Tobacco in the Home Garden
By Katie Kammler, MU Horticulture Specialist

Many people don’t realize they already grow a type of tobacco in their home garden and that some of the plants that we commonly grow in the vegetable garden are closely related to tobacco.

Tobacco is a member of the Solanaceae (nightshade) family that includes tomato, pepper, eggplant, Irish potato, and a number of plants that are considered weeds. Tobacco is a member of the genus Nicotiana. Nicotiana tabacum is the species of all commercial tobacco. Then there are a number of other species of Nicotiana that serve as ornamental plants.

Tobacco likes to grow in full sun with well drained soils. Since tobacco is closely related to tomato and pepper, all three are susceptible to the same virus diseases and insects so plan for this in the garden rotation, whether you are growing an ornamental tobacco or a commercial variety. Soil pH for tobacco is about 5.8 to 6.4.

Seed sources for commercial varieties can be hard to locate locally because we are not in a tobacco producing area but there are numerous sources on the internet. The seeds for both commercial and ornamental varieties are very small so it should be sown in a greenhouse or protected area and then transplanted. Seeds should be sown about 50-60 days prior to the desired date of transplanting. It should be transplanted only after the danger of freezing temperatures have passed. The most successful transplants are 6 to 8 inches in height. Spacing between plants is 24 inches, 42-48 inches between rows. Water as needed through the season and fertility is the same as for tomato, pepper, or potato. Pest problems to watch for during the growing season include weeds, diseases, and insects. The most common insect problems are budworms, aphids, and hornworms.

If you are growing tobacco for ornamental purposes, the flowers are left on the plant. If you are looking to grow plants for cured tobacco, the blooms are removed through topping the plant as soon as the flower forms. The topping causes the upper leaves to get larger and thicker. Tobacco plants also sucker in the leaf axis like tomatoes and need to have the
suckers removed for optimum leaf production. Growing tobacco in a home garden is generally the easy part. Proper harvesting and curing of the tobacco for personal use is the tricky part. Cured tobacco is usually aged for one to three years or longer. Tobacco may be cured with heat or air cured. For a home gardener, air curing is usually the easiest method. A building with good air circulation and temps from 60 to 95 degrees F with relative humidity of 65-70 percent is ideal. Proper curing should take several weeks for the tobacco to have good quality. If it cures too fast, it will be green and not have good aroma and flavor, while mold or rot may develop if the curing is too slow. Harvest for curing is done by either removing the leaves from the stalk or cutting the whole stalk and hanging it. If the whole stalk is used, the leaves are removed after the curing process. Harvest occurs 3 to 4 weeks after topping. After curing, aging takes place and it may require 5-6 years. Temperature and moisture conditions must be favorable for the process to take place and the proper temperature and moisture content vary widely. This part of the process involves trial and error and research for the best results.

**Organic Weed Control**

By Donna Aufdenberg, MU Extension Horticulture Specialist

Weeds are any plants that are growing where they don’t belong or where they are not wanted. They can compete with desired plants for light, water and nutrients. In the vegetable garden, weeds also interfere with harvesting and can harbor many diseases. While completely eliminating weeds in the garden setting is not realistic, several strategies can be employed to reduce weed competition.

- **Reduce the weed seed bank.** Raw manure, immature compost, hay or straw may contain weed seeds. Clean tillage or harvesting equipment after use to prevent contamination from other areas. Do not allow weeds to form seed heads. When mowing turf areas, mow away from landscape bed to keep possible seed materials from landing and germinating.

- **Utilize mulches in as many areas as practical.** Mulch covers the soil to prevent weed seed germination and smother the growth of weeds. Both organic and plastic mulches are available to gardeners. Mulches can be added to the crop throughout the growing season, or the crop can be seeded or transplanted into an established mulch. Cover crops can also be grown and utilized during the summer to suppress weeds for the fall garden.

- **Three or four weeks before planting, the soil can be tilled and weeds can be allowed to germinate and emerge.** The weeds can be tilled in to the soil several times before the crop is established. This technique, called a stale seedbed method will reduce the weed population by breaking their natural cycle of emergence in the vegetable garden.

- **Flame weeding, or using a hot flame to kill weeds, is effective for weed removal, in slow-germinating vegetables such as onions, parsnips and carrots, or in areas where there is little plant material to damage.** Some growers have successfully used flame weeding on Continued on Page 5
May Gardening Calendar
By Donna Aufdenberg, MU Extension Horticulture Specialist

Outdoor Flowering Plants and Ornamentals
- Pinch azaleas and rhododendron blossoms as they fade. Fertilize them after they bloom and use a fertilizer that will acidify the soil.
- Do not remove spring bulb foliage prematurely or next year’s flower production will decline.
- Pinch back mums to promote bushy growth.
- Some common ground covers suitable for sunny locations include Ajuga, creeping phlox, and creeping juniper.
- Lightly side-dress perennials, including spring bulbs, with a 5-10-10 or 10-10-10 fertilizer, being careful to avoid the center or crown of the plant.
- If you love to garden, but don’t have a lot of time, choose plants that are easy to maintain. Plants that do not need “deadheading” include begonia, impatiens, coleus, alyssum, ageratum, lobelia, vinca and salvia.

