UNIVERSITY OF MISSOURI
Extension
Missouri State UNIVERSITY

The Berry Basket

Newsletter for Missouri Specialty Crop Producers

Volume 11 Number 3 **Autumn 2008**

Pruning Blueberries

By Jay Chism
Regional Agronomy Specialist
University of Missouri Extension

Annual pruning is a necessary cultural practice in order to maintain consistent production of quality fruit. The best time to prune blueberries is late winter before the buds begin to swell.

Pruning helps to shape the plant, manage the crop load, increase berry size, and rejuvenate plants. According to Bernadine Strik, berry crops specialist with the Oregon State University Extension Service, research has shown that annual, moderate pruning results in bushes with the fewest canes, but with the greatest yields and largest fruit. When plants are not pruned or pruned too lightly, they become dense with weak, twiggy growth. However, severe pruning leads to the production of fewer, larger berries and more new wood.

Annual pruning consist of the following steps:

• Remove low branches and long canes that will touch the ground when loaded with fruit. Any berry laden wood that will be damaged from mowing equipment will also need to be removed.

• Prune canes that show signs of disease or insect damage. If twig blight (*Phomopsis vaccinii*) is suspected be sure to disinfect pruning tools between each cut. Sanitation before pruning each plant is always a good idea even in the absence of disease symptoms.

• Try to keep all canes less than six year old. Canes become less productive with age, approximately 20% of the older canes should be removed each year after the fourth harvest.

• Try to prune to let light into the center of the plant.

Although time consuming, proper pruning will help maintain your investment and keep your planting producing many years in the future.

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The First North American Elderberry Summit

By Patrick Byers
Regional Horticulture Specialist
University of Missouri Extension

Recently I attended the first North American Elderberry Summit, which focused on the past, present, and future of this unique native fruit crop. The meeting was held in St-Bernard-de-Lacolle, Quebec, and was hosted by Jacinthe Desmarais and Sylvain Mercier of Suro Biosambucus (http://www.sureau.ca/english_home.html) . Suro Biosambucus is a farm that focuses on production of certified organic elderberries and a wide range of culinary and medicinal elderberry products. In attendance were Denis Charlebois, researcher and elderberry proponent with Agriculture and Agri-Food Canada in Quebec, Edie and Phil Johnston of Maine Medicinals, and Todd Hardie of Honey Gardens Apiaries in Vermont.

The meeting began with an evening get-together, and the discussion focused on Suro Biosambucus. Over a glass of elderflower liqueur, Jacinthe and Sylvaine shared the history of the farm, which originally produced maple syrup. To digress a bit, Suro is still a producer of maple syrup, using traditional practices that are organically certified, and we enjoyed a syrup tasting. The best syrup, by concensus, was from the final sap collection in the spring – wow! Jacinthe is a chiropractor, and became interested in plants with healing properties. Elderberry has a long and interesting history as a medicinal plant, and it seemed a natural choice for the farm as a focus. At present Suro produces fresh and frozen elderberries for culinary uses, and supplies innovative chefs in Montreal and elsewhere. As a testament to the tasty qualities of elderberries we enjoyed elderberry pie and french toast with elderberries. Suro also produces two types of dried elderberries, semi-dry for fruit bars and trail mixes, and completely dry for powdered uses. Processed elderberry products include jelly, preserves, and a wonderful jelly that was flavored with maple syrup. Looking to the future, Suro is presently experimenting with elderberry wine, elderberry juice/mead combinations, elderberry wine vinegar, and a project looking at an elderberry/kombucha (fermented green tea) product. Suro is involved with a wide range of non-culinary elderberry based products. Soaps containing elderberry plant parts, as well as other aromatic herbs, are manufactured. A syrup that contains elderberry juice, honey, and Echinacea is marketed as a nutritional supplement, as is an elderberry tincture. Elderflowers are harvested and dried for sale, and used to make a salve.

