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Mizzou Plant Diagnostic Clinic 2015

The Mizzou Plant Diagnostic Clinic (PDC) is open all year to receive plant samples that are affected by a disease or disorder. The PDC can also identify pesky weeds, plants of interest, mushrooms and insects or spiders. Last year the Clinic processed 445 samples, over 50% of these consisted of ornamentals, turf, and fruit or vegetable producing plants. Diseases ranged the gamut from anthracnose to wilts, making it an interesting year in the Plant Clinic. In 2014, most woody ornamentals were diagnosed with leaf spots and vascular wilt diseases. Bacterial blights and root rots were most problematic in herbaceous ornamentals. On zoysiagrass lawns, both chinch bugs and large patch were most often diagnosed. The food producing plants had a myriad of issues ranging from root rots to leaf spots.

The PDC is open all year. It is encouraged that you get a diagnosis before applying pesticides or other controls, as this will allow for selection of a control measure that will most effectively deal with your precise pest problem. The PDC is open for sample drop off, Monday through Friday from 9am to 4pm. Sample can also be mailed directly to the PDC or dropped off at your local extension office. If possible, take a picture of the sick plant before digging it up; if several plants are affected a picture of the entire planting is also encouraged. Pictures may be submitted in an email to plantclinic@missouri.edu, printed and submitted with the sample or supplied on a flash drive. As always, please include a Submission Form, which has been filled out as completely as possible, with the sample. Submission Forms and information on how to collect and ship samples can be found on the website: www.plantclinic.missouri.edu, or at your local Extension Office.

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Figure 1: Oak wilt (*Ceratocystis fagacearum*) on Nuttall oak (*Quercus texana*) Photo by Paul A. Mistretta, USDA Forest Service, Bugwood.org



Figure 2: Large patch (*Rhizoctonia solani*) Photo by Lee Miller.

New Bedding Plants for 2015

Colorful herbaceous ornamental plants continue to be the “jewel in the crown” of most landscapes. This, in part, explains why each year dozens of new annuals and perennials are introduced to the gardening public. This year, a total of 55 new bedding plants are available for your consideration. While new is not always better, most of these introductions represent improvements in plant performance for the species in question. Listed below are a number of new cultivars that should do well under Missouri conditions.



Agastache Arizona™ Sandstone, Arizona™ Sun and Arizona™ Sunset (*Agastache x hybrida*). Agastache (giant hyssop) is a perennial known for its upright growth and aromatic foliage. The Arizona™ series produces an abundance of flower spikes, each loaded with tubular flowers. Plants require little care once established and are great at attracting hummingbirds and other pollinators. From American Takii.

Angelonia Serenita™ Pink (*Angelonia angustifolia*). Angelonia is gaining popularity in the gardening world each year due to its heat-tolerant nature. Vigorous, compact plants flower continuously spring through frost, providing an outstanding show of color. The Serenita™ series is one of the few angelonia available from seed. 2014 AAS winner. From Harris Seeds.

Calibrachoa Hula Soft Pink (*Calibrachoa hybrid*). ‘Hula Soft Pink’ is a good choice for massive mounds of color. Soft pink flowers are highlighted by a vibrant magenta ‘hula hoop’ of color. A reliable performer, it does equally well in baskets and containers. From the Dummen Group.

Canna Cannova Yellow (*Canna x generalis*). The Cannova series of seed canna is an excellent choice for backgrounds in the landscape, or any place a taller plant is needed. Its tropical appearance enhance the design of any garden. Place it in containers

for a “thriller” element. The Cannova series includes ‘Yellow’, ‘Bronze Scarlet’, ‘Red Shades’, and ‘Rose’. From Ball Seed.

Coleus Marquee Blonde Bombshell (*Solenostemon scutellarioides*). From shadowy patios to sun-drenched gardens, the Marquee coleus collection takes a starring role thanks to amazing colors, easy-care attitude, and the ability to serve as the “filler” in pots and mixed combination planters. It has excellent garden performance. Its elongated leaves make for a wonderful textural component. Available in three colors: ‘Blonde Bombshell’, ‘Red Carpet’, and ‘Box Office Bronze’. From Ball Seed.

Corn, Ornamental Japonica Striped Maize (*Zea mays*). This unique ornamental corn comes from Japan. Growing 5-6 ft. tall, it has variegated leaves striped with green, white, yellow and pink. It bears dark purple tassels and the mature kernels are purple in color. Provide this introduction with plenty of sun and adequate space for best color. From Seeds by Design.

Dahlia XXL Sunset (*Dahlia grandiflora*). The huge blooms on ‘XXL Sunset’ are sure to be the talk of visitors to a garden. The XXL series of dahlias are strong and proven garden performers - consistently receiving top marks at trial gardens across the country. From the Dummen Group.

Dianthus Diana Crimson Picotee Improved (*Dianthus chinensis*). Not known for its ability to tolerate heat, dianthus is a good choice for early or late-season color. Its ability to tolerate light freezes helps to extend the gardening season. The Diana series is known for its upright mounded plants that provide bright color to the landscape or container gardens. From HemGenetics.

Dianthus Interspecific Jolt™ Pink (*Dianthus barbatus interspecific*). Jolt™ is an interspecific dianthus with brightly colored and large, showy flowers on strong stems that perform well all summer long. It is the most heat tolerant dianthus on the market, sporting very showy, bright pink fringed flowers. Low maintenance and trouble-free, the Jolt™ series represents an advancement in heat tolerance for this cool-loving garden plant. Recipient of the AAS award. From Pan American Seed.

Digitalis Foxlight (*Digitalis hybrid*). The Foxlight series of hybrid digitalis makes a great focal point in gardens and containers with its bold colors. The blooms face outward on tall spikes for outstanding flower display. Good for attracting hummingbirds, it is available in three colors: ‘Ruby Glow’, ‘Plum Gold’, and ‘Rose Ivory’. From Ball Seed (Darwin Perennials).

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Euphorbia Glitz (*Euphorbia graminea*). 'Glitz' is the first baby's breath Euphorbia from seed. Prolific flowering, its delicate, airy habit and tiny white flowers mix well with other annuals. It is an ideal choice for baskets, mixed containers, or grown on its own. It offers drought tolerance and has long lasting displays of flowers. From Harris Seeds.

Geranium Big EZEE Red (*Pelargonium x hortorum*). 'Big EZEE Red' is not an average geranium. Bred for the heat, this reliable performer and is a vigorous grower loaded with flowers. It's perfect for completing mixed plantings, and also stands well on its own. From the Dummen Group.

Geranium Nano™ Violet (*Pelargonium x hortorum*). 'Nano™ Violet' is a new beautiful vibrant color addition to this compact series of zonal geranium. Extremely floriferous, 'Nano™ Violet' continually produces clusters of flowers in abundance all season long. Its dark green foliage provides the perfect backdrop for its striking flower color. The compact habit of the Nano™ series make them ideal choices for container use and window boxes, as well as in landscape beds in the ground for bright color accents. From HemGenetics.

Impatiens Bounce™ Violet and Bounce™ Pink Flame (*Impatiens x hybrida*). 'Bounce™ Violet' is a strong-performing impatiens for both sun and shade gardens. It is highly resistant to impatiens downy mildew and has an appealing habit and good flower count. As the names imply, it "bounces" back after wilt. Available in several colors it is a great alternative to Impatiens walleriana. The Bounce™ series is shorter and compact, while Big Bