EXTENSION CELEBRATES 100 YEARS

Senator Justin Morrill might be considered the father of the U.S. system of land grant universities and the grandfather of extension. He believed that the key to democracy, peace and prosperity was to provide education for all Americans. In 1862, after multiple tries, Congress passed The Morrill Act, and President Lincoln signed it into law. The act granted federal lands to each state to fund the establishment of at least one college in the state. The colleges would teach a wide variety of subjects, “in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life.” Private universities already existed, but they were inaccessible to all but the wealthier citizens. Morrill envisioned an educational system open to a broader population.

Realizing that not everyone could go to college, Congress established the Cooperative Extension Service with the Smith-Lever Act in 1914. The purpose of the act was “to aid in diffusing among the people of the United States useful and practical information on subjects relating to agriculture.” This legislation reflected what was already happening in Missouri and other states. In the late 1800s, Missouri was providing outreach programs to rural Missourians. Using the technology of the time, classrooms were built in rail cars and sent to rural communities on rail spurs. The Smith-Lever Act provided funding and structure for extension to continue and expand.

For 100 years, MU Extension has engaged Missourians in relevant programs based on University of Missouri research. The year 2014 marks the centennial of the Smith-Lever Act, which formalized the Cooperative Agricultural Extension Service, a national network whose purpose is to extend university-based knowledge beyond the campus. Over the years, legislation affecting extension has brought about changes. And extension’s clientele and teaching methods have changed. But extension’s mission is still every bit as viable and crucial to bring reliable, responsive and relevant research-based information from the university to the citizens of Missouri.

On May 8, 2014, University of Missouri Extension celebrates 100 years of extending university-based research and knowledge beyond the campus into all 114 Missouri counties. In doing so, MU Extension has strengthened families, businesses and communities.

University of Missouri Extension programs focus on the high-priority needs of Missourians. Each county extension center, with oversight by locally elected and appointed citizens, is your local link to practical education on almost anything. More information on this topic is available online at http://extension.missouri.edu.
WINTER’S EFFECTS ON YOUR LANDSCAPE PLANTS

The cold, snowy winter was difficult for plants, wildlife, and humans. Damage to landscape plants has been observed across the state of Missouri. Some schools in southern Missouri missed 21 or more days of school. When I drive around northeast Missouri I see a lot of winter damage on evergreen trees and shrubs, particularly on boxwoods, junipers, pine, spruce, rhododendrons and azaleas and even eastern red cedar. I have two dead roses in my landscape, and suspect there are many homeowners out there also with dead roses. I also see dead, bare areas of lawn that were covered in piles of snow for weeks. These areas will need to be reseeded.

The extended period of snow cover in northeast Missouri (I think we went about six weeks or more in Kirksville with some snow cover on the ground from mid-December through February) caused serious problems for wildlife in the area. They did not have access to food on the ground and rabbits and deer browsed on trees, shrubs, home orchards, and landscape plantings. Rabbits gnawed back my azaleas and blueberry bushes. Trees that have been completely girdled have essentially been destroyed. Wrapping the trunk or applying pruning paint to the damaged area will not save the tree. Most affected trees will sucker from the base. However, since most fruit and ornamental trees are propagated by grafting, suckers which originate from the rootstock will not produce a desirable tree.

Evergreen foliage continues to lose moisture during the winter months, particularly on windy or sunny days. Once the soil freezes, the plant’s roots are no longer able to absorb moisture. Foliage exposed to the drying effects of the sun and wind may eventually dry out and die. Last summer’s dry weather may have made the evergreens more susceptible to desiccation injury. While desiccation injury occurs during the winter months, the browning of the needles often doesn’t occur until late winter or early spring. Damage is most often located on the south and west sides of evergreens. The brown needles on affected trees and shrubs have been destroyed and will eventually fall off. However, the vegetative buds on the damaged evergreens may still be alive. Live buds will break in spring and produce new growth. Evergreens that have sustained light to moderate damage may look much better by late spring. A light application of fertilizer in early spring and watering during dry weather will encourage new growth and speed recovery of damaged plants. Areas that are completely brown in early June are dead and should be pruned out.

SOURCE: Parts of this article came from an article written by Richard Jauron, Department of Horticulture at Iowa State University. For his full article follow this link: http://www.ipm.iastate.edu/ipm/hortnews/2014/03-14/winterinjury.html.