The first full day of the meeting included a presentation on the elderberry development program in Missouri, a joint project of the University of Missouri and Missouri State University. The results of several projects were discussed in detail, and ideas were gathered for future projects and collaborations. The afternoon was spent touring the elderberry plantings and facilities at Suro. Over 9000 elderberry bushes are in production, with York, Nova, and Kent as the primary cultivars. The plants are pruned similar to a blueberry, with annual removal of older canes to encourage the growth of new canes. The fruit is harvested by hand, frozen, and removed with screens on a vibrating frame. The frozen fruit is stored in a freezer at -20C. Juice is pressed with a grape press, or extracted with a steam process. Fresh, unfrozen berries are used for drying.

On the second day of the meeting we heard an in-depth discussion of the elderberry research and development project headed by Dr. Denis Charlebois. Denis is with Agriculture and Agri-Food Canada in Quebec, and has worked with elderberry since 2003. He initially was interested in elderberry as a source of food colorant. His interests have since expanded to include all aspect of elderberry production, including work with antioxidant levels, elderberry tissue culture, and cultivar evaluation. A collaboration is already underway between Dr. Charlebois and the Missouri program, and several Midwestern elderberry selections are under evaluation in Quebec.

The afternoon of day 2 was devoted to additional discussions on elderberry processed products. Edie Johnston of Maine Medicinals described her firm's interest in elderberry as a health supplement. Edie is an accomplished grant writer, and she shared her thoughts on potential funding sources for elderberry research and promotion. Todd Hardie discussed his work with mead /elderberry combinations. Todd is also involved in the Vermont Elderberry Project, which has a goal of spreading awareness of elderberry throughout Vermont by encouraging the planting of elderberry. Todd reminded me of a passionate modern-day Johnny Appleseed, with a Sambucus twist! We sampled several elderberry meads, and Todd presented each of us with a jar of his raw honey.

Two exciting developments came out of the meeting. The group formed the North American Elderberry Alliance, with the mission of increasing the awareness of elderberry through research and promotion. The Alliance is open to all with an interest in elderberry. The group also planned the 2009 Elderberry Summit, tentatively scheduled for October in Maine.

I returned from this meeting convinced that elderberry has a promising future, especially so with such dedicated people involved. For more information on the North American Elderberry Alliance and the 2009 Elderberry Summit, a website will soon be online with detail, or please contact Patrick Byers at byerspl@missouri.edu.

A Summer of Gardening Challenges

By Jennifer Schutter
Regional Horticulture Specialist
University of Missouri Extension

With all of the rain we have had this growing season along with cool temperatures, we have seen an increase in the number of plant diseases and disorders. We started the season with peach leaf curl on peaches, anthracnose on shade trees, fireblight on apple and pears, fungus growing in mulch, among many others. By mid-summer we were seeing early blight and septoria leaf spot on tomatoes, black rot on grapes, brown rot on peaches, cedar-apple rust, leaf spots and powdery mildew on perennials and stunted corn along with lots of weeds.

It seems just about everyone I talk to has sick looking tomatoes this year because of all of the rain we have had. Early Blight is one of the most common fungal diseases that affects tomatoes. It affects the lower portion of the plant and affects productivity. Abundant rainfall and high humidity pose a threat to severe blight conditions. Little resistance to blight is available through variety selections, so proper cultural management techniques are important for control. Septoria Leaf Spot is also a common fungal disease of tomatoes that occurred this summer. Management of these diseases must start early. Tomato plants should not be planted in the same area of the garden they were in last season. Space the plants out to provide good air circulation. Plants should be staked to avoid ground contact with plant foliage. Use straw mulch underneath them to reduce the chance of the fungus splashing onto the leaves. When watering the plants, water at the base. Never water the plants from the top. You want to avoid moisture contact with the leaves. You may need to use a chemical fungicide for good control. Fungicides containing Clorothalonil (Daconil) or (Gordon's Multi-Purpose fungicide) at 7 to 14 day intervals are recommended.

Anthracnose of shade trees is caused by a group of related fungi whose development is favored by cool, wet conditions. Although the site of infection, symptoms and signs and severity of infections vary with species, anthracnose fungi typically create spots that form around the leaf veins, causing the death of the vein and the surrounding tissue. Over time these areas tend to fall out, giving the leaves a very ragged appearance. Leaf margins, interveinal areas and some petioles can also be infected, causing malformed and blighted leaves. A frequently observed symptom is the sudden wilting and death of a young leaf, which is often confused with frost damage. Because these fungi primarily infect in mild weather when there is a film of water on the leaf surface, spring and fall are the seasons when infection occurs.

