Conference

By Patrick Byers
Fruit Grower Advisor
Missouri State University

The MSU State Fruit Experiment Station is pleased to invite all interested persons to the **2007 Missouri Small Fruit and Vegetable Conference**, **February 12, 13, and 14**, at the Clarion Inn and Conference Center, Springfield, Missouri. The Conference brings together small fruit and vegetable growers, researchers, extension workers, and commercial suppliers from across the state and around the country. The keynote presentation, "Making Money with Specialty Crops," by **Mr. Ron Macher,** author and editor of *Small Farm Today* magazine, highlights the focus of the conference on the diverse crops produced in Missouri.

The 2007 Conference features a wide range of topics in several sessions. The opening day of the conference, February 12, features a bus tour

Patrick Byers lectures to an attentive audience.

of small fruit and vegetable producers. The main conference kicks off on February 13 with the keynote presentation, followed by sessions that focus on marketing, vegetable production, and blueberry production with the new ornamentals session in the evening. The third day of the conference, February 14, focuses on strawberry production, as well as a session that explores alternative options for Missouri farmers.

In addition to the educational aspect of the conference, small fruit and vegetable producers can visit a trade show that includes vendors for a wide range of products and services. The Missouri Blueberry Council also holds its annual meeting during the conference.

For additional information on the 2007 Missouri Small Fruit and Vegetable Conference, please contact Patrick Byers, Fruit Grower Advisor, Missouri State University Department of Agriculture, 9740 Red Spring Road, Mountain Grove, Missouri 65711-2999, call (417) 547-7500, or email plbyers@missouristate.edu

Visit our website at http://mtngrv.missouristate.edu for the latest conference information.

Coming Events

Missouri Small Farm Today Conference
November 2-4, 2006
Boone County Fairgrounds
Columbia, Mo.
How to prune grapes, grow orchards, and more!

Landscape Design with Missouri in Mind
January 12, 2007 or January 13, 2007
Missouri Dept of Conservation
Springfield Nature Center
Learn to use native plants for landscaping.

MidAmerica Fruit Growers Conference
January 23-25, 2007
The Elms Resort and Conference Center
Excelsior Springs, Mo.
The premier meeting for tree fruit and grape growers in Missouri/Kansas.

Missouri Small Fruit and Vegetable Conference
February 12-14, 2007
Clarion Hotel and Conference Center
Springfield, Mo.
Sessions on strawberries, brambles, blueberries, vegetables, marketing, diversification, and more!

For information on these events, contact Pamela Mayer pmayer@missouristate.edu at the Missouri State Fruit Experiment Station, 9740 Red Spring Road, Mountain Grove, MO 65711-2999; telephone 417-547-7500; email StateFruitExperimentStation@missouristate.edu http://mtngrv.missouristate.edu/

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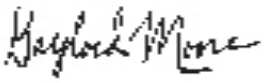

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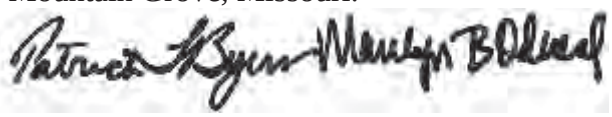

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