

August 2009—*Oklahoma Gardening Shows*

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Oklahoma Gardening Information Sheet (#3609)

OETA air date: August 29 and 30, 2009

OETA airtime: Saturday 11:00 a.m., Sunday 3:30 p.m.

OBGA Affiliate Garden Showcase: University of Central Oklahoma – In this segment we visit the Botanical Gardens at the University of Central Oklahoma (UCO) in Edmond. The Central Gardens of UCO joined the Oklahoma Botanical Garden and Arboretum in 2008. UCO President Roger Webb announced the goal of creating a botanical garden on the campus of UCO in 2006. The first ten theme gardens were dedicated on September 21, 2007 in celebration of the Oklahoma Centennial. These gardens are only the beginning of an expanded group of gardens that will be enjoyed by visitors to campus and will serve as a resource for educating students and the public about botany, ecology, horticulture, conservation, landscaping and more. Robert Nall, Assistant Vice President of Facilities, provides us with a little background regarding the gardens.

We are also joined by Dawn Holt, a faculty member in Computer Science, whose diverse background includes a Master's degree in Landscape Architecture. Dawn is heavily involved with the development of the Central Gardens, and shares information with us on one of the theme gardens, The Cactus Bed. Plants featured in this garden include Sedums (*Sedum sediforme*, *S. tetractinum*, and *S. spurium* 'Tricolor'), Dessert Willow (*Chilopsis linearis* 'Monbews'), Prickly Pear Cactus (*Opuntia* sp.) and Blue Beaked Yucca (*Yucca rostrata*).

The gardens are also used as a living laboratory for a variety of classes on campus. Professor of Biology Gloria Caddell shares with us the more academic side of the gardens.

New Plant Introductions – We have started a garden featuring new plant introductions for the year. This offers us a place to try out new varieties and see what works well in Oklahoma. In this segment, we take a look at a few of the new cultivars.

Variegated Ajuga (*Ajuga x bastarda* 'Sparkler') – This new cultivar from Terra Nova Nurseries has thick, dark green, shiny foliage covered in creamy-white splashes that light up the darker corners of your garden. This ajuga is a perennial and will be hardy throughout the state. It is a fast growing groundcover that stays under 10 inches, and spreads about 2 feet. With the bright foliage, 'Sparkler' also makes an excellent accent plant.

Heuchera 'Plum Royale' – 'Plum Royale' is the first Heuchera to have amazing, shiny purple leaves all summer! The plant combines well with silver foliage plants like 'Silver Mound' Artemisia. Winter foliage is silver with a purple tint. 'Plum Royale' is wonderful as an accent or planted en masse. The plant has excellent vigor, and a mounding, compact habit.

Heuchera 'Midnight Rose' – This amazing compact plant has burnished black leaves, thickly spotted hot pink in spring. Summer leaves lighten and cream and pink dots adorn the foliage. The spots start small and expand with the foliage, so watch them grow.

Heucherella 'Sweet Tea' – This Heucherella has huge cinnamon colored leaves that are surrounded by the loveliest orange tea colored borders. The big, palmately cut leaves darken in the summer and lighten up again in the fall. The plant has a big bold habit and is heat and humidity tolerance.

Heucherella 'Stoplight' – This plant has bright yellow leaves and a large 'Stoplight' red blotch in center during spring. Compared to 'Sunspot', the leaves are 3 times larger with a bolder darker center blotch. Flowers are white. Summer foliage changes to straw-yellow or green-yellow. Henna or *Lawsonia inermis* is a tropical plant from North Africa. It is best known for its use as a dye to color hair or create body art. The dye is made from the leaves of the plant. The flowers are just as interesting. They have a delightful perfume scent and have been used in perfumes for millennia. The plant grows in full sun and forms a 2½ foot mound.

A new Zinnia in the Zahara series brings us a delightful yellow. This plant is touted for its heat tolerance and disease resistance. It has very low water needs, yet flourishes through the heat with large yellow blooms. Flowers attract bees and butterflies to the garden. The Zahara Yellow Zinnia forms a low mound to 18 inches and is excellent in those hot, dry spaces.