Cedar-Apple Rust has been bad this year on crabapple and apple trees. Symptoms on the juniper hosts can include a swelling of the woody tissue and gall-like growth that may enlarge over time. Characteristic symptoms of a rust infection include bright orange colored growths emerging from the swollen woody tissue or galls. On apple and crabapple leaves, lesions may be found on the surface or underside of the leaves depending on the spore stage present. These lesions also have that bright orange coloration which is very distinct. There are resistant varieties of juniper, apple, crabapple, and hawthorn available for use in new plantings or when replacing severely diseased specimens. There is potential for some control by eliminating nearby juniper hosts, however, this is not really practical because the spores can travel several miles by wind to infect the alternate hosts.

Cedar-Apple Rust teliohorns on red cedar

For control of fruit diseases, request MU Extension guide 6010, the Fruit Spray Schedule for the Homeowner, to see which fungicides are recommended for controlling disease in your home fruit plantings http://extension.missouri.edu/explore/agguides/hort/g06010.htm . You will need to start your spray program early for good control of most diseases.

The large amount of rainfall and cool temperatures that we had this growing season not only promoted a lot of diseases, but also leached nutrients out of the soil and increased the number of weeds we had this year in commercial fields and home gardens. You may want to take a soil test to see if you need to replenish the nutrients that were leached out. For information on weed control or disease prevention in vegetables, you can call me at the Adair County Extension Center or call your county extension office.

Some things you will want to do this fall in the vegetable garden include cleaning up dead and diseased plant debris. Do not compost diseased plants. Till your garden to expose any insects that may over-winter in the soil. Clean your stakes and cages with a 10% bleach solution, and plant a green manure to replenish organic matter.

Regarding perennial flowers, give your roses a light pruning if canes are long. Leave dead foliage on chrysanthemums to help them overwinter better. I also leave the dead foliage on coneflowers and black-eyed Susans as they are a food source for birds during the winter. Place mulch around perennials about 3-4 inches thick.

Cedar-Apple Rust on apple leaves

For more information contact me at the Adair County Extension Center at 660-665-9866 or contact the horticulture extension specialist in your region.

SARE Grants Fund Sustainable Agriculture Projects

Source: Debi Kelly, 573-882-1905

COLUMBIA, Mo. –Farmers and ranchers in 12 north-central states can now compete for federal grants to fund projects in sustainable agriculture. Funding comes from the USDA's Sustainable Agriculture Research and Education (SARE) program.

"These grants allow farmers and ranchers an opportunity to test new sustainable agriculture techniques and demonstrate how they can be used over a wider area," said Debi Kelly, Missouri SARE co-coordinator.

The SARE program invites farmers or ranchers operating in SARE's North Central Region, which includes Missouri, to submit proposals for projects that test and evaluate adaptable sustainable agricultural practices for their operations. Competitive grants up to $6,000 for individuals or $18,000 for groups of three or more from separate operations are available.

Applications are due by Dec. 1, 2008. Eligible states include Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota and Wisconsin. Missouri leads the region in number of grants won, with 85 since the program started in 1992.

Kelly said she would review any grant applications, offering suggestions to increase chances of success. The grants are for sustainable agriculture research and education projects and not for everyday farming expenses. During the past 16 years, these grants have funded a wide array of projects in livestock- and crop-production systems, waste management, weed and pest control, organic farming, marketing, water quality and soil conservation. The grant application can be downloaded at http://www.sare.org/ncrsare/prod.htm.

For more information, contact MO SARE co-coordinator Debi Kelly at 573-882-1905 or kellyd@missouri.edu.

MO SARE co-coordinator K.B. Paul at Lincoln University can be reached at 573-681-5584 or paulk@lincolnu.edu.

More information about Missouri SARE is online at http://extension.missouri.edu/sare/.

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Highlights of the ASCFG Midwest Regional Tour

By Marilyn Odneal
Horticulture Advisor
Missouri State University

The Association of Specialty Cut Flower Growers holds regional tours of cut flower farms in addition to a national meeting every year. I was fortunate to be able to attend the 2008 Regional Tour in Wisconsin on July 6. Here are some highlights.

