

## Finish the Race

By Ben Fuqua

Professor, Soil Science

Missouri State University

Most blueberry growers in Missouri are looking for a “great” year in 2008. The blueberry plants seem to have recovered from a disastrous 2007, with a good fruit load of great looking berries. The demand for fresh blueberries should be as strong as or stronger than ever, as consumers reconnect with picking and eating the tasty, blue-colored berries. Although ripening of blueberries is somewhat later than normal this year in many parts of the state, the harvest season is over (or nearly over) for most growers. But after harvest, there are still a few tasks that growers need to finish. The months of August, September, and October are crucial times in the growth and development of highbush blueberry plants. Fruit buds for

next year are being formed, plants are storing nutrients and energy for next spring’s growth, and plants are beginning the complex process of “hardening off”. Attention to blueberry plants during this time can have a major impact on the 2009 berry crop.

**Nutrient management:** Supplying the proper amount and balance of plant nutrients at the correct time remains one of the greatest challenges of growing highbush blueberries in Missouri. While there are several innovative ways to address this problem, annual soil and foliar (leaf) tests are still the best tools for assessing the nutrient status of blueberry plants. Soil tests can be done anytime during the year. However, it is recommended that soil tests be taken at the same time as leaf samples in order to better compare the nutrient levels in the soil to the corresponding nutrient levels within the plant. Research has shown that nutrient levels in blueberry plants are more consistent after

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berry harvest than during the early growth and production stages. Thus, both soil and leaf samples taken in July/August will provide the most accurate information.

**Soil Tests:** Approximately 1 pound/1 pint of soil is needed for a good soil test. Several soil sub-samples, taken from the plant row (preferably between plants) throughout the planting will be needed to obtain a “representative” composite sample. The sub-samples should be thoroughly mixed and allowed to air dry prior to sending the sample to the laboratory. The sample can be submitted to the Missouri Soil and Plant Testing Laboratory (coordinated by University of Missouri Extension) or other private commercial soil testing laboratories for analyses. If a private commercial lab is selected (particularly an out-of-state lab), be sure to request that “Missouri” soil test procedures be used.

A “routine” soil sample in Missouri will include seven different tests: soil pH; % organic matter; available phosphate, calcium, magnesium, and potassium; and neutralizable acidity. The pH test is of utmost importance to blueberry growers, since highbush blueberries require a rather specific and narrow pH range for growth and production. On the Missouri Soil Test Report, soil pH is reported as both  $pH_s$  (soil:CaCl<sub>2</sub> suspension) and pH (soil:distilled water suspension). Although the reported values will differ slightly ( $pH_s$  being 0-0.5 units lower), they both measure the same thing, soil acidity. Thus, the optimum soil pH of 4.8-5.2 currently recommended for growing blueberries in Missouri would be equivalent to a  $pH_s$  of 4.3-4.7.

**Foliar Tests:** Foliar or leaf tests have become a very important tool in developing good nutrient management plans for blueberries. The leaf analysis is a better indicator of the amount and balance of nutrients actually absorbed by the plant than the soil test. The laboratory results from the leaf analyses can be compared with “sufficiency” levels of individual nutrients established for Missouri blueberry plants through long-term plant growth studies.

A good leaf sample should consist of 30-50 fully expanded leaves from the current season’s growth. Leaves should be collected from several plants (subsamples) in the planting and placed in a paper bag. Leaves from different blueberry varieties should be kept separate and sent to the laboratory as different samples. Leaves that are dusty can be rinsed with tap water and blotted dry with paper towels. Allow all leaves to air-dry before submitting them to the laboratory. Avoid collecting leaves from weak, diseased, or unhealthy plants unless they are to be analyzed as a separate sample. The Missouri Soil and Plant Testing Laboratory as well as several commercial laboratories are available to analyze the leaf samples.

**Fall Care of Plants:** While berry harvest in Missouri is usually over by mid- to late July, this does not imply that growers can relax and forget about their blueberry plants. Attention to cultural needs, particularly irrigation, fertilization, and weed control are necessary to prepare the blueberry plants for the upcoming year.