Bronze Sea Berry or *Haloragis* 'Bronze' has unique coppery orange colored leaves. This plant is native to New Zealand and is hardy to zone 8, so in the southern parts of the state you can winter it, even in zone 7 you may have some luck if you protect it over the winter. Plants tolerate full sun to partial shade and grow 1 foot high by 2 feet wide. They look great spilling out of containers. Make sure to give your Sea Berry plenty of water.

Deep Blue False Vervain or *Stachytarpheta jamaicensis* is most notable for its brilliant blue blooms. It is often difficult to find a true blue flower, but the vervain does not disappoint. This tropical thrives in full sun and is a favorite of hummingbirds and butterflies. The plant blooms prolifically even through the heat.

Coreopsis 'Redshift' is like growing two plants in one. It produces truly unique blooms that change in color over time and with temperature. In the heat of the summer, blossoms are a butter yellow, streaked with red and a bright red center. In cooler weather, the flowers take on an entirely different appearance, with burgundy petals. As the flowers mature, they shift through all shades of red to pink, to yellow, and ending with a creamy finish. Plants reach 2 to 2½ feet high and thrive in the summer sun.

'Cardinal Red' is a Proven Winner Geranium (*Pelargonium*) hybrid from the Fantasia™ series. It has huge semi-double blooms and attractive dark green leaves. It is vigorous and tolerates the heat well. Like all geraniums, keep the plant deadheaded to promote more blossoms. 'Cardinal Red' has a nice mounding habit reaching about 12 inches around. It will bloom all summer long in our hottest sun.

Angelonia 'Carita Raspberry' is a delightful plant with incredible color. *Angelonia* proves tough through the summer and this one keeps producing raspberry blossoms. The plants are drought tolerant and look wonderful planted in mass.

Cooking with Barbara

Garbanzo and Okra Gumbo



- 2 teaspoons olive oil
- 1 tablespoon flour
- 1 medium onion, chopped
- 1 medium green pepper, chopped
- 1 celery rib, chopped
- 1 clove garlic, minced
- 2 cups chicken broth, low sodium and fat free
- 4 cups diced tomatoes or 2 14-ounce cans diced no salt added tomatoes, undrained
- 2 cups cooked garbanzo beans (chickpeas) or 1 15-ounce can, no salt added, drained
- 1 pound fresh or frozen okra, sliced
- 1 teaspoon salt
- ½ teaspoon black pepper
- 2 bay leaves
- ¼ teaspoon cayenne pepper
- 1 tablespoon Tabasco sauce
- 1 teaspoon dried thyme
- ½ teaspoon liquid smoke flavoring
- 1 to 2 cups water, if needed
- 3 cups cooked brown rice

1. Heat olive oil in a large sauce pan over medium-high heat. Add onion, pepper and celery and sauté, stirring constantly, until onion becomes transparent, about 5 minutes. Add garlic and stir 30 seconds.
2. Add flour and continue to stir until flour begins to brown slightly.
3. Stir in 2 cups broth, tomatoes and remaining ingredients. Stir well. Gumbo should have enough liquid to be a thick soup. If too dry, add water, 1 cup at a time.
4. Reduce heat and simmer 30 minutes. Remove bay leaves. Serve over rice.

Serves 6.

Nutrition Facts

Servings per recipe: 6

Calories 337

Calories from fat 45

	% Daily Value	
Total Fat 5g	7%	
Saturated Fat 1g	3%	
Cholesterol trace	0%	
Sodium 587mg	24%	
Carbohydrate 61g	20%	
Dietary Fiber 9g	37%	
Protein 16g	32%	
Vitamin A: 31%	Vitamin C: 105%	Folacin: 56%
Calcium: 18%	Iron: 28%	Potassium: 28%

Modified from original source: <http://kitchen-parade-veggieventure.blogspot.com> accessed 8/27/2008
Barbara Brown, Food Specialist, Oklahoma Cooperative Extension Service

This Week in the Vegetable Garden – This week in the vegetable garden we are installing deer fencing. Many of our most common vegetables are frequently browsed by deer. While there are many options available for managing deer, exclusion using fences is most effective.