We visited Joe Schmitt's 1 ½ acres of field grown annuals and perennials at the Vermont Valley CSA. Vermont Valley is a thousand-member certified organic CSA farm. Joe is a third generation cut flower grower and definitely an innovator in the field. He demonstrated planting sunflower seedlings with a Japanese paper chain pot transplanter, planting plugs with a Drängen fitted with a water jet dibble system, and making supports for Hortonova netting with ½ inch EMT tubing bent to form hoops. The Drängen is a labor saving machine that actually lets you lay down on the job!

Our second stop was Carol Larsen's farm at Mt. Horeb (south-central Wisconsin). Carol has been growing flowers for over 30 years and markets through the Dane County Farmer's Market, through Fair Field Flowers LLC and also supplies flowers for weddings and special events. She currently uses two hoop houses or high tunnels in her operation.

1. Plug cells in Japanese paper tray

2. Joe Schmitt loading a paper pot tray of sunflower seedlings into the paper pot planter

4. Sunflower seedlings planted by the machine

3. Joe pulls the loaded paper pot planter down the row.

5. Joe waters the sunflowers in using the water tank on the Drängen.

The water jets on the Drängen prepare the planting holes for the plugs.

The plugs are planted into the planting holes according to Joe's planting pattern.

The water jets and Drängen controls are operated by foot pedals.

A candy store of flowers in the refrigerated Fair Field Flowers van

Sign on Fair Field Flowers refrigerated van

Carol Larson's hoop house on tour

Joe demonstrates the way to make net supports out of half-inch EMT tubing.

Cut flower production at Vermont Valley CSA

Lunch was served at the University of Wisconsin West Madison Research Station. John Hendrickson from the UW Center for Integrated Agricultural Studies (CIAS) joined us. He shared an interesting study of how growers make a living on a fresh market vegetable farm. The report is entitled "Grower to grower: Creating a livlihood on a fresh market vegetable farm". A summary as well as a full text can be accessed at http://www.cias.wisc.edu/crops-and-livestock/report-helps-fresh-market-vegetable-growers-understand-and-share-finances/ and you can request a print copy for a small fee.

Judith Reith-Rozelle, assistant superintendent at the West Madison Research Station, led a guided tour of the demonstration area after lunch. The annuals for cut flowers demonstration planting was featured, but there were many more interesting plantings. These included garden annuals and perennials, a rain garden, grapes, blueberries, raspberries, strawberries, tree fruits and vegetables – and even hops!

The Regional tour was excellent. You do not have to be a member of the Association of Specialty Cut Flower Growers to attend. However, if you are interested in finding out about the benefits of membership, visit their website at http://www.ascfg.org/

Sources:

Japanese Paper Pot Planter
John Hendrickson
stonecirclefarm@tds.net
920-927-7362
http://personalpages.tds.net/~stonecirclefarm/
(The website has a link to a YouTube video of the paper pot planter in operation.)

Drängen Motorized Work Carts
John Bradshaw
Pendragon Specialties LLC.
Ph. 262-844-3440
info@pendragonfabrication.com
www.pendragonfabrication.com
2485 Corporate Circle, Unit #5
East Troy, WI 53120

Fall Cleanup in the Fruit Planting — Fall 2008

By John Avery
Horticulture Advisor
Missouri State University

Fall is a beautiful time of the year with the trees turning from green to yellow and rich variations of red. The weather is changing from the heat during the dog days of summer to the crisp cold mornings of autumn. For the fruit grower, the harvest is over and plants are storing reserves for the winter and next spring. The temptation may be to let things go in the plantings and enjoy the autumn. But, don't neglect your chores. Now is the time to get things ready for the winter and prepare for the next growing season.

Many homeowners have inquired this year with various disease problems in their fruit plantings. Now is the time to reduce the incidence of disease for next year's crop. The small orchardist should be vigilant in cleaning up fallen fruit which may have disease or insect damage. Leaving fruit on the ground under the trees, vines or bushes can and will lead to new infections next spring as the growing season gets under way. Many disease-causing organisms overwinter on old fruit. The fungus then emerges in the spring with warm wet weather to sporulate and infect the new leaves, flowers and eventually fruit of the new year. Insect larva will leave the fruit and fall to the ground to pupate awaiting the arrival of spring to emerge and infect new fruit in the spring or summer.