**Irrigation:** Although blueberry plants require rather large amounts of water throughout the year for vegetative growth and berry production, they also require ample water during late summer and fall months. Irrigation of blueberry plants will be needed through August and into September most every year in Missouri. (as of June 15, Springfield is 17 inches above normal in rainfall. However, a statement from an “old-timer” neighbor that “Ozark soils are only 10 days from a drought, regardless of when it last rained”, has also proven true!). By late September, soil moisture is usually adequate for blueberry plants due to cooler temperatures and increased rainfall. In drought years, irrigation may be needed in October. However, irrigation should end by mid-October (in most years) to allow plants adequate time to properly acclimate (harden) before winter. But regardless of climatic conditions, do not let blueberry plants become stressed for water during these fall months.

**Fertilization:** Excessive and/or late fertilizer applications often cause blueberry plants to continue vegetative growth, thereby

making plants much more susceptible to frost/freeze injury. Nitrogen is the nutrient that most frequently causes this problem. While nitrogen is applied to blueberry plants in rather high amounts for growth and production (and often applied 2 or 3 times) during the growing season, the absorbed nitrogen should be metabolized by plants by late September. This will allow plants adequate time for fall senescence (coloring) and proper hardening.

Solid forms of nitrogen fertilizers normally remain in the soil for 6-8 weeks after application. Thus, the last applications of urea should be no later than July 20 and no later than August 1 for ammonium sulphate. Organic forms of nitrogen stay in the soil much longer than chemical forms and should be applied before July 15 to allow the organic nitrogen to be broken down (mineralized) and metabolized before frost. Liquid forms of nitrogen are frequently injected through the irrigation system and remain in the soil for only 2-3 weeks. September 1 is the target date to end liquid applications to blueberry plants.

**Weed Control:** Control of weeds, both broadleaves and grasses are a continual challenge in blueberry plantings. Chemical and/or mechanical control methods are frequently needed throughout the year to curtail weeds. Weeds rob blueberry plants of needed nutrients, water, light, etc., and interfere with the overall plant growth. After harvest is often a time that growers neglect weed control efforts and plantings become overgrown and unsightly. Controlling weeds during these fall months not only helps the looks of the planting, but will also help reduce weed seeds and lower weed pressures next year.

**Summary:** Most blueberry growers in Missouri have had an enjoyable, "good run", in 2008. Consumers continue to enjoy eating blueberries, the "fruits" of the blueberry grower's labor. While the fun parts (i.e., picking, selling, and eating ripe blueberries) lasts less than two months, growing and caring for blueberry plants require year-round efforts. The job now at hand is to "finish the race"!

## Physiological Disorders of Tomatoes

*By Jennifer Schutter*

*Horticulture Specialist*

*University of Missouri Extension*

Tomatoes are a popular garden crop and a favorite of many. They are widely adapted to our climate and soils. Tomatoes are rich in vitamin C and lycopene, a cancer fighting agent, and are low in calories. Tomatoes may have these desirable qualities, but they are not without their problems. The following are physiological disorders common to tomatoes grown in the home garden, high tunnels, and commercial fields.

**Flower drop:** Flower drop is especially noticeable on early flowers when the grower is anxious for fruit to set for an early harvest. The problem occurs when night temperatures are lower than 55 degrees Fahrenheit, and when day temperatures are higher than 95 degrees Fahrenheit; or when night temperatures remain above 75 degrees Fahrenheit. Hot drying winds may intensify the problem. Varieties also will differ in their temperature response. Fruit-setting hormones may be used to help set fruit early in the season when the weather is cool. The problem usually disappears and fruit sets normally after the weather improves.

**Leaf roll:** Older and lower leaves of some tomato varieties may roll and become stiff and leathery. It is not a disease and is most common on plants that are trained and pruned. Fruiting is not affected by this condition. Varieties I have seen this on are the Mountain series like Mountain Spring and Mountain Fresh.

**Cracking** is a physiological disorder caused by wide fluctuations in soil moisture. Tomatoes often start to crack during warm, rainy periods, especially if this weather comes after a dry spell. The tomatoes expand too fast and are most likely to crack when they have reached full size and are beginning to turn color. Some resistant varieties include Early Girl and Jet Star. Be sure to apply adequate moisture throughout the growing season to avoid the problem.

**Catfacing** is another physiological disorder of tomatoes. Tomatoes develop unusual swelling and streaks of scar tissue. It is caused by abnormal development of the tomato flower at blossom time. Cold weather at the time of blossom set intensifies the deformities. Catfacing is not a disease. It is most common in the large-fruited beefsteak type tomatoes.

