**History of Ginkgo**

*By Sarah Denkler, MU Extension Horticulture Specialist*

The ginkgo (*Ginkgo biloba*) is one of the few trees alive now that is considered to be a living fossil. Fossils of the ginkgo date to prehistoric times over 200 million years ago. Long considered to be the perfect street tree, it does not produce ‘trash’ to litter sidewalks (provided the specimen is male), it tolerates pollution and it has no insect or disease issues. This lack of pest pressure contributes to the longevity of the tree.

The tree itself is unrelated to any other species on earth and it is relatively unchanged since prehistoric times. It produces a fan shaped leaf that turns a bright yellow in the fall producing a spectacle in one day when every leaf drops from the tree.

Trees are either male or female with the female producing a fruit that is shaped like a persimmon but creates a foul order. The seed is pollinated in spring but does not become fertilized until autumn when the seeds fall from the tree. The male is preferred for landscaping as it has no smell and should be purchased through a source that propagates through cutting to ensure it is male.

When grown from seed it will take 20 years to discover whether the tree is male or female. Many of the trees will sprout a second trunk at some point during it’s lifetime, therefore many specimens are double trunke unless sprouts at the tree base are removed over time.

The tree was first mentioned in China about 1000 years ago as a nut that was cultivated and moved by Buddhist monks. The tree was rare, over time making its...
History of Gingko
By Sarah Denkler, MU Extension Horticulture Specialist

way to Europe by the 1700’s. The leaves are sold widely in health food stores for memory and the nut is used in Asia as a medicine although the nut is toxic in large quantities.

The tree itself is timeless which may explain part of its fascination. It grows at its own pace, but is considered to be a majestic tree in any landscape at maturity. The oldest ginkgo is estimated to be 3,500 years old in China.

Other names for the ginkgo include Baiguo (white nut), Yajiao (duck foot), Gongsunshu (grandfather tree), Yinxing (silver apricot) and maidenhair tree.

Outstanding fall color of Ginkgo - Inoc

Christmas Ferns
By Katie Kammler, MU Extension Horticulture Specialist

I have always enjoyed walking in the woods and from a kid on, fern, lichens, and moss have fascinated me. One of my favorites is the Christmas fern because it is evergreen, providing green spots of color in the woods when everything else is dormant in late fall and winter. Hard frosts and snows can knock the plants down to the ground but the glossy green foliage remains.

Christmas Ferns form a slow spreading, loose groundcover, one to two feet tall. They spread by creeping rhizomes and spores. They prefer moist, acidic forest soil but can endure dry soils in the shade and tolerate sun as long as the soil is moist.

There are several stories as to how the Christmas fern got its name so you can pick the one that you like best. One is that the leaflets on the frond look like a Christmas stocking or winter sleigh. Another is that it is one of the few things green at Christmas time. The final story is that colonial settlers used the fern to decorate during the holiday season.

Photo courtesy of University of Maryland Extension
Outdoor Plants and Ornamentals

- Be sure the root zones of azaleas and rhododendrons are thoroughly mulched. Any organic material will do but mulches made from oak leaves, shredded oak bark, or pine needles are preferred.
- Hollies may be trimmed now and the prunings used in holiday decorations.
- If stored bulbs start to shrivel, they are too dry. Place them in a container with potting soil, peat moss, or sawdust to stop the loss of water.
- Mulch perennial borders after ground freezes to a depth of 2 to 3 inches.
- Check dahlia tubers and gladiolus corms in storage. If they are sprouting, place them in a cooler spot. Moldy or damaged roots must be removed and discarded. Molding indicates over-moist conditions.

Indoor Plants

- Lining shelves or window sills with aluminum foil reflects light and provides extra light for house plants
- On cold nights, move houseplants back from icy windows to prevent chilling injury.
- Overwintering geraniums like bright light and cool temperatures. Keep soils on the dry side.
- Water houseplants with tepid water. Cold tap water may shock plants.