Good sanitation of the home orchard can and will reduce the incidence of many of these pest and lead to a better crop in the future. Leaves and fruit should be removed from around the plants and buried, burned or composted so that any pest will be eliminated from the area. This by itself may not reduce all problems of the new year due to the number wild fruit plants in the woods but it will help to reduce the inoculum.

Fall is also the time to clean up damage on your trees from storms or excessive fruit load. It is best to remove broken limbs as soon as they occur so that the plant can start to repair the damage and seal off the wounds from infection by wood rot fungi. If you have crops like apples, pears, or peaches, where limbs have given way to the load of fruit, you can wait until the fruit is ripe and harvested to remove the damaged limbs. Although I would not want to start pruning the trees at this time, the damage to major or minor limbs needs to be minimized by removal back to the nearest attachment point.

Storm damaged peach tree. It is best to remove broken limbs as soon as they occur.

Enjoy the beauty of the fall season but remember to be proactive with your fruit plants and use this time of year to clean up the diseased fruit and leaves from the growing season. A little work this fall will help with disease problems in the next growing season.

Fallen apples at the State Fruit Experiment Station

Want To Reduce Waste And Time? Try Mowing Leaves Into Your Lawn

By James Quinn, Regional Horticulture Specialist, University of Missouri Extension Brad Fresenburg, MU CAFNR Plant Pathology and Chris Starbuck, MU DAFNR Horticulture

When I moved from Michigan to Missouri 11 years ago Michigan State University Extension had just begun promoting chopping up leaves with a lawnmower as an alternative to raking them. My Missouri yard had a plentiful lawn relative to the amount of leaves dropped, so after practicing this for 10 years, I wondered- ***is this practice still suggested and have there been follow up studies on the effect to the soil or turf quality?***

Burning of leaves in cities and towns has declined dramatically since the 1970 passage of the Clean Air Act. In the late 1980s concern developed over the amount of yard waste ending up in landfills, resulting in many states banning yard waste from landfills (e.g., Missouri, 1992; Indiana, 1994; Michigan, 1995). While commercial or municipal compost sites developed in response to the situation, some cities focused on how homeowners could reduce the amount of yard waste they sent off their property.

Maintaining a regular mowing schedule in the fall was an idea that appeared to save time and reduce the volume of yard waste. For mowers with a bagger, collecting the chopped leaves and using them as mulch around trees and shrubs is a great option. But capturing the shredded leaves takes time, and many individuals do not have 'bagging' mowers, thus chopping up the leaves and spreading them on the lawn is an efficient option. (Mowing the leaves and grass clippings into a 'windrow' and then raking them up is an acceptable compromise, but still takes more time.)

Studies in Michigan were conducted in the 90s to evaluate the effects of leaf mulching on turf, under varying conditions. The first study considered three different leaf application rates (none, about 3 inches, and about 6 inches) of mixed tree species, mulched in with a rotary mower using two passes in October. It also considered two different N applications (2 or 4 lbs/1,000 sq ft). A second study used leaves from maples or oaks. Both studies were done in full sun with Kentucky bluegrass turf. Most of their suggestions arising from this research are incorporated into the sidebar accompanying this article. The authors did note that while the N application improved the turf quality rating, it did not seem to speed the decomposition of the leaves. It was also pointed out that chopping leaves into small particles was important. That allows them to filter into the turf canopy, this movement typically occurring in a day or two, and being aided by some rain.

What about soil quality? In a 1998 study at Michigan State, soil samples from the various plots of the second study were tested. The pH did not change, but organic matter increased in response to leaf mulching. The composition of the grass clippings was affected; the percentages of carbon and nitrogen both increased with leaf mulching, but the ratio of carbon to nitrogen stayed constant, which is positive. If nitrogen had been reduced, a decline in turf vigor or color might have occurred.