Vegetable Gardening
- Growing lettuce under screening materials will slow bolting and extend harvests into hot weather.
- Place cutworm collars around young transplants. Collars are easily made from cardboard strips.
- Set tomatoes in warm soils. Place support stakes or cages at planting time.
- Control caterpillars on broccoli and cabbage plants by handpicking or use biological sprays such as B.T.
- Place a stake by seeds of squash and cucumbers when planting in hills to locate the root zone watering site after the vines have run.
- Watch for striped and spotted cucumber beetles now. Both may spread wilt and mosaic diseases to squash and cucumber plants.
- Plant sweet corn and beans every two weeks through June for an extended harvest.
- Inspect cauliflower every few days. Cut off the curd when the flower sections begin to separate.

Fruits and Nuts
- Prune unwanted shoots as they appear on fruit trees.
- Follow fruit tree spray guide by the University of Missouri Extension.

Miscellaneous
- Herbs planted in average soils need no extra fertilizer. Too much may reduce flavor and pungency at harvest.
- Four to five layers of newspaper will serve as an effective mulch in the garden. Cover it with sawdust or straw to reduce the white glare and prevent it from blowing away.

Garden Mums Facts
- Best time for planting garden chrysanthemums (mums) is in the spring!
- Mums bloom in response to short days and long nights.
- Mums planted in spring overwinter better than those planted in fall.
- Perform best in moist, well-drained soils.
- Division and propagation are best done in the spring.
- Pinch 2 to 3 times before July to promote bushier plants with more blooms. Pinch when plants are 6 inches and this will cause lateral branching. Pinch again when laterals become 6 inches.
The Blood Sucker - Tick
By Sarah Denkler, MU Extension Horticulture Specialist

Life Cycle - The tick passes through 4 stages of life; egg, larvae, nymph and adult. The larval stage is known to many as the seed tick and can be extremely hard to see.

Control - Wear long sleeves and pants. If you can form a cloth or shoe barrier near your feet then do so. Always check your skin for ticks when coming indoors after being outside. If a tick is found it should be removed as soon as possible with blunt tweezers, grasping as close to the skin as possible in order to remove the mouthparts of the tick. Pull gently and do not squeeze the tick. Use tick repellents if you plan to hike or spend a day outdoors.

Diseases that are spread by ticks include Lyme disease, Rocky Mountain Spotted Fever and Ehrlichiosis. If a rash or bulls eye ring forms following a tick bite, see your doctor.

For general control, remove weeds and tall vegetation, especially near high use areas. Use a dip, powder or spot applicator on pets, especially if they move from indoor to out and back. Chemicals can be used in kennels and doghouses. Lawns can be sprayed as well but this is often impractical as the eggs can hatch up to 5 months after being laid. The biggest thing about control is to be consistent and to maintain your control strategy. Practicing control one time will not keep the population in check.

Common Missouri Ticks include (top) Lone Star Tick, (Middle) American Dog Tick and (bottom) Brown Dog Tick.

Garden Quote...
You can bury a lot of troubles digging in the dirt.

-Author Unknown
Garden Myth: Growing Cucurbits Together
by Katie Kammler, MU Extension Horticulture Specialist

A garden myth has been brought to my attention from several sources this spring. The myth is that you cannot grow squash, pumpkins, cucumbers, and melons in the same garden. The saying is that if you plant them together, they will cross pollinate and fruit will be off-tasting. This sounds rather reasonable when you think that they are all closely related but this is not true for reasons that relate to the process of pollination and fertilization.

Cucurbits are unique in that they are monoecious, meaning they produce separate male and female flowers on the same plant. The flowers are easy to distinguish from each other because the female flower has a small, immature fruit at their base. In order for pollination to occur, the pollen must be transferred from the male flower to the female flower by bees.

Squash, melons, and cucumbers are all members of the cucurbit family, have a similar flowering habit and bloom at the same time but they will not cross-pollinate. The female flowers of each crop can be fertilized only by pollen from male flowers of the same species. Cross-pollination can occur between varieties within a species. An example of this is summer squash, jack-o-lantern pumpkins, gourds, and some types of winter squash belong to the same plant species, *Cucurbita pepo*. A zucchini can cross with a pumpkin but the results of that cross are not seen until the next year if the seeds are saved and planted. All species members can cross with one another. However, muskmelon (*Cucumis melo*) and cucumbers (*Cucumis sativus*) belong to a different species and will not cross with each other or members of the *Cucurbita* genus. This type of incompatibility can also be seen in the animal kingdom, an example is that cardinals cannot mate with blue jays.

