

# Horticulture Tips

## April 2002

Oklahoma Cooperative Extension Service  
Division of Agricultural Sciences and Natural Resources  
Oklahoma State University

### Plastic Mulch for Vegetable Production

*Jim Shrefler*

The use of plastic mulch can be beneficial in several ways but may also have drawbacks in some situations. Benefits include earliness to harvest, soil moisture regulation, weed control, reduced fertilizer leaching, improved produce quality, reduced soil compaction, protection of roots and, in general, a potential for improved plant growth. Details of these benefits are discussed in OSU Extension Fact Sheet F-6034.

Plastic mulch can also have some drawbacks. Under wet conditions, plastic mulch can slow the drying of saturated soil and which can lead to root injury and reduced plant growth. However, if plastic mulch is used in combination with planting on a raised bed this effect can be prevented and the mulch will help prevent the soil on the bed from ever becoming saturated.

Some of the benefits of plastic mulch are maybe not as great during the summer in some areas of Oklahoma as compared to areas further to the north. Black plastic mulch is beneficial for warming the soil, which can result in increasing the springtime soil temperature up to a level, which is suitable for plant growth earlier than will occur on bare soil. However, due to the high temperatures and intense sunshine often experienced in Oklahoma, soil temperatures will increase to levels suitable for many vegetables at an early date without plastic mulch. The use of plastic mulch with later season plantings may result in high soil temperatures that would inhibit root growth. In addition, plants that come in contact with black plastic mulch that is exposed to direct sunlight may be damaged by the high temperature of the plastic.

For a number of years now there has been interest in the use of plastic mulches of various colors. Some of these are used to either attract or repel insects. In other cases the effects of the colored mulch are due to other reasons. At the Center for Plasticulture at the Pennsylvania State University studies have been conducted on a variety of vegetables to ascertain the affects of various mulch colors on yields. Examples of results obtained over 3 year studies in Pennsylvania are as follows:

- Tomato had 12% greater marketable fruit yields on red plastic than black.
- Pepper had a 20% greater yield on silver mulch compared to black.
- Cantaloupe had a 35% greater yield with green infrared transmitting or dark blue plastics than with black plastic.

It was emphasized that results may differ in at other latitudes, in particular south of North Carolina.

Plastic mulch can be found in some farm and garden supply stores. Some suppliers of plastic mulches are:

- Berry Hill Irrigation, Inc. Phone: (434) 374-5555 Fax: (434) 374-0131
- Mechanical Transplanter Co. Phone (800) 757-5268
- Irrigation Mart. Phone (800) 729-7246

## **Soil Temperatures for Planting Vegetables**

*Jim Shrefler*

It is that time of year when gardeners and farmers are getting anxious to get crops planted and growing. How do you decide when the time has arrived to begin planting? An important factor to consider is soil temperature. The seed of each vegetable has a set of temperature parameters that characterize its germination and growth needs. These include low and high thresholds and an optimum range. Below and above the low and high thresholds, seeds will not germinate. As the temperature gets closer to the low threshold, germination will be a very slow process and low percent germination may occur. In addition, seedling growth will be very slow, often resulting in weak plants. As the temperature approaches the high threshold, percent germination will decrease. The optimum range is the temperature that will result in most rapid germination and seedling growth. When seeds are germinated under optimum temperatures there is less chance for things to happen that will result in an unhealthy or dead plant.

How do you determine when the soil temperature has reached the desired level? Soil temperature can be measure with a probe type thermometer. Select one that has can be read in the range of 50 to 110 degrees Fahrenheit. Measure the temperature at a depth of about 3 to 4 inches since surface temperatures may fluctuate greatly with cool nights and warm days. Measure over a period of several days to be sure temperature is stable. The Oklahoma Mesonet also provides information on soil temperatures that may be useful.