NEW APP HELPS YOU NAME THAT WEED

University of Missouri Extension released a free app for iPhones, iPads and Android devices to help people easily identify weeds in the field, lawn or garden. The app, called ID Weeds, has information on more than 400 plant species that could be encountered as weeds in crop fields, pastures, lawns, gardens or aquatic areas in Missouri and surrounding states. ID Weeds lets users narrow the list of suspects with a series of drop-down boxes for various plant characteristics.

Don’t worry if you’re not familiar with technical terms such as “ligules” or “spatulate.” For most characteristics, users can click on “what’s this?” to see an illustration. Clicking on “Identify” will produce a list of weeds that match the characteristics you’ve chosen. The more characteristics you specify, the shorter the list will be. Selecting a weed on the list brings up detailed information and one or more photographs. You can also look up a weed by searching for its common or scientific name, or select from an alphabetical list, from “Alligatorweed” to “Yucca.”

“Proper identification of weeds is important so that you choose an appropriate and cost-effective method of control,” said Kevin Bradley, who is an associate professor of plant sciences in the MU College of Agriculture, Food and Natural Resources. The app was developed by James Meng, a programmer for MU Extension Technology and Computer Services (ETCS). ID Weeds is compatible with iPhone, iPod Touch and iPad running iOS 5.1 or later, and devices running Android 2.2 or later.

To download:

iPhone and other iOS devices: itunes.apple.com/app/id-weeds/id559906313.

Android: Search for “ID Weeds” at play.google.com/store.

A web version is available at weedID.missouri.edu.

Story Source: Kevin Bradley, University of Missouri Extension
**FLOWER GARDEN FAVORITES**

Each of us has our favorite garden flowers. Maybe yours is the rose, or maybe it's the petunia. My favorites often change from year to year. Currently my favorite annual flower is the Profusion Zinnias. This series of zinnia is known for disease resistance and uniformity. It is heat and drought resistant and an excellent choice for landscape borders and containers. They have a compact growth habit, 12-15” tall, combined with flower quality, vigor and exceptional disease resistance that contribute to Zinnia Profusion’s excellent performance in all climates. Orange, white and cherry are *All America Selections Gold Medal Winners*. I grew Profusion Orange last summer. It bloomed all season in containers and never got powdery mildew. This year I plan to grow Profusion orange, white, cherry and yellow, if I can find them. This flower needs full sun and will benefit from a watering in severe drought conditions.

Another annual I like really well is lantana. This plant can actually live year-round in warmer climates that do not get a killing frost. But, in Missouri we use it as an annual. It prefers full sun, blooms all season and has no serious insect pests or diseases. It can be planted in borders, hanging baskets or containers. It attracts butterflies and hummingbirds and is a good plant to use in butterfly gardens.

Wave Petunia is a great flower to use if you are needing a trailing plant for your beds, baskets or containers. ‘Wave’ is the most popular, award-winning series of petunias ever grown. Wave Petunias have transformed American gardens with their super fast-growing, luxuriant, easy-care beauty. These spreading, trailing Petunias bloom all season and grow incredibly fast (the original color, Purple, has been clocked at an astounding 2 inches per day, for a total of 5 feet of spread over the season!), and they are simply choked with flowers all summer and into fall. They never need deadheading as the blooms self-clean neatly. Give them sunshine, water, and regular feedings of a plant food, and they should do well for you. Although, my experience during the drought of 2012 was that they kind of fizzled out. They didn’t bloom real well and they got leggy. They just didn’t like the long period of drought and temperatures near 100 degrees. But, under normal summertime conditions, they have done well for me.

Some of the perennial flowers I like are Shasta daisies, native aster, native black-eyed Susans, native coneflowers and native liatris. I have had Shasta daisies fizzle out over time, but I still love the daisies! I like native plants because they do great during heat and drought. They made it through the drought of 2012 just fine. The Missouri Wildflower Nursery is a great source for native plants. Check out their website at [http://www.mowildflowers.net/](http://www.mowildflowers.net/).