Vegetable Gardening

- Save cylinders from holiday wrapping paper for making bio-degradable cutworm collars. Cut cylinders into 3-inch tubes to fit over transplants.
- Reflect on last season’s vegetable garden and start thinking about what you would like to change for next year. Make sure to write it down.

Fruits and Nuts

- Leave a bare circle, one foot wide, around fruit tree trunks when spreading mulch so the mice won’t nest there.
- Wrap the trunks of fruit trees to prevent rabbit damage.

Turfgrass

- Do filling and grading around the yard. The loose soil will settle during the cold months.

Miscellaneous

- Clean and oil all garden hand tools before storing for winter.
- All power equipment should be winterized before storage.
- If you feed rabbits corn or alfalfa, they may leave fruit trees unharmed.
Garden Myth - Treating Tree Wounds
By Sarah Denkler, MU Extension Horticulture Specialist

It has been a common practice for as long as I can remember to cover up any damaged areas on a tree with paint, tar or some other natural or petroleum based wound treatment. It would be hard to convince some people to do otherwise but be warned, you are more likely to kill a tree by using these products than you are by leaving the damaged areas alone.

Over the thousands of years that trees have evolved. They have developed the ability to resist and recover from wounds. There are instances where a tree may not recover. In these cases, the tree might be weakened by disease, insects or environmental conditions and is at the end of its life. Trees have survived without human intervention for longer than humans have been around and they will continue to do so whether we like it or not.

The bottom line is that adding any substance to a tree wound on any tree will: 1) inhibit compartmentalization, 2) seal in moisture and increase decay, 3) prevent cells from forming wound wood, 4) serve as a food source for pathogens and 5) eventually crack and flake off allowing pathogens and moisture to enter the wound from outside.

Adding any treatment to a wound basically blocks any new tissue from growing that can grow over the wound. The wound on a tree does not repair itself. Do not think of it as healing like the cut on a person’s finger. The cells around the tree wound callus over and grow together over time, covering the wound. If you cut the tree down and look at a cross section you will see the wound in the rings.

The cells around the wound also recognize that there is damage and produce cells that physically and chemically repel infection. This works well if the wound is small or if the tree is young. If there are many damaged areas or if the wound is very large and the tree is older, the callus tissue may not grow together and the wound will always be exposed.

If the damage is caused during the warmer time of year, a coat of fungicide may help on disease prone trees but do not paint them or cover them with any type of ‘wound repair’.

The tar added to this fresh cut will prevent any callus wood from forming around the edges or in the split. It is possible that the center, or heartwood, in this tree will decay faster because the tar has been used. Below is a wound that has completely healed.
When trying to control diseases organically, it is very important to consider site selection whether it is for vegetable gardens, flower beds, landscapes as well as commercial vegetable fields.

Most plants that we grow in our yards and gardens need well drained soil in order to thrive and produce. Avoid areas that hold water due to poor soil composition, compaction or even low spots. Root rots and other soil born diseases thrive in these wet soils.

Avoid planting close to trees or buildings that may reduce air circulation and light intensity or duration of sunlight. Impeded sun and air flow can contribute to foliar diseases such as powdery and downy mildews. Full sun also speeds drying of the foliage, helping to prevent disease.

The old adage, “Out of sight is out of mind” is very true. Having your vegetable garden close to your living quarters instead of a couple of acres away is also a benefit. Neglected plants have more disease and insect occurrence than ones that are watered, fertilized, and mulched with fruit harvested on a regular basis.

If your soil is lacking in the location that you want, start with a soil test. Add amendments and organic matter to see if you can improve it. If you cannot amend the soil to be suitable to grow good quality plants, consider using raised beds or select a different site.

Lastly, consider the tree species growing around your garden area. Large fibrous rooted trees such as oak and maples can pull moisture and fertility from the planting area. Also, be aware of any black walnut trees. They put a poison in the ground called juglone that inhibits the growth of many garden plants - especially fruits and vegetables.

New Veggies Available

Every year there are many new varieties of vegetables available for market. In 2015 you might try out two new varieties that will work great in an edible landscape. The Pretty N Sweet Pepper and the Bossa Nova Zucchini.