### **Soil temperature parameters for starting vegetables from seed**

Vegetable	Temperatures - Degrees Fahrenheit		
	Minimum	Optimum Range	Maximum
Bean	60	60-85	95
Lima Bean	60	60-85	85
Beet	40	50-85	85
Carrot	40	45-85	95
Corn	50	60-95	105
Cucumber	60	60-95	105
Lettuce	35	40-80	85
Muskmelon	60	75-95	100
Okra	60	70-95	105
Pumpkin	60	70-90	100
Radish	40	45-90	95
Squash	60	70-95	100
Turnip	40	60-105	105
Watermelon	60	70-95	105

## **Pre-emergent Herbicides for Crabgrass Control in Lawns**

*Dennis Martin*

It is not too late to get some benefit from an application of a pre-emergent herbicide for crabgrass control. Although April is usually too late to receive maximum benefit, we have not found any crabgrass seedlings yet in middle or northern Oklahoma. Make arrangements for an application of a pre-emergent herbicide such as Barricade, Surflan, Pendulum or Dimension as soon as possible. Read and follow all label directions. A second application is normally recommended at 6 to 10 weeks following the first application if Surflan, Pendulum or Dimension is being used. Be sure to water the product into the soil within 3 days, with an application of 0.5 inches of irrigation. Crabgrass germination can continue through August as long as there are viable crabgrass seed present at the soil surface, suitable moisture and if the lawn canopy is not closed to exclude light from triggering crabgrass germination.

## **Release Date Nears for OKC 18-4 Bermudagrass**

*Dennis Martin*

OKC 18-4 bermudagrass was developed by the OSU Turfgrass Breeding and Development Team with funding from the United States Golf Association and the Oklahoma Agricultural Experiment Station. OKC 18-4 is a fine textured, high quality, interspecific hybrid bermudagrass with improved cold hardiness over Tifway (419). OKC 18-4 has intermediate spring dead spot disease resistance (better than Tifway, worse than Midlawn). OKC 18-4 has rapid divot recovery, faster than Tifway. Arrangements are being made to release OKC 18-4 as a licensed, proprietary variety on a limited basis later this summer for sod producers in the southern US. Due to limited Breeder stock, a multi-year release plan is anticipated. It is not likely that any OKC 18-4 will be available for purchase in Oklahoma in 2002 by end users, however, very limited quantities will likely be available in 2003 in the southern US at a premium. Sod or sprigs will only be available for end users as blue tag certified sprigs or sod, once production is up to speed. Performance information on OKC 18-4 can be found at the National Turfgrass Evaluation Program website at [www.ntep.org](http://www.ntep.org) under the data hot link to warm-season grass trials.

## **Slight Winter-Kill Project in Bermudagrass Lawns**

*Dennis Martin*

April is the month when most Oklahoman's find out if they have winter-kill on their bermudagrass. Large-scale winter-kill is not expected to have occurred during the 2001/2002 winter. Scattered incidents of winter-kill are present nearly every year. April of 2001 showed that the previous winter had been more severe than many previous winters since that of 1989/90. Typically, winter-kill is most severe on Sahara (same as NuMex Sahara), Arizona Common, VNS types, Tifgreen, Tifway(419), Kansas Improved and Sunturf bermudagrasses, although any variety can be affected. Winter-kill is typically the worst in low spots where there was standing water or ice, heavy shade in late September on-ward, high traffic areas, berms that desiccate, and on north facing slopes. Excessive, late-season soluble nitrogen fertilization as well as too close of mowing late in the season can also sometimes contribute to bermudagrass winter-kill. If properly established and barring extenuating circumstances, Guymon, Wrangler, Midiron, Midlawn and Yukon traditionally suffer very little winter-kill in Oklahoma. Because so many different types of bermudagrass are sold as U-3 and Greenfield in Oklahoma, the response of these types to a severe winter is varied. Most turf-type common bermudagrasses sold as U-3 or Greenfield, are adequately winter hardy, or if they do suffer winter-kill, they can recuperate

rapidly with proper management. Proper mowing, fertilization and irrigation is important in recuperation from winter-kill on any bermudagrass. Areas exceed 6-10 inches between live stems of bermudagrass may require plugging, resprigging or some reestablishment measures. However, if one is patient and properly cares for the area, it may recover without additional reestablishment measures. As many gardener's know, "It takes just one seed or sprig of bermudagrass to turn the bare ground of your garden into a lawn." See OSU Fact sheets 6418, 6419 and 6420 for selection, establishment and maintenance, respectively, of lawns in Oklahoma. Fact Sheets are available at your local OSU Extension Office or on the web at: <http://agweb.okstate.edu/pearl/hort/>.

## Upcoming Events

### IPM Workshop

May 7, 2002

Wes Watkins Center, Stillwater

Contact Tammy Hollan at 405-744-5404 or [tammyrh@okstate.edu](mailto:tammyrh@okstate.edu)

A copy of the IPM Workshop is attached for your information.