I used to like hybrid tea roses. I started with eight five years ago, then I was down to just three, and after this winter, I may only have one left. Even with protection they don’t seem to survive our cold winters here in north Missouri, and we just had a long, cold winter. I now like ‘Carefree Beauty’ and ‘Knockout’, both low-maintenance shrub roses. ‘Carefree Beauty’ has pink blooms all season. It is one of the best of the carefree shrub roses developed by Dr. Griffith Buck at Iowa State University to withstand the cold and long winters of the Midwest. ‘Knockout’ was developed by Wisconsin rose breeder William Radler to reduce the rose gardener’s to do list with a plant that was cold hardy, disease resistant and incredibly floriferous. But, there have been reports of ‘Knockout’ roses with Black Spot, and others that just haven’t performed very well.

**TAKE CARE WHEN WORKING AROUND TREES**

Careless mowing and weed trimming can cause trees to die a slow death. Homeowners might be their trees' worst enemy if they don’t take care when using mowers and weed eaters around them. Trees don’t heal from cuts like we do, so a lawn mower scrape or trimmer slash creates a permanent injury. Once the underlying wood is exposed, you’ve put out a welcome sign for diseases and pests to attack your trees. Many an older tree has succumbed to internal rot that originated with damage caused years earlier.

There is an easy way to avoid this kind of damage. Remove the grass and weeds from around the tree. Not only will it make it unnecessary to mow near the tree, the tree will not have to compete for the nutrients and water. Spreading mulch of leaves, grass clippings or straw around trees will keep weeds and grass under control and will give the tree base an attractive appearance. Plus, these organic mulches will help conserve moisture, keep soil temperatures stable, and add nutrients to the soil.

Damage by mowers and weed trimmers isn’t a tree problem, it’s a people problem. That mighty oak may look invincible, but careless mowing and weed trimming can cause it to die slowly from a thousand small cuts. **Source:** Patrick Byers, University of Missouri Extension
GARDEN TIPS FOR MAY

ORNAMENTALS
- Pinch azaleas and rhododendron blossoms as they fade. Double flowered azaleas need no pinching. Fertilize azaleas after bloom with a formulation that has an acid reaction.
- Apples, crabapples and hawthorns susceptible to rust disease should have protective fungicidal sprays applied beginning when these trees bloom.
- Begin planting gladiolus bulbs as the ground warms. Continue at two-week intervals. Begin planting warm-season annuals. Plant summer bulbs such as caladiums, dahlias, cannas, and elephant ears.
- Plant hardy water lilies in tubs or garden pools.
- Continue monitoring pines, especially scotch and mugo, for sawfly activity on new shoots.
- Don’t remove spring bulb foliage prematurely or next year’s flower production will decline. Bulbs can be moved or divided as foliage dies.
- Canker worms (inch worms) rarely cause permanent damage to ornamentals. Use B.T. if control is deemed necessary.
- Scale crawlers are active now. Infested pines and euonymus should be treated at this time.
- Trees with a history of borer problems should receive their first spray now. Repeat twice at three-week intervals.
- Begin fertilizing annuals. Continue at regular intervals.
- Pinch back mums to promote bushy growth.

VEGETABLES
- Slugs will hide during the daytime beneath a board placed over damp ground. Check each morning and destroy any slugs that have gathered on the underside of the board.
- 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 out tomato, pepper and eggplant plants as soils warm. Place support stakes alongside tomatoes at planting time.
- Isolate sweet, super sweet and popcorn varieties to prevent crossing.
- Keep asparagus harvested for continued spear production. Control asparagus beetles as needed.
- Thin plantings of carrots and beets to avoid overcrowding.
- Control caterpillars on broccoli and cabbage plants by handpicking or use biological sprays such as B.T.
- Plant dill to use when making pickles.
- Remove rhubarb seeds stalks as they appear.
- Watch for striped and spotted cucumber beetles now. Both may spread wilt and mosaic diseases to squash and cucumber plants.
- Plant sweet potatoes now.

FRUITS
- Don’t spray any fruits while in bloom. Refer to local Extension publications for fruit spray schedule.

TURFGRASS
- Keep bluegrass cut at 1.5 to 2.5 inch height and tall fescues at 2 to 3.5 inch height. Apply post-emergence broadleaf weed controls if needed.
- Watch for sod webworms emerging now.

- MISSOURI BOTANICAL GARDEN -