March 2010—*Oklahoma Gardening* Shows

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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!

Festival Time
March 20 & 21
March 13 & 14
March 6 & 7
OETA showed reruns during their festival time.

Oklahoma Gardening Information Sheet (#3639)
OETA air date: March 27 and 28, 2010
OETA airtime: Saturday 11:00 a.m., Sunday 3:30 p.m.

Building Trellises for Hardy Kiwi and Passion Fruit Vines – We are adding two uncommon fruits to our orchard, Hardy Kiwi (*Actinidea arguta*) and Passion Fruit (*Passiflora* species). Both of these fruits grow as a vine and require a substantial trellis system for support. A variety of trellis styles can be used, but T-bar trellises are best for disease control and ease of handling. They are also the least expensive to construct and are better suited to bee pollination. However, if you have a large pergola or arbor, you can also use these to support fruiting vines.

Trellis rows should be oriented north-south for maximum exposure to sunlight. A typical T-bar trellis consists of posts supporting a long cross arm. Canes of the kiwi plant are tied to wires stretched between the cross arms. The system is similar to the blackberry trellis we build last fall, only larger.

We have already set 4-inch diameter cedar posts set in the ground 2½ feet deep. The posts are spaced a maximum of 16 to 20 feet apart. Ours are set 15 feet apart, with two end posts and one more set at the center of our row.

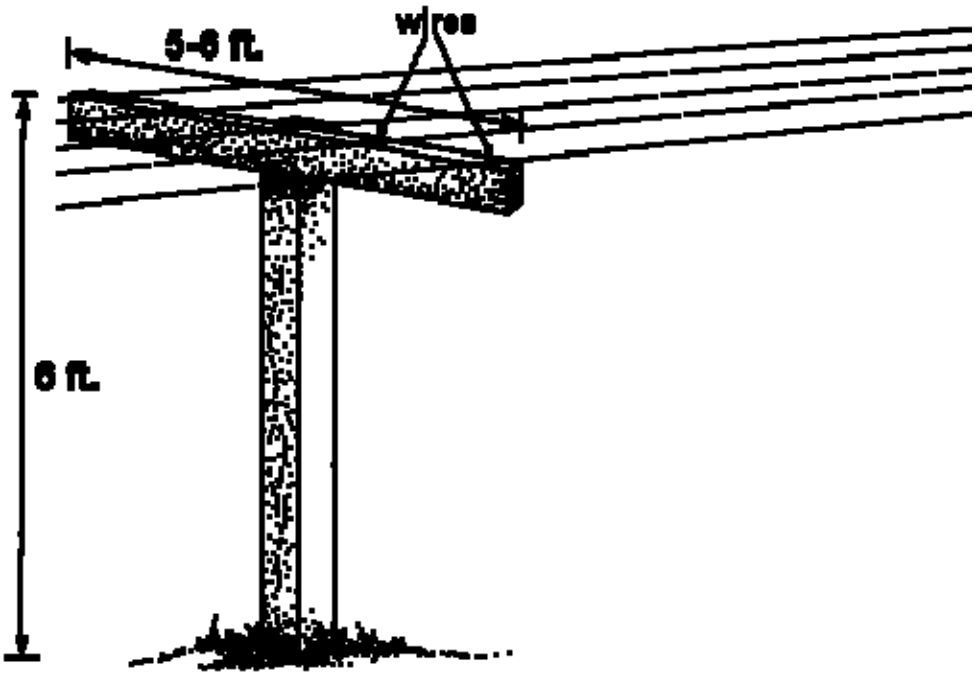
Kiwi plants can produce over 100 pounds of fruit per vine, so the end posts will potentially bear a great deal of weight. There are a variety of methods that can be used to strengthen the end posts to help support the weight of all this fruit. We are running a brace wire from the top of our end post to an anchor set in the ground. Screw-in earth anchors can be purchased at many hardware stores or you can make your own by welding a metal plate to a steel shank. Another option is to set a tie-back post. Anchors are set in the soil so that the end hook rests 3 to 4 feet away from the end post. It is set at a 45- to 60-degree angle pointing toward the end post and extends up to 4 feet below ground. Tie-backs are 4- by 4-inch posts set at an angle slanting away from the end post. Drive the posts into the ground 3 to 4 feet, with 6 to 8 inches extending above the soil surface.

For either style of anchor, a double wire brace is run from the top of the end post to the anchor. Twist the wires together to tighten the brace. Remember to include enough space to set anchors when you are planning your planting.