**Blossom-end rot** is a disorder that occurs on the bottom or blossom end of the fruit. It appears as a sunken, water-soaked spot. The spot turns brown or black, and dry and leathery as it grows larger. It is not an infectious disease. It affects both green and ripe tomatoes and is caused by a calcium deficiency, which is usually the result of wide fluctuations in soil moisture.

**Sunscald** develops when high temperatures retard the development of good color. Tomato fruits exposed directly to the hot sun may scald. Sunscald is localized damage to the tissue often accompanied by discoloration. Good foliage cover is helpful in preventing scalding.

Many of these disorders are quite common. They are not caused by insects or disease and are not infectious. Little can be done for most of them, but the fruit may be eaten if the affected portions are removed.

**Cloudy spots:** Irregular whitish spots just under the skin. This is the result of stink bugs feeding on the fruit at some stage in its development.

The following are chemical related problems you may see:

**Chemical injury:** Drift from 2,4-D and similar chemicals commonly used on lawns and in fields may cause distorted leaves, twisted stems, dropping of flowers and fruit abnormalities. The drift may originate one-half mile or more away. Sprayers that have been used for herbicide and then used for disease and insect control on tomatoes may also be a source of contamination.

**Walnut toxicity:** Plants growing near black walnut trees may wilt and die. Avoid growing tomatoes within 50 feet of these trees or where they may come into contact with walnut roots.

For more information on diseases, disorders, and insects on tomatoes, contact your county extension center.



*Blossom end rot*



*Yellow shoulder*



*Herbicide damage*

## Hot Plants that are “Cool”

By David Trinklein

Associate Professor of Plant Sciences  
University of Missouri Extension

Anyone who has lived in our fair state for some time can attest to the fact that Missouri summers can be brutal. Excessive heat and lack of rain are quite typical of July and August in the ‘Show Me’ state—the recent heat wave we endured is a somber reminder of that fact. Several years ago the United States Department of Agriculture released a “heat zone” map—the high temperature equivalent to the plant hardiness zone map. This map shows the majority of Missouri to be in a zone characterized by summers that (normally) contain up to 90 days having temperatures that reach 30° C (86° F). This coupled with the temperature extremes reached during our summers equate to some very harsh conditions for our yards and gardens, not to mention their owners.

Many of the annual ornamental plants traditionally grown in Missouri have been “borrowed” from Europe. Those of us who can trace our heritage back to that continent can thank our ancestors for bringing with them the love of these flowering plants and passing it on to their offspring. With a few exceptions, the climate of European countries is less severe from the standpoint of temperature and precipitation than is Missouri’s climate. Thus, many of the annual flowering plants we attempt to nurse through the summer would really be much happier a few states further north. While they might be quite attractive in the cooler months of spring, they decline significantly when the summer warms.

Fortunately, there are attractive annuals native to warmer climates. These species thrive in high temperatures and (conversely) do not like the cool months of spring and fall. Given proper care, they will be at their showiest when cool-loving plants start to decline because of the heat. Unfortunately, many of us are unfamiliar

with these species and have not tried them in our gardens. Here is where the experiences of others can be helpful as we plan our own gardens.

For the past several years trial plots have been planted at the MU Turf Research Center, located near Columbia, Mo. to evaluate the summer performance of ornamental herbaceous plants. The plants are given the care typical of a home garden and rated on three different dates, to evaluate early, midseason and late-season performance. From the results of these trials as well as from the experiences of others, it can be concluded that there are a good number of ornamental herbaceous plants that thrive under the high temperatures typical of a Missouri summer. Certain of these are cultivars that have been bred for heat tolerance of species that normally more prefer cooler temperatures; others are species of plants whose native habitats are characterized by hot summers. Table 1 lists some of the species quite tolerant of heat and deserving of more attention than they currently are receiving by Missouri gardeners.

A familiar saying goes “everybody talks about the weather but no one does anything about it”. This statement is only partially true for gardeners. Those of us who are serious about enjoying the beauty of ornamental plants during the heat of a Missouri summer can do so by proper selection of our plant material.