The Pretty N Sweet Pepper is an ornamental pepper that has many colors on one and the peppers are edible. With a sweet flavor it is hard to go wrong with this addition of color in the landscape. The Bossa Nova Zucchini grows a bit more compact and produces earlier than other zucchini varieties. The two toned vegetable may be easier to spot when looking for a harvest. This unique coloration also provides ornamental variety to an edible landscape.
For several years, I have wanted to build a cold frame to extend our growing season through the winter months. Not only will it extend the winter season, it will also help me to start earlier with my plants. Also, a cold frame is a good place to acclimate plants from inside to outside.

A cold frame has four sides to trap the heat and shelter plants. The material needs to be somewhat transparent for sunlight to aid the plants in warmth. Material can be plywood, old crates or other repurposed wood and even bales of straw. A lot of people use old windows for lids. I am using glass that I framed because I had it on hand.

When making your plans for building a cold frame, you will want to be able to reach all the plants inside. Ideally it shouldn’t be larger than three by six feet. Having the back four to six inches higher than the front will allow the maximum amount of light to reach the plants and water or melting snow will drain off easily. The best possible location would have a south facing sunny spot with good drainage and good protection from the wind. Cold frames can be permanent or mobile. I am limited on space so my cold frame will be mobile.

The most important thing when building a cold frame is paying attention to the weather. Having your temperature too warm is just as damaging as having it to frigid. You will need some way to vent the cold frame. The easiest way is to simply lift the lid. When outdoor temperatures are greater than 40 degrees Fahrenheit, prop open the lid six inches; when outdoor temperatures are 50 degrees Fahrenheit remove the lid. Don’t forget to put the lid back on in the late afternoon to trap the heat inside for the night. Some gardening catalogs offer automatic venting devices.

On very cold nights the plants may need a little extra protection. Old blankets work well. Be sure to remove the insulation when it warms up again.

Having a cold frame will give me a lot of extra salad greens through the winter months. I also use it for transplants and seedlings.

For more information on cold frames, see University of Missouri Guide G6965 Building and Using Hotbeds and Coldframes. It can be found at http://extension.missouri.edu/p/g6965

A Must Have! Garden Journals
Donna Aufdenberg, MU Extension Horticulture Specialist

The From Seed to Harvest and Beyond: Garden Journal and Calendar is a garden journal as well as a how-to guide and information resource. It provides a place to keep all gardening information, plans and notes together.

Keeping a garden journal is a great way to organize and keep track of the how, when, where and what of the gardening season. Writing down your thoughts, successes, failures, needed improvements and new ideas as the gardening season progresses is easier than struggling to remember them several months after the season has ended. If you are interested in purchasing a garden journal for yourself or for a gift, we are selling them as a fundraiser for $20 each plus $3 shipping and handling. Each journal comes in a binder with a zipper pouch, note pad, etc. Contact the Bollinger County Extension Center at 573-238-2420, Butler County Extension Center at 573-686-8064 or the Ste. Genevieve Extension Center at 573-883-3548 for ordering information.
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**Upcoming Events**

January 5 - Parkland MG 1st Monday at 6:30pm at Memorial United Methodist Church
January 8 - Ste. Genevieve MG 2nd Thursday, at 6:30pm, Ste. Gen. CO Ext. Center
January 15 - Cape Girardeau County 3rd Thursday at 7:00pm, Cape CO Ext. Center
January 26 - Perry County MGs 4th Monday at 6:30pm, Perry CO Ext. Center
January 30 & 31 - Ag Expo at the Black River Coliseum in Poplar Bluff MO
February 8 - Beginning Beekeeper Training, Butler CO Ext. Center, Poplar Bluff, MO
February 24 - Core Training Starts Poplar Bluff MG, 5:00pm Butler CO Ext. Center

If you have a horticultural related event for the calendar call 573-686-8064 or email it to Denklers@missouri.edu.

Contact your local Extension Center if you have questions about any event on the calendar.
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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