Deer can easily jump over many decorative fences. To keep deer out we need to use something different. Two common options are electric fences and mesh deer fences. Mesh deer fencing comes in a variety of materials including polypropylene and wire. The deer fence needs to be 8 foot tall to prevent deer from jumping over the top.

While the 8 foot fence will keep deer out, it will not keep smaller animals from crawling under the fence. For burrowers, we have installed chicken wire all the way around the base of our deer fence. The chicken wire has smaller openings than the deer fence and is buried 18 inches below the soil. It is important to make sure the two sections of fencing are secured together well without gaps.

Fences can be expensive and do not fit into every landscape, but they are often the best option to protect vegetables and heavily browsed areas. Many deer fences are constructed in such a way as to become nearly invisible from a distance, such as by placing them along a woody edge where they blend in with the surrounding shrubs and brush. If deer fencing is not an option for your garden, there are other management strategies available such as the use of repellents. OSU Fact Sheet [F-6427 Ornamental and Garden Plants: Controlling Deer Damage](#) discusses several options available to manage deer in the landscape.

Please contact your local Oklahoma Cooperative Extension Service Office for more educational information on garden-related topics. If you need further information about this week's show, call (405) 744-5404 or visit our website <http://www.oklahomagardening.okstate.edu>. Thank you for your continued support!

Sincerely,
Kim Rebek
Oklahoma Gardening Host

Oklahoma Gardening Information Sheet (#3608)

OETA air date: August 22 and 23, 2009

OETA airtime: Saturday 11:00 a.m., Sunday 3:30 p.m.

OBGA Affiliate Garden Showcase: Oklahoma City Zoological Park and Botanical Garden

– In this segment we visit another OBGA affiliate garden and talk with Pearl Pearson, Horticulture Curator at the Oklahoma City Zoo.

During our visit we learn about the importance of horticulture in the zoo setting and how plants are used to resemble natural habitats, create rooms, direct views and establish a park-like setting in which to enjoy the animals. One area of the zoo uses a technique called landscape emersion to make the viewer feel as though they are inside the exhibit. The zoo also features a number of native plants, which tend to have fewer pest problems and are easier to maintain. The gardens represent a variety of habitats including woodland and prairie habitats found in Oklahoma. As a botanical garden, the zoo also features a number of tropical plants as well as unique plant collections. We take a look at a few of these collections including the dwarf conifers garden outside the education building and the butterfly garden.

Plants featured in this segment include:

Deodar Cedar, *Cedrus deodara* ‘Prostrata’
Bald Cypress, *Taxodium distichum* ‘Secret’
Ponderosa Pine, *Pinus ponderosa* ‘Little Joe’
Mugo Pine, *Pinus mugo* ‘Big Tuna’
Austrian Pine, *Pinus nigra* ‘Hornbrookiana’
Little Bluestem, *Schizachyrium scoparium*
Pinyon Pine, *Pinus edulis*

Echinacea cultivars, *Echinacea* hybrids:
Tomato Soup
Mac-n-cheese
Harvest Moon
Sunrise
After Midnight
Tiki Torch

Constructing a Blackberry Trellis – We plan to establish a row of blackberries and a row of raspberries in our small fruits garden next spring. This season, we are preparing the site. Blackberries will perform best in full sun. Raspberries are not heat tolerant and do not perform as well as blackberries in Oklahoma. If you choose to grow raspberries, select a site with at least 50% shade. A sloped planting site is ideal for cold air drainage in spring. Avoid low-lying areas where cold air settles. You may also consider a site that will provide protection from drying summer winds.

In selecting a planting site, we also want to avoid areas where strawberries, other brambles or solanaceous crops such as peppers, tomatoes, potatoes and eggplants have been grown. These plants all harbor verticillium wilt which can be a problem on brambles. The pathogen that causes the wilt can remain active in the soil for many years.