If a cross does occur, the results are not obvious in the first year. If you planted a zucchini and it crossed with a pumpkin, it will still produce a zucchini that year. Then if you save the seed or had a volunteer come up on the compost pile the next year, the cross may look like an orange zucchini. This can be fun if you like to see what the new cross will look like and it is how new varieties are developed. So if you have a small garden plot, you need not worry about cross pollination affecting the flavor of the fruit. Melons or cucumbers with off flavors are usually a result of unfavorable soil or weather conditions.

Organic Weed Control (Cont’d from page 2)
By Donna Aufdenberg, MU Extension Horticulture Specialist

- transplanted onions that are 8 to 10 inches tall. Sweet corn that has just emerged and potatoes up to 2 inches tall can be flame weeded.
- Drip irrigation can be used to just irrigate the plants or just the row. This helps with weed control by reducing the soil area that receives water, weed emergence is reduced.
- Various organic herbicides can be used by organic gardeners. These include acetic acid (vinegar), citric acid and corn gluten. Corn gluten meal is a natural substitute for synthetic pre-emergence herbicides whereas the acids have a burn down effect.

This information was taken from MU Guides G6749 Natural Lawn Care and G6220 Organic Gardening Techniques.
The genus *Acer* from the family Aceraceae, holds about 120 species of temperate region Maples. It is one of the most common trees planted in the United States. This is due to the species ability to grow quickly and fill in a space, the physical shade that is provided to landscapes and parks and the many brilliant colors that are produced in the spring and fall foliage. Raupp et al., 2006 indicated the genus comprises 15%-57% of street trees planted. This percentage is likely to increase as the Ash is affected by the Emerald Ash Borer.

There are as many as 13 native species to North America. Of the natives, the most common used in Missouri landscapes include Red Maple (*A. rubrum*) and Sugar Maple (*A. saccharum*). Sugar Maple is the key maple used to make syrup. Silver Maple (*A. sacharinum*) is a native often found shading lawns and parks throughout North America but should be used with caution near water lines or septic systems as the roots will invade and block these lines.

The small flowers of maple are often found in clusters with samara fruit pairs borne quickly after. Samara start out bright green or red and turn brown after falling from the tree. The angle of the samara is sometimes used to identify the tree. For example the Norway maple produces large fruit that are angled nearly 180° to each other.

Trees that have been confused with maple due to the shape of the leaf include Tuliptree, Poplar, Sycamore and Sweetgum.

When planting maples it is critical to plant the root ball correctly. Do not place the crown of the tree lower than the soil line. Do not cover the crown or the trunk with mulch after planting. Maintain an annual pruning schedule to train the tree to a single central leader. This will help to prevent weak branch angles that may lead to damage later in the trees life.

Select a planting location that keeps the tree far enough from any building that it will not become a liability but close enough to provide shade where needed.

Non-native maples that are great in the landscape include Japanese Maple (*A. palmatum*), Amur Maple (*A. ginnala*), Paperbark Maple (*A. griseum*), Hedge Maple (*A. campestre*) and Norway Maple (*A. platanoides*).

**Planting Blueberries in the Home Garden**

**Donna Aufdenberg, MU Extension Horticulture Specialist**

Blueberry season is right around the corner. I get many calls each year from people who need help with their blueberries or who bought a plant and are wanting to get it in the ground. Blueberries are wonderful to add to the garden or landscape, but if they are not properly planted or cared for, they can quickly diminish and will not thrive in our soils.

Planning and preparation is vital when considering blueberry bushes, especially if you want many years of harvest. I find that if gardeners purchase them on a whim or a “light bulb moment,” they do not make it past the first year. Educating yourself about blueberries will save you much time and wasted energy.

Site selection and soil amending is the most important factors when trying to grow blueberries. Many gardeners fail to realize this. Blueberries need soils that are acidic (4.5-5.0) and have high organic matter. They do not tolerate heavy clay or poorly drained soils. It is recommended that the soil from any potential planting site be tested before plant placement, as well as on a regular ongoing basis (at least every 3 years).

So, before purchasing these plants, go out and take a look at the site that you wish to plant into and take a soil test. The soil test will tell you what you need to do with the soil. Many of our present garden/landscape soils have been amended to suit plants with higher pH needs and they will need to be amended to lower the pH 4-6 months prior to planting. Sulfur will need to be added and many times the organic matter will need to be increased. Mixing organic matter such as peat moss or compost into native soils is beneficial to blueberry plantings.