Purdue University also conducted a study that considered the effect different leaf application rates might have on turf growth. They applied shredded maple leaves to perennial ryegrass for four years. Application rates were 0, 2000, or 4000 lbs/acre in a single application, with leaves being mowed in with a mulching mower. For comparison to a yard, consider that a typical woodlot will drop about 3,000 lbs/acre of tree leaves and litter per year. Nitrogen was applied in the spring at 0, 1.3 and 2.6 pounds per 1,000 sq ft. In the second year of the study the N rates were increased to 1.3, 2.6 and 3.9 pounds per 1,000 sq ft because the turf quality was quite poor when no nitrogen was added. The conclusions from this study were all positive, as long as some N was added.

The leaves had no effect on turf quality or color, thatch build-up, soil pH or nutrient availability, weed infestation, or the diseases evaluated (red thread, dollar spot, and pink patch).

A final MSU study considered how much leaf litter a low input lawn could handle without significant damage occurring? This was of interest because areas such as municipal parks, low maintenance ball fields and golf course roughs were appealing locations to apply 'extra leaves' during the fall peak period. Leaves were from a mixture of deciduous trees applied to a turf mixture of Kentucky bluegrass, perennial ryegrass, and fine fescue. The rates were approximately 6, 12, and 18 thousand pounds (2, 3 and 4 times the typical woodlot production mentioned above!) which correlated to a layer 6, 12 or 18 inches thick. No nitrogen was applied for the three years of the experiment. While considerable leaf litter was visible into the spring, a 3 inch mowing height reduced this detraction significantly. Furthermore, the grass greened up quicker at the greater mulch rates. Since athletic activity was of interest, the surface hardness was tested after 3 years. Application of leaves, regardless of rate, softened the surface. Finally, the C:N ratio of the soil thatch layer was checked, and while it did increase significantly, it held below a threshold for which it is not considered a problem to turf quality and vigor- 30:1.

Has this idea caught on? A quick search on the internet has revealed extension articles promoting this technique throughout other states such as Kansas, Illinois, Minnesota, Texas, and Virginia. (The various suggestions made in these articles have been incorporated into the sidebar.) A typical leaf drop pattern in Missouri has a couple of advantages over states such as Michigan, where the leaves shed abruptly, probably 80% in the month of October. Here, leaves typically fall over several months, with leaves of trees such as ash and maple dropping in October/November and those of oaks falling in November/December. At the end of hot dry summers a number of trees (e.g., cottonwood) lose quite a few leaves in late August and September to conserve moisture. Rainfall usually returns in late summer and fall, which provides a reason to mow the grass. So if you haven't tried this before, go for it, you may never go back to raking.

Tips for mowing leaves

• A sharp mower blade is more effective, and it may be dull after a long season of mowing.

• Don't mow shorter then you normally would, and having the grass a little longer will allow the leaf pieces to sift down so they are less visible. A height of 3 to 4 inches is often suggested.

• Mow before the layer of leaves piles up too high. More than 3 to 4 inches of leaves is probably too much. Don't let a dense layer of leaves (especially wet and matted) lie on turf too long; more than four days is not advised. Given an extended rainy spell, raking may be needed.

• Don't mow too fast; the leaves won't chop up as well. A normal speed, or slightly slower will work well.

• Dry leaves chop up better, so this can be DUSTY. Wear a dusk mask over your nose and mouth as well as safety goggles. Mowing when the leaves are damp from dew may suppress the dust, but mowing wet leaves doesn't work.

• Mulching mowers are preferred, so if using a rotary mower be safe and inspect and remove any sticks or limbs, they may be somewhat hidden.

The benefits? Less time and strain, returning nutrients and organic matter to the turf, and the environmental benefits of reduced smoke, landfill waste, bag usage, or transport costs are just a few. The trees will thank you for recycling the minerals in their leaves rather than hauling them away and then trying to replace them from a fertilizer bag.

Read's Quarterly Question
"One Garden" Seed Bank

By Andy Read
Regional Horticulture Specialist
University of Missouri Extension

Q: Do you have information and sources for heirloom vegetable seeds? I am most interested in plants that grow well and have a history in Missouri. I am a middle school teacher and I would like to do some gardening projects with the students. The project will cover the subjects of history, science and math. - Matt Leuchtmann

Interest in heirloom varieties of vegetables is increasing in recent years. Many people are rediscovering the unmatched flavors and unique appearance that heirloom vegetables offer.

Modern plant breeding has largely focused on producing hybrid varieties of plants. Many of these varieties are bred to ripen uniformly, look similar and ship well. These traits however are not important to most home gardeners. Consumer interest is also building as the availability of "old fashioned" varieties of vegetables increases.