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**Table 1. Herbaceous Ornamentals  
Tolerant of Hot Weather**

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Amaranthus	Lantana
Bougainvillea	Marigold
Canna	Melampodium
Celosia	Nicotiana
Cleome	Oleander
Cosmos	Portulaca
Cuphea	Sanvitalia
Flowering purslane	Scaevola
Gazania	Sweet potato
Gomphrena	Tithonia
Hibiscus	Vinca
Mandevilla	Zinnia

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## Looking Local

*By Marilyn Odneal*

*Horticulture Outreach Advisor*

*Missouri State University*

We heard good news from James Quinn, MU Extension Regional Horticulture Specialist and the Missouri Department of Agriculture that Missouri-grown tomatoes have been added to the FDA safe list. “While the FDA has not yet determined the source of the salmonella-tainted tomatoes that have so far sickened more than 200 people, Quinn said the FDA has been going through a process of identifying states not associated with the outbreak. (Source: Missouri-grown tomatoes on safe list <http://cafnr.missouri.edu/news/missouri-tomatoes.php> )

Locally grown fruits, vegetables and flowers are fresher products. Several websites that offer information on sources for locally grown produce include:

### **Food Circles Networking Project** (Sources of

Local Foods in Missouri)

<http://foodcircles.missouri.edu/sources.htm>

### **AgriMissouri buyers’ guide**

<http://www.agrimissouri.com/buyersguide.html>

### **Missouri Farmers’ Market Directory** at

<http://agebb.missouri.edu/fmktidir/index.htm>

**Eating Locally in Areas Surrounding Springfield, Missouri** <http://agebb.missouri.edu/sustain/SpringfieldEating.pdf>

**Farmer Direct2You** <http://www.farmerdirect2you.com/missouri-farms.aspx>

**Missouri Exchange** - A direct way to buy and sell Missouri products.

<http://www.missouriexchange.com/>

**LocalHarvest** - real food, real farmers, real community (nationwide database of farms)

<http://www.localharvest.org>

**Farmers Market Search** - AMS works to maintain a current listing of farmers markets throughout the United States.

<http://apps.ams.usda.gov/FarmersMarkets/>

**PickYourOwn.Org** a national directory of pick your own farms <http://pickyourown.org/MO.htm>

Please let us know if you have any other links you recommend to help find locally grown products.

## It’s Fair Time!

*By Jennifer Schutter*

*Horticulture Specialist*

*University of Missouri Extension*

It is fair time all across the country, and you know what that means.....livestock shows, carnivals, concerts, and contests. You can find a fair somewhere in Missouri every week in the month of July and August. County fairs are a great way to show off locally grown produce including fruits, vegetables, and flowers. Most county fairs have an open division in addition to a youth division. Nearly every kind of fruit, vegetable or flower including flower arrangements and potted plants are accepted at most fairs. All you have to do is get it there. Fair books are available at most county extension centers, or you can call the extension center if you have any questions about exhibiting. I have been to county fairs where only a handful of items were exhibited. If gardening is the number one hobby in the United States, why aren’t more vegetables and flowers being exhibited? Some will say the cost to get in the fair prevents them from exhibiting, but you can go to the fair on a Friday or Saturday night and see hundreds, maybe thousands of people there. Some say their produce isn’t good enough to exhibit. As long as your fruits, vegetables and flowers don’t have insect damage or disease, they are good enough to exhibit. Support your local fair, exhibit your produce!

## Fall Cole Crops for the Gardener

By John Avery

Fruit Grower Advisor

Missouri State University

Most people think of cole crops (cabbage, broccoli, cauliflower, Brussels sprouts, and collards) as a spring crop but the very best crops can be grown in the fall in Missouri. It is hard to find trays or plants for sale in the fall, but fortunately, cole crops are easy to start from seed. Due to the warm weather in the early summer, plants can be started in trays or direct sown with good results. The Cole crops are cool season plants so the best flavor develops under the cool temperatures of fall. They can even tolerate a light frost.

Timing is the critical factor in producing a flavorful crop of cabbage or other cole crops in the fall. If planted too early the crop may set heads during the heat of summer and the crop will have poor taste. If planted too late in the summer a hard freeze may damage the crop before it has produced.

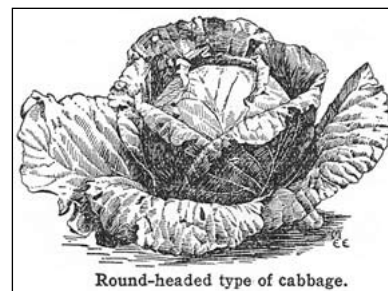
I have found it best to sow your seeds around the first week of July here in southern Missouri. I prefer to start plants in trays. It is very important to sow your seed at a time that will result in plants of the proper size for planting in the garden later. Plants that are three to six inches tall with four to five leaves are the proper size for the garden. They should be kept in trays for only about one month and will be ready for transplanting around the first week of August. Although there is some leeway in planting the crop by one or two weeks, just remember that letting the plants continue to grow in the trays for more than five weeks may result in stunted plants! I have had a lot of trouble with spring plants stunting in the garden because they were started too early and became root bound after six weeks in trays.