In our area, we can plant northern or southern highbush blueberries, therefore there are several varieties to choose from. Although southern highbush varieties are more tolerant of soil conditions, northern varieties are slightly more suited to the Mid-Missouri area. Some of the most common varieties you will find available include Duke, Collins, Blue Ray, Blue Crop or Chandler. Trust me, there are many more if you take to the internet! There are early, mid-season and late varieties, so a gardener could pick blueberries for several weeks during the season.

It is also vital to keep them watered in summer months especially during drought conditions. They need 1 ½ to 2 inches per week from April to September. Since blueberries have a shallow root system, home gardeners may have to water two or three times per week. Drip irrigation or soaker hoses are good choices for irrigation. The addition of 3-4 inches of mulch around the bushes will also help to conserve moisture and smother out weed issues.

Keep in mind that blueberries are not mature until they are six to seven years old. Most of the plants found on the market are two to four years old. Flower buds should be removed for the first three seasons until plants are established and substantial growth has occurred. Once mature, blueberries will need to be pruned annually in late winter or early spring to remain vigorous and productive. As a rule of thumb, approximately 20 percent of the older canes should be removed; no cane should be older than six years.

For more information on blueberries, contact your local University of Missouri Extension Center.
Hot Topic! Winter Damage
Sarah Denkler, MU Extension Horticulture Specialist

This winter gave us many highs and lows with temperature fluctuations occurring weekly. This type of winter weather can really challenge the health of woody plants.

As the calendar leaned toward spring there were several 70°F days in March followed by a sudden nighttime drop for a couple of nights in the upper 20’s. This sudden change caused some winter burn and discoloration to some common plants.

Be aware that these conditions are from the weather and not from disease. Plants that are most noticeably damaged include:

Winter damage to Rhododendron may appear purple in color as shown above, with little physical change or the leaves may turn brown and droop showing significant damage that should be pruned. Picture by Jill Scheidt, University of Missouri.

Winter damage to 'China Girl' Holly (top left) and English Holly Hybrid (below left) Pictures by Bob Mulrooney, University of Delaware Plant Pathologist & Extension Specialist.

Winter burn or desiccation on Pinus strobus (left) caused by low temperatures, low soil moisture and wind. Picture courtesy of Missouri Botanical Gardens.

Winter damage to Arborvitae (left). In this instance tan tissue may need pruning in hopes that the healthy, green tissue will fill in. Picture by James Quinn, University of Missouri.

Bleached foliage after winter injury to Boxwood (above). K. Zuzek, University of Minnesota.

Save the Date!
May 17 & 18, 2014
Saturday 10am-4pm    Sunday 11am-4pm
Ste. Genevieve Garden Walk 2014

- Tour private and public gardens,
- Plant Sale (Saturday 9am—Sunday 11am),
- Farmer’s Market (Saturday Only 7am-Noon)

Tickets $7

For info call the Ste. Genevieve Welcome Center 1-800-373-7007

Sponsored by Ste. Genevieve Master Gardeners
Contact your local Extension Center if you have questions about any event on the calendar.

May 1-4, 2014
Dogwood Azalea Festival in Fredericktown, Missouri

May 17-18
Ste. Genevieve Garden Walk, MO

June
2 - Parkland MGs 1st Monday at 6:30pm, Memorial United Methodist, Farmington, MO
3 - Poplar Bluff MG 1st Tuesday at 6:00pm at Holy Cross Episcopal Church
12 - Ste. Genevieve MGs 2nd Thursday, at 6:30pm, Ste. Gen. County Ext. Center
19 - Cape Girardeau County MGs 3rd Thursday at 7:00pm, Cape County Ext. Center
21 - Arcadia Valley Garden Tour 8-5pm, 250 S. Main, Ironton, MO; Fee $7
23 - Perry County MGs 4th Monday at 6:30pm, Perry County Ext. Center

If you have a horticultural related event for the calendar call 573-686-8064 or email it to Denklerd@missouri.edu.
Editor’s Corner

The Garden Spade is published monthly by University of Missouri Extension staff for individuals and families living in Southeast and East Central Missouri. This newsletter is provided by your local extension council.

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We welcome and encourage Master Gardener groups and individuals to submit items to the newsletter. We encourage the submission of any news such as upcoming volunteer opportunities, community events related to gardening, warm wishes or congratulations to fellow gardeners. We also encourage Master Gardeners to share experiences and write articles on timely topics.

All entries into the group news sections must be received by 4:30 on the 15th of each month for the following months news.

Email News to: kammlerk@missouri.edu, denklers@missouri.edu, or aufdenbergd@missouri.edu

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