Heirloom varieties of vegetables will breed true from seed as opposed to hybrid varieties that will not come back true from seed. Using non-hybrid seed lines allow gardeners to select and save seed from superior plants growing in their own gardens. Over time, this selection can lead to cultivars of plants that grow well in specific micro-climates.

I recently had the opportunity to visit with a seed bank in Brixey, Missouri. One Garden seed bank is operated by Daniel Roth. One Garden is a non-profit organization made up by local seed savers and ecologists.

One Garden seed bank currently preserves over 1,000 seed varieties. The seeds are held in a temperature and humidity controlled room in the basement of a former church in the town of Brixey.

One Garden's collection is actually the combination of three separate seed collections.

The original seed collection was started by Vinnie McKinney at Elixir Farm near Brixey. For nearly 30 years Vinnie has grown and marketed approximately 400 species of plants.

The Elixir Farm seed collection was comprised largely of seeds from Chinese and North American native medicinal plants. According to One Garden's website Chinese herbalists visiting the Ozarks found a variety of plants similar to those growing and being used in their native land. Vinnie concentrated on using Elixir Farm to produce the varieties of medicinal plants that are most adapted to our climate.

The second seed collection was donated by Robert Newman, former curator of the Nanjing Botanical Garden in China. Mr. Newman collaborated with Elixir farm while gathering plants in the Ozarks to add to the collection at the Nanjing Botanical Garden.

The final collection of seeds was contributed by Alan Kapuler of the very successful seed company Seeds of Change. Kapuler's vision was to preserve a representation of the entire planet's botanical gene pool.

One Garden's curator Daniel Roth decided that while this was an interesting project, it was not practical for an operation the size of One Garden. Imagine trying to maintain plant species from around the world in one location. This may be possible in some Mediterranean climates but I've never noticed any papaya growing in the Ozarks.

Roth and the One Garden board of directors have focused on collecting, preserving and sharing the plants that grow well in the Ozarks. Roth states that, "We are interested in hearing from people the varieties that were important in their childhood and their growing up years and in trying to capture some oral histories of seeds that are significant."

The idea behind One Garden is to get seeds into the hands of Ozark farmers and gardeners to be grown under somewhat standardized conditions. Growers will then report back on their results to the seed bank. One Garden's curators will then use this information to decide which varieties to maintain.

"One Garden is an effort to express the idea of a holistic approach to forestry, agriculture and responsible use of energy in the production of crops," says Roth. "You can't garden without being concerned about the whole of the environment. All these issues are related. By developing a collection of seeds for plants well suited to the Ozarks environment and passing along information about organic gardening practices that sustain the soil, the air and the water supply, One Garden strives to protect and improve the Ozark eco-system."

I look forward to collaborating with Daniel and One Garden in the upcoming growing seasons. One of my major projects this year has been the development of community garden plots throughout the south central region of the state. It will be very interesting to evaluate and compare plants grown in the various community garden plots.

You can visit (http://www.one-garden.org/) for more information about One Garden.

Coming Events

Small Farm Trade Show & Conference
November 6-8, 2008
Boone County Fairgrounds, Columbia, Mo.
Call 800-633-2535 to register
http://www.smallfarmtoday.com/tradeshow/default.asp

Beginning Vegetable Production Workshop
November 11, 2008
Ozarks Family YMCA, Seymour, Mo.
Contact Patrick Byers, Greene County Regional Extension Specialist byerspl@missouri.edu
417-862-9284

Home Winemaking
Wednesday, December 3
Missouri State - Mountain Grove
Contact Carrie Crews CarrieCrews@MissouriState.edu 417-547-7500

Great Plains Vegetable Conference
January 9-10, 2009
Missouri Western State University,
St. Joseph, Mo.
Contact the Buchanan County Extension Center for more information at 816-279-1691 or email fowlert@missouri.edu

Missouri Small Fruit and Vegetable Conference
February 16-18, 2009
Clarion Inn, Springfield, Mo.
http://www.mtngrv.missouristate.edu/commercial/conference.htm

Pamela Mayer PMayer@MissouriState.edu
417-547-7533

Grow Native! Landscape Design with Missouri in Mind
February 20, 2009 (professionals), February 21 (homeowners, landowners) Kirksville, Mo.
Date TBD - Jefferson City, Mo.