Another problem, which can be eliminated by fall planting, is that of cabbage looper larva damage. *Bacillus thuringiensis* (BT) will manage

cabbage loopers but pest pressure increases with the spring crop as it matures while the fall crop may be under pest pressure early but it disappears as the summer fades to fall. In the spring cabbage looper will begin to appear in mid-April and the pressure will increase until late summer when it begins to decrease as temperatures start to decrease. A fall cole crop will have a lot of pressure during August and into early September but the pressure decreases from late September into October. During August a weekly spray of BT will be needed as the plants are small and there are lots of cabbage looper moths out laying eggs but by September the plants are large enough to withstand some feeding by larva. Usually by the first of October laying of moth eggs has ceased for the year and no more sprays are needed.

Cultivars with a maturity of fifty to sixty days are suggested for fall planting, although in most years even seventy-day cultivars will mature a crop. Remember the plants will be growing fast during July and August due to high temperatures and long day lengths, so most cultivars will mature somewhat earlier than listed on the package. As summer gives way to fall and the temperatures start to cool down, the flavor of the crop will be enhanced.

I prefer to grow my cole crops for the freezer in the fall because of the better flavor, the absence of insect larva on the crop and because most other crops are through producing. Remember to sow your seed around July 4<sup>th</sup>, if starting in trays transfer to the garden around the first of August, and control cabbage looper during August. For those who have a greenhouse business you may want to have some cole crop plants available during August for your patrons to try as a fall crop.



Round-headed type of cabbage.

## *Read's Quarterly Question*

### **Ozark Horticulture**

**Cut flowers are a great way to bring your garden indoors**

*By Andy Read*

*Horticulture Specialist*

*University of Missouri Extension*

**Q:** I would like to grow some cut flowers in my garden this year to brighten up my homes interior. What will I need to do and can you recommend some varieties for cutting? – Doug Stovall, Cuba

Cut flowers can be grown in a variety of ways. Plants can be grown in the landscape that work well as cut flowers, or they can be grown along-side the plants in your vegetable garden.

Where you grow your plants will depend on how you plan to use them. If you plan on cutting from the plants only occasionally they will work nicely in the landscape. If on the other hand you plan on keeping flowers inside all of the time it would probably be best to allocate a section of the garden to them.

I like growing cut flowers in the garden because the plants will need to be severely cut to get the best production and this may not look that nice in the landscape.

To begin with, look for the tallest varieties of plants that you can find. Plants grown for cut flowers should be at least eighteen inches tall and preferably over two feet. You can use shorter stems for certain types of arrangements but you can always cut down a stem while adding stem to a flower is a bit more problematic.

Since many of the plants used for cut flowers are very tall it is important to plan for trellising on certain varieties. Plants like Dahlia and Salvia leucantha will flop over without a proper trellis whereas most varieties of zinnia and sunflower have strong enough stems to support their own weight. Cultural suggestions found on most seed packets or plant labels will normally indicate whether or not trellising is necessary.

Most cut flowers should be harvested after the flower bud shows color but before it is completely open. Cutting flowers before they are fully developed allows for the best vase life possible and insures the highest quality flowers.

It is a real treat to watch a flower open over the time span of a couple of days in the comfort of your home. Harvesting flowers early also keeps garden pests from munching on the flower petals. Insects have a way of taking a bite out of just enough petals to make a flower look ragged from across a room.

It is best to harvest your cut flowers first thing in the morning before the day heats up. The second best option for cutting is late in the day. Try to avoid cutting your flowers during the hottest part of the day because they will be stressed and won't last as long in a vase.

Cut flowers can be grown in any good garden soil. It is a good idea to use mulch around your flower plantings to help retain moisture and also keep down weeds. Irrigation is also beneficial because ideally cut flowers should never be stressed for moisture. If you are irrigating full grown plants be sure to use drip irrigation. Overhead irrigation will get water on the flowers and can promote growth of unsightly fungus and bacteria.