The crossbar is set 6 feet above the ground and is made of a 5 foot length of 2 inch by 4 inch treated lumber. A notch is cut into the post, and the narrow side of the 2 inch by 4 inch board is fitted into the notch. The crossbar is fastened with a bolt, and the ends are braced to the post with wire or wood.

High-tensile, galvanized, 9- or 10-gauge wires are run down the row and fastened to the crossbars — one near each end and one in the center. Two additional wires can be added, one between the center wire and each end wire. Strong tension is needed on the wires to support the vines and crop. We are using wire vices to fasten our wires to the cross arms, just as we did with our grape and blackberry trellises.
Young plants are trained up a stake until they reach the center wire. We will return later this season to plant our kiwi and passion fruit vines and discuss training young plants.

Standard T-bar Trellis (Illustration Credits: Northwest Berry & Grape Information Network)



Resources:

- OSU Extension Factsheet: **HLA-6249 Kiwifruit Production in Oklahoma**
- The Northwest Berry & Grape Information Network http://berrygrape.org/trellis-systems-for-kiwifruit/; Sponsored by Oregon State University, University of Idaho, Washington State University, and USDA-ARS
- Growing *Kiwifruit*, Oregon State University Extension Service Fact Sheet: http://extension.oregonstate.edu/catalog/pdf/pnw/pnw507.pdf
- University of Florida IFAS Extension Fact Sheet "The Passion Fruit" http://edis.ifas.ufl.edu/mg328

Fertilizing Blueberries – Blueberry plants require specialized soils and sites for optimal growth and fruit production. Plants grow best in very acidic soil, preferably between pH 4.5 and 5.1. Many nutrients naturally occur at low levels in acidic soil. Blueberries evolved under these acidic, nutrient poor conditions, so their nutrition needs are somewhat different from other fruits commonly grown in the landscape. Blueberries require relatively small amounts of most nutrients. In fact, blueberry plants can easily be damaged or killed by excessive fertilization.

Nitrogen is generally the only supplemental element required. Nitrogen is available in different chemical forms, depending on the type of fertilizer used. For blueberries, we want to avoid using the nitrate form of nitrogen, since nitrates occasionally have been shown to be toxic to blueberry plants. Ammonium sulfate or urea is preferred, and ammonium sulfate will help lower soil pH.
Ammonium nitrogen is the form of nitrogen used to fertilize blueberries. Urea, sulfur-coated urea, ammonium sulfate, and cottonseed meal are acceptable fertilizers. Any fertilizer sold for azaleas or rhododendrons should also work well. Because blueberry plants require a large amount of irrigation water, a slow-release nitrogen source is most desirable to prevent excessive losses by leaching.

Nitrogen application rates increase with plant age. Extension Fact Sheet **HLA-6248 Blueberry Production for the Home Garden** lists the amount of nitrogen fertilizer required per plant by age.

Table 3. Ounces of fertilizer per plant per application.

Year	Urea	NH4NO3	S-coated Urea
1	0.5	1	0.7
2	0.5	1	0.7
3	0.4	1.5	1
4, etc.	1	2	1.2

From Patten, K. 1990. Plant nutrition and fertilization. In Texas Blueberry Handbook, Texas Agricultural Extension Service, p. 8-9

In the first year of planting, only one application is required and should be applied in the fall after the first growing season. In subsequent years, nitrogen is applied in small applications at several times during the growing season. Applications are made once before bloom, once after fruit set, and once in the fall. If the plants will not be allowed to bear fruit due to their age, make three fertilizer applications at roughly 6 weeks intervals.

Our blueberries are in their second year and we are applying 0.5 ounces of urea around each plant. Apply fertilizers uniformly around the drip line of the plant and one foot outward, but never near the base of the plant. Fertilizer applications will stimulate plant growth, and once our plants become productive, will also increase berry size and boosts total production. This is the first of our three applications for the season. We will make another application in about six weeks.

Hellebores – Hellebores include some 20 species of herbaceous perennials belonging to the genus *Helleborus*. Many hellebores are evergreen. The plants have beautiful dark green, leathery foliage year round and a winter flowering habit. The exact flowering time is variable by species, and has given us the common names used for this group, which includes Christmas Rose (*Helleborus niger*) for those species flowering near the Christmas season, and Lenten Rose (*Helleborus orientalis*) for the late winter, early spring bloomers. The flowers are indeed rose-like in appearance and nod toward the ground. The plants readily seed and each spring you will find hundreds of seedlings near the base of your mature hellebores. However, most of the seedlings are out-competed for light and water by the parent plant, as such, hellebores do not become weedy. If you wish to multiply the plant it is best to transplant seedlings away from the

parent plant where they will not be shaded or smothered by the heavy foliage.