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

High Tunnel Workshop
March 12, 2009
Missouri State - Mountain Grove Campus
9740 Red Spring Road
Mountain Grove, MO 65711-2999
Contact Pamela Mayer PMayer@MissouriState.edu417-547-7533 to register.

Beginning Vegetable Production Workshop

Tuesday November 11th, 2008
Ozarks Family YMCA
315 Center Street
Seymour, Mo.

Come join us!
University of Missouri Extension is conducting a workshop on vegetable production that focuses on the needs of the Highway C Produce Auction growers. This workshop will focus on beginning or basic issues. In 2009 several workshops will be offered around the state on advanced topics. Workshops are open to all producers.

The workshop registration fee is $7.00, which includes workshop handouts and lunch. We ask that you register **in advance** so that we can have an accurate lunch count. In addition, if you register in advance, you will receive a copy of the **2008 Midwest Vegetable Production Guide**. Registration at the door is welcome, but lunch and the production guide may not be available.

Schedule:

10:00	AM	Start Workshop
Noon		Lunch
12:30		Workshop resumes
3:00	PM	Workshop ends **(But!)**
3 to 4	PM	Consider staying for training to receive private pesticide applicators license

Examples of some topics to be covered-
Soil sampling, interpretation and fertilization.
Irrigation- equipment and water quality issues.
Greenhouse transplant production- the basics
Introduction to high tunnel production.
What is the recommended variety list?
Tactics for more continuous production through the season.
Basics on weed, disease and insect control.
Harvesting and storage of vegetables.

Preregistration - please help us plan!
Call (or mail) Patrick Byers, Greene County Regional Extension Specialist, assigned to the workshop with the number that will be attending and their name(s).
417-862-9284 byerspl@missouri.edu
Greene County Extension Center
833 N. Boonville, Springfield, MO 65802

Let Patrick know by the Friday before the workshop

16th National
Small Farm Trade Show & Conference™
November 6-8, 2008

Boone County Fairgrounds, Columbia, Missouri
(heated exhibition hall)

The largest annual small farm show in the United States!

Last year, over 4,400 people and over 150 exhibitors attended. We want our this year's show to be the largest yet, so come to the show and bring a friend (or two or three).

This year, we will have 50+ talks, 150+ exhibitors, a poultry exhibition, and demos. The stock dog clinic will be held on Wednesday, November 5, 2008.

See the **Schedule** for a listing of all the short courses, seminars, farmers forum talks, and more going on at the show.

Call 800-633-2535 to register!

Schedule of Events

Included free with admission:
- •trade show with over 150 exhibitors
- •one-hour seminars
- •Farmers Forum
- •association meetings
- •additional talks
- •soap making demonstrations
- •emu egg carving demonstrations
- •corn husk crafts demonstrations
- •stock dog demonstrations
- •poultry exhibition

...and lots more!

General Admission (no charge for children 12 and under)	**1 day**	**2 days**	**3 days**
Preregistration (through Oct 27, 2008)	**$7**	**$12**	**$15**
Regular Registration (from Oct 28, 2008, or at the door)	$10	$15	$20

Show Hours

Thurs	Nov 6: 9 am-5 pm
Fri	Nov 7: 8 am-5 pm
Sat	Nov 8: 8 am-5 pm

Stock Dog Clinic
Conducted by Danny Shilling
Wednesday, November 5, 2008 All Day, beginning at 9:00 am, at the fairgrounds before the trade show

15-dog limit $25 each (through Oct 27)
$50 each (from Oct 28)

For more information, call Danny Shilling at 417-732-2325.

Short Courses (short course fees do not include admission to the trade show)

(prices are per person, per course)	**1 course**	**2 courses**	**3 courses**	**4 courses** (20% disc.)
Preregistration (through Oct 27, 2008)	**$25**	**$45**	**$65**	**$80**
Regular Registration (from Oct 28, 2008, or at the door)	$35	$65	$90	$115

Call 800-633-2535 to register!
http://www.smallfarmtoday.com/tradeshow/default.asp

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