It is fun to experiment with different types of flowers to see how they work as cuts. I'll go over a few with proven track records to help get folks started.

Many cultivars of zinnia can be used as cut flowers. If properly handled zinnia flowers should last about a week in a vase. My favorite variety of zinnia is 'Benary's Giant'. Benary's Giant has been bred specifically for cut flower production. This variety produces armloads of huge double flowers in a wide variety of colors.

Sunflowers are another easy to grow cut flower that really adds lots of pop to an arrangement or look nice by themselves. The Pro-cut series and Sunrich series are both fast maturing single head types that have excellent vase life. When growing single headed sunflowers you will need to make weekly plantings to have a continual supply of flowers.



If you're looking for a very unique sunflower I suggest the variety 'Moulin Rouge'. Moulin Rouge has a deep red color and each plant will produce numerous flowers over several weeks. Vase life for this variety is only three to five days but its unique appearance makes it worthwhile.

Flowers such as tuberose, dahlias, tulips, scabiosa, monarda, ageratum, rudbeckia and penstemon are just a few others that make wonderful cut flowers.

Cut flowers are lots of fun to grow and are a great way to enjoy our gardens when we can't get outside.



## Catch the Container Craze with Grow Native!

Don't let lack of yard space keep you from having a native plant garden. Collect a container or two or three and Catch the Container Craze!

Then show off your small garden in a big way by entering the Grow Native! Container Garden Contest. It's easy. Send your name, address, e-mail address, telephone number and photos of your native plant container garden (taken throughout the growing season—no more than three) to Grow Native! P.O. Box 630, Jefferson City, MO 65102.

Or enter electronically by sending the same information to [grownative@mda.mo.gov](mailto:grownative@mda.mo.gov)

Also include a list of native plants used in the container and their source (retail garden center, neighbor, specialty shop, wherever).

All entries must be postmarked by Wednesday, October 15, 2008.

Three winners will be selected. Each winner will receive a bundle of prizes that include:

The winner will receive a bundle of prizes that include a \$100 gift certificate for use at a Grow Native! retail garden center (provided by *Kansas City Gardener* and *The Gateway Gardener*), copies of *Tried and True: Missouri Native Plants for Your Yard*, *Seedling ID Guide for Native Prairie Plants* and *Native Landscaping for Wildlife and People*, a Grow Native! gardening wardrobe (hat, apron, t-shirt and vest), four free admissions to Powell Gardens or Shaw Nature Reserve and a profile of you and your container garden in the *Kansas City Gardener* or *The Gateway Gardener* and on the Grow Native! Website.

Containers will be judged on visual appeal, length of bloom time and native plant selection (color combinations, textures, heights).

### Ideas to get you Started

For a sunny area, consider creating a Prairie Pot that features native warm season grasses combined with sun-loving forbs such as rose verbena (*Glandularia canadensis*) or prairie blazing star (*Liatris pycnostachya*).

To create a Patio Nature Center, consider native plants that attract butterflies such as butterfly milkweed (*Asclepias tuberosa*).

For a moveable arbor, consider native vines such as passion flower (*Passiflora incarnata*) and include a trellis.

### Tips for Success

To determine the shape and/or size of the container, know the size and shape of the root system of the plant you will be placing in it.

Large containers stay moist longer and are less subject to fluctuating temperatures.

Good drainage is important. If your container lacks adequate drainage, add extra holes.

Water judiciously. Soil should be nearly dry before you add water. When you water, apply to soil, rather than leaves.

For more information about the contest, contact Grow Native! at 573-522-4170 or [grownative@mda.mo.gov](mailto:grownative@mda.mo.gov) and click on Workshops & Events. Grow Native! is a joint program of the Missouri Department of Conservation and Missouri Department of Agriculture.

## Patrick Byers Announces his Appointment to University of Missouri Extension

*By Patrick Byers  
Regional Horticulture Specialist  
University of Missouri Extension*

I would like to announce that I am leaving the position of Fruit Grower Advisor at Missouri State University's State Fruit Experiment Station, to join the Greene County office of University of Missouri Extension as a regional horticulture specialist. I have responsibilities for commercial and home horticulture for the 16-county southwest region of Missouri. My office is in Springfield, and the office website is <http://extension.missouri.edu/greene/>. My first day with Extension was May 12.