We look at several variations of *Helleborus orientalis*, the Lenten Rose or Oriental Hellebore. Plants hybridize readily, and most of the Oriental Hellebores now found in gardens are considered hybrids. Flower colors are diverse shades of lavender, pink, burgundy, purple, green, and yellow, as well as bi-colored mixtures of these hues.

Another interesting species of Hellebore is the Stinking Hellebore (*Helleborus foetidus*). This plant is so named because the foliage is pungent when crushed. The flowers of this species are different from those of the Oriental Hellebore, with clusters of drooping, lime-green flowers produced on upright stems in early spring. The foliage of the Stinking HYellebore is remarkable for its deep green color and finely divided leaves.

Hellebores prefer shaded, woodland conditions and fertile soils. Many species are very tolerant of dry soils and drought. *Helleborus foetidus* is particularly drought tolerant. Prized for their evergreen foliage, hellebores also put on a delightful floral show at a time when other flowers in the garden are fast asleep.

Cooking with Barbara – Barbara Brown, Extension Food Specialist, makes a cottage pie.

Announcements:
The Oklahoma Horticulture Study Group and OSU Extension Staff will host a Tomato Growing Workshop on Saturday, April 3 at the Tulsa Garden Center. Horticultural presentations will be made from Noon until 2 p.m. and plant sales will be held from 10 a.m. to noon, and 2 to 3 p.m. For more information e-mail OKHORTStudyGroup@aol.com.

OSU Extension will host a Native American Horticulture Conference on Thursday, April 8 from 8:30 a.m. to 5:00 p.m. at the Payne County Expo Center in Stillwater. Featured speakers include head horticulturalist from the Smithsonian's National Museum of the American Indian, experts from Indian Nations across the state, as well university specialists. Registration is $100 and includes lunch. For more information contact Stephanie Larimer at 405-744-5404.

The Central Oklahoma Hemerocallis Society (Daylily Club) will hold its Spring Daylily Sale on Saturday, April 10 from 8:00 a.m. – 2:00 p.m. at the Will Rogers Garden Center in Oklahoma City. For more information call Brenda Jindra at 405-433-2217 or Faye Ramsey at 405-603-2225.

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Sincerely,

Kim Rebek
Oklahoma Gardening Host

Cottage Pie

- 1 pound extra lean ground beef
- 1 cup diced onion
- 3 cloves garlic, minced
- 1-1/2 cups canned no salt added green beans, drained
- 1-1/2 cups peeled, sliced carrots
- 1-1/2 cups canned no salt added corn, drained
- 1/4 cup broth (low sodium beef broth or liquid drained from canned vegetables)
- 1/2 teaspoon pepper
- 1-1/2 teaspoons dried thyme
- 1-1/2 teaspoons dried rosemary
- 3 cups mashed potatoes
- Brown gravy, optional

1. Preheat oven to 350^{o}F. Spray a 2-1/2-quart casserole with non-stick vegetable spray.
2. Heat a large skillet over medium heat. Add ground beef and onion. Cook 5 minutes or until meat is brown and onion is translucent. Add garlic and cook 30 seconds.
3. Add green beans, carrots, corn and broth; cover and cook 5 minutes or just until carrots are tender, stirring occasionally. Add pepper and herbs. Stir. Taste to check seasoning.
4. Pour beef mixture into a prepared casserole dish. Cover with mashed potatoes and bake 30 minutes or until edges brown. If serving with gravy, prepare gravy while casserole bakes.

Serves 6.

Nutrition Facts without Gravy Servings per recipe: 6		
Calories 340	Calories from fat 144	
	% Daily Value	
Total Fat 16g	24%	
Saturated Fat 6g	30%	
Cholesterol 54mg	18%	
Sodium 326mg	14%	
Carbohydrate 32g	11%	
Dietary Fiber 5g	20%	
Protein 19g	38%	
Vitamin A: 178%	Vitamin C: 23%	Folacin: 15%
Calcium: 8%	Iron: 21%	Potassium: 25%

Barbara Brown, Food Specialist
Oklahoma Cooperative Extension Service