Brambles tolerate a wide range of soil conditions. Of course, a well-drained soil high in organic matter will provide the best results. It is a good idea to cultivate the soil deeply and incorporate manure or compost. This will also help build the nitrogen content of the soil. Beds can be raised to enhance drainage. Beds should be 6 to 10 inches high and 2 to 3 feet wide. The plants will need a 2½ to 3 foot unrestricted rooting area.

Begin preparing the site a year in advance. It is much easier to manage weeds before we plant our berries. It is also important to conduct a soil test. Soil pH should fall between 6.0 and 7.0. Use lime or sulfur to adjust pH according to soil tests. We are also working ahead to prepare our trellises. Semi-erect and trailing blackberries and most raspberries require trellising. Blackberries do not necessarily require a trellis, but growing them on a trellis will improve air movement, which can help reduce disease problems, and also increase light penetration. Trellising also prevents canes from tipping over and breaking in strong winds, which is perhaps the most important reason for trellising any bramble in Oklahoma.

There are several different styles of trellis that can be used for brambles. We plan to plant erect as well as semi-trailing blackberries and will use a T-bar trellis to support both types of berry. The T-bar is fairly simple to erect. The materials we need for this include 8 foot lengths of 4' by 4' timber, bolts and 12 gauge wire. We will also need to secure the wire to the posts and that can be done simply by stapling it on, or I will demonstrate how to use a wire vice for this job.

Start by cutting a 2-foot section off each of the 4' by 4's and set those pieces aside. Set the 6 foot lengths of timber in the ground so that they extend between 3 and 4 feet above the ground, with 2 to 3 feet set in the ground for support. Make sure the posts are set firmly in the ground as they will support all the weight of our berries. Adjust the number of posts according to the length of your bed. We are using three posts for a bed length of 25 feet. Posts should be no more than 20 feet apart within each row, but closer spacing is better.

Next we will secure the cross bar to the top of the post using a bolt. The T-bar is generally placed 3-4 feet above the ground level. We need to secure it tightly. Wires are then run down each end of the T-bar. Use a durable wire or heavy monofilament line. Ours is 12-gauge wire. The wires should be secured tightly, but allow a little bit of give. Wires stretch over time and will need to be tightened each spring. The wires can be stapled onto posts, but this may make it difficult to tighten in the spring. Another option is to use a wire vice on one end to allow for easy tightening.

As you prepare planting beds and trellises for brambles, keep in mind the space requirements for these plants. Blackberries need 3 to 4 feet between plants and rows should be separated by 6 to 8 feet. This will allow plenty of room to develop a healthy root system. We will be back to plant our berries in early March.

Cooking with Barbara – Barbara Brown, Extension Food Specialist, shows us how to store garlic.

Storing Garlic at Home

Caution: Research performed by the National Center for Home Food Preservation confirmed that mixtures of garlic in oil stored at room temperature are at risk for the development of botulism.

Garlic-in-oil should be made fresh and stored in the refrigerator at 40°F or lower for no more than 7 days.

Regardless of its flavor potency, garlic is a low-acid vegetable. The pH of a clove of garlic typically ranges from 5.3 to 6.3. As with all low-acid vegetables, garlic will support the growth and subsequent toxin production of the bacterium *Clostridium botulinum*



when given the right conditions. The conditions include improper home canning and improper preparation and storage of fresh herb and garlic-in-oil mixtures. Moisture, room temperature, lack of oxygen, and low-acid conditions all favor the growth of *Clostridium botulinum*. When growing, this bacterium produces an extremely potent toxin that causes the illness botulism. If untreated, death can result within a few days of consuming the toxic food. It is important to follow science-based directions to make sure your preserved garlic is safe.

Room Temperature Storage

Commercially, garlic is stored near 32°F. Most home refrigerators are too warm for long-term storage of garlic. Instead, store it in a cool, dry, well-ventilated place in well-ventilated containers such as mesh bags. Storage life is 3 to 5 months in a cool (60°F), dry, dark location.

Freezing Garlic

Garlic can be frozen in a number of ways.