### 2002 Summer Gardenfest\* Presented by *Oklahoma Gardening* & OBGA

On Saturday, June 8<sup>th</sup>, the *Oklahoma Gardening* TV program and OBGA will present the first annual Summer Gardenfest. It will be a day filled with horticultural happenings, garden gala and down to earth activities. The event will be held at the OBGA headquarters garden, which contains the *Oklahoma Gardening* studio gardens. It will provide an opportunity for viewers across the state to come visit the studio set for the taping of the *Oklahoma Gardening* show, tour the gardens and garner some expert gardening information. There is no cost to attend this event.

Everything gets started at 10:00 a.m. when Holly Shimizu presents "Herbs as Ornamentals" in the OBGA Educational Building. Holly is an internationally recognized horticulturist. She is the Executive Director of the United States Botanic Garden in Washington D.C. and one of the hosts for *The Victory Garden*, which airs on PBS. Holly has developed her own herb gardening video and has written for many books and magazines. In addition, Holly was the first curator of the National Herb Garden at the U.S. National Arboretum and has done work in England at the Royal Horticultural Society's Garden, Wisley and at the Hillier Arboretum. She has also done work at gardens and nurseries in Belgium, Holland and Germany. Holly's herb video will be available for purchase.

At 11:30 a.m. Darrell Merrell, 'The Tomato Man,' will give a presentation entitled "Heirloom Tomatoes and Artisan Garlic." Darrell is a tomato and garlic expert from Tulsa who appears often on *Oklahoma Gardening* and other local TV shows much to the delight of viewers. With his trademark straw hat and overalls, Darrell's presentation on these two garden treasures is sure to entertain and enlighten all who attend.

From 1:00 p.m. to 4:00 p.m. there will be several garden demonstrations, staffed information booths and tours of both the studio gardens and the arboretum. Demonstrations presented every 30 minutes include a children's garden activity, a floral arrangement how-to, a water garden

overview, a Japanese garden primer, a cooking demonstration and a presentation on how to construct a terra-cotta “pot man”.

At 1:00 p.m. and again at 2:30 p.m. Stillwater City Forester Carrie Tomlinson will give tree tours of the arboretum. She will point out recommended species for Oklahoma and talk a little about tree care basics.

There will be a plant diagnostic booth staffed by OSU personnel to identify plant specimens and pest problems and give recommendations. Tours of the studio gardens will also be given periodically throughout the afternoon. An *Oklahoma Gardening* merchandise shop will be open for business as well.

In case of inclement weather, all outdoor activities will be canceled. The two presentations by Shimizu and Merrell will still be held indoors. If rain is present early in the morning, please call 405-744-5404 for a recorded message pertaining to cancellation of outdoor events.

*\*Speakers and outdoor events are subject to change.*

### **Peach/Grape Field Day**

A fruit field day covering both peach and grape management is scheduled for June 4, 2002. The field day will be held at the Oklahoma Pecan & Fruit Research Station in Perkins, OK. The tentative time for the event is 10 am to 3 pm. Lunch will be provided. A nominal registration fee may be required.

Peach topics to be covered will include high-density orchard establishment and reduced spray pest control.

Grape items scheduled are trellising and training, vineyard establishment, herbicide toxicity, and pest management.

Freeze protection methods will be discussed for both commodities.

More information will be available at a later date.

### **Spring Dead Spot of Turf Bermudagrass Workshop Set For April 25<sup>th</sup>**

A spring dead spot disease workshop is set for April 25<sup>th</sup> at the OBGa Education Center one mile west of Stillwater. The program will run from 8:30 to 9:00am with the seminar/tour from 9 to 11am. Preregistration is \$16 compared to \$25 if you wait to register on-site. Understanding the biology of the fungus that causes the disease, diagnosis and control using integrated pest management (IPM) will be the focus of the workshop. A field tour of cultivars with varying levels of disease resistance will also be conducted. The registration flyer for the event can be found at:

[http://osu-ns03.cis.okstate.edu/tools/webtools.nsf/Images/hortworkshops/\\$FILE/deadspot.pdf](http://osu-ns03.cis.okstate.edu/tools/webtools.nsf/Images/hortworkshops/$FILE/deadspot.pdf) or just go to the OSU Turfgrass program home page at [www.turf.okstate.edu](http://www.turf.okstate.edu) and click on the spring dead spot flyer hotlink.