I've enjoyed immensely the privilege of serving Missouri's fruit industry over the past 18 years in the program at Mountain Grove, and treasure the relationships that I have developed over the years. My new position with Extension will give me the opportunity to develop my interest in all areas of horticulture, a challenge that I am eagerly anticipating. My new position will also allow me to maintain my relationships with the faculty and staff at Missouri State University, as well as developing new relationships with my colleagues in Extension, a unique situation that I'm sure I will appreciate.

For those in the southwest region, this is not goodbye. If I can be of service in my new position with University of Missouri Extension, please let me know. My office address is at the above website; my telephone number is 417-862-9284; and my email is [ByersPL@missouri.edu](mailto:ByersPL@missouri.edu).

*Editor's note:* **Mr. John Avery** has been appointed Missouri State Fruit Grower Advisor. His new assignment will include support of commercial fruit growers through the Fruit Production Advisory Program and direction of the Alternative Fruit Crops and Agroforestry research projects at the State Fruit Experiment Station at Mountain Grove. Good luck to John in his new position.

## New Raspberry and Blackberry Production Guide

The new NRAES (Natural Resource, Agriculture, and Engineering Service) ***Raspberry and Blackberry Production Guide For the Northeast, Midwest and Eastern Canada***, published in May, 2008 is now available.

The book description and table of contents from the website is as follows:

The Raspberry and Blackberry Production Guide is the only comprehensive resource for novice and experienced growers as well as crop advisors and educators. It provides information on all aspects of raspberry and blackberry culture including site selection and preparation, trellising and pruning, nutrient management, harvesting, irrigation, pesticide application, budgeting, and marketing. There are descriptions of more than 70 cultivars including summer-fruiting red, black, and purple raspberries; fall-fruiting red and yellow raspberries; thornless, thorny, and fall-fruiting blackberries, and hybrid berries. Field production, high tunnel production, and greenhouse production are reviewed.

This publication is intended to help raspberry and blackberry growers plan and implement production and marketing decisions. The cultivars mentioned either have performed well or show the most promise for the Northeast, Midwest, or Eastern Canada. Pest management chapters emphasize cultural controls, since chemical use is regulated on the state or province level. The book includes 11 chapters, 157 pages, 134 color photos, 14 chapters, 36 line drawings, 30 tables, 18 sidebars, sample calculations, suggestions for further reading, and a glossary.

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The book is available at <http://www.nraes.org/> or contact

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## Alternative Fruit Crops Field Day

The Alternative Fruit Crops Field Day will be held August 28, 2008 at the State Fruit Experiment Station. Registration will start at 3:30 pm and the presentations will begin at 4:00 pm. There will be presentations on elderberry, pawpaw, persimmon and other small fruits. The event will end at 7:00 pm. You will have the opportunity to see cultivar trials of elderberry, pawpaw, and persimmon. Depending on what is ripening there may be the chance to taste some of the fruit. The event is open to the public and growers looking for alternative crops to grow for local markets.

For information on these events, contact Pamela Mayer [pmayer@missouristate.edu](mailto:pmayer@missouristate.edu) at the Missouri State Fruit Experiment Station, 9740 Red Spring Road, Mountain Grove, MO 65711-2999; telephone 417-547-7533; email [StateFruitExperimentStation@missouristate.edu](mailto:StateFruitExperimentStation@missouristate.edu) <http://mtngrv.missouristate.edu/>

## Coming Events

### Turf (and Ornamentals) Field Day

Tuesday, July 8

Turf Research Facility

University of Missouri's South Farm

### Alternative Fruit Crops Field Day

Thursday, August 28 4:00 - 7:00pm

Missouri State - Mountain Grove

### Rain Garden Field Day

Tuesday, September 9 9:30am - 2:30pm

Missouri State - Mountain Grove

### 2008 Master Gardeners of Missouri State Conference

"Gardening Secrets of the Ozark Mountains"

September 26-28

Hilton Branson Convention Center Hotel

More information and registration form:

<http://www.momg08.org/>

### Commercial Cut Flower Production Basics

Monday, September 29 9:30am - 4:30pm

Missouri State - Mountain Grove

Fee and Registration Details to follow

### Home Winemaking

Wednesday, December 3

Missouri State - Mountain Grove

Fee and Registration Details to follow

### Grow Native! Landscape Design with Missouri in Mind

February 20 (professionals), 21 (homeowners, landowners) Kirksville

Date TBD - Jefferson City

For more information, contact Grow Native! at 573-522-4171.

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