1. Chop garlic, seal tightly in plastic freezer bag, freeze.
2. Freeze garlic unpeeled in glass jars or plastic freezer boxes. Remove cloves as needed.
3. Peel cloves and puree with oil in a blender or food processor using 2 parts oil to 1 part garlic. Puree will stay soft enough in freezer to remove small amounts to use in sautéing. Freeze this mixture immediately—do not store at room temperature. The combination of low-acid garlic and room-temperature storage can support the growth of *Clostridium botulinum*.

Canning Garlic

Canning of garlic is not recommended. Because it is a low-acid food it would require pressure canning to be properly processed. Garlic processed this way would lose most of its flavor. No processing times have been determined to safely can garlic.

Storing Garlic in Wine or Vinegar

Peeled cloves may be submerged in wine or vinegar and stored in the refrigerator for about 4 months. Discard both the cloves and the liquid if there are signs of mold or yeast growth on the surface of the wine or vinegar. The garlic-flavored liquid and garlic cloves may be used as flavorings for food. Do not store the mixture at room temperature because it will rapidly develop mold growth.

Sources: University of California, Division of Agriculture and Natural Resources, Pub. 7231, 11/97 at <http://ucanr.org/freepubs/docs/7231.pdf> and the National Center for Home Food Preservation, <http://www.uga.edu/nchfp/how/freeze.html>
Barbara Brown, Food Specialist, Oklahoma Cooperative Extension Service

7/09

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Sincerely,
Kim Rebek
Oklahoma Gardening Host

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Oklahoma Gardening Information Sheet (#3607)
OETA air date: August 15 and 16, 2009
OETA airtime: Saturday 11:00 a.m., Sunday 3:30 p.m.

Lane Agricultural Center – In this episode we visit the Wes Watkins Agricultural Research and Extension Center in Lane to learn more about organic vegetable production. The extension center is housed in conjunction with the South Central Agricultural Research Center of the

USDA-ARS, and together they comprise the Lane Agricultural Center. Lane houses a unique certified organic research field, where a team of scientists from both OSU-Extension and the USDA test a variety of practices for improving organic production in Oklahoma.

Dr. Warren Roberts, Associate Horticulture Professor, joins us to provide an overview of organic vegetable production and helps take some of the confusion out of the word “organic”. He also discusses ways of building healthier soils, the foundation of organic production. We also take a look at some of the studies he is conducting with tomatoes. These include an experiment with canopy cover to manage foliar diseases, grafting heritage cultivars onto sturdy rootstocks, and testing different pruning practices to maximize yields. Some of his studies are in support of the Farm-to-School program, a program that connects growers to school cafeterias as a way to provide the children of Oklahoma with healthy, fresh food choices. One such study investigates planting dates for sweet corn, to better match harvest times with the return of children to class in fall. In the same plots, Dr. Roberts is also studying combinations of organic fertilizers to identify ideal delivery systems of important plant nutrients.

Dr. Angela Davis, Research Geneticist with the USDA-ARS, shows us a demonstration field that has been established to show growers the benefits and challenges of using different types of mulches in organic herb production. In addition to the benefits of mulches to plant culture, such as reduced soil erosion, better retention of soil moisture, and weed suppression, mulches also help to keep produce clean, a great benefit to market growers. In the demonstration, Dr. Davis compares plastic mulch to straw mulch, and bare soil.

Dr. Jim Shrefler, OSU Area Extension Specialist, shares an organic weed control study with us. Managing weeds organically is a great challenge to organic growers. While plastic mulches and cultivation are effective, they can be time consuming or expensive. Dr. Shrefler and collaborator Dr. Charles Webber of the USDA-ARS, are investigating a variety of substances for use as organic herbicides. While a number of substances are available commercially, few have been rigorously tested. The team is finding some success, but notes that timing is critical. As with any management strategy, control is much better when young weeds are targeted. Likewise, some weeds are much more easily managed with organic herbicides than others.

The work conducted in organic vegetable production supports a growing industry. Recent studies show that organic production is growing by more than 20% annually. OSU Cooperative Extension works to support all of Oklahoma’s producers, both traditional and organic growers, through scientifically based research and outreach.

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Kim Rebek
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Oklahoma Gardening Information Sheet (#3607)
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Oklahoma Gardening was not featured these weekends due to OETA's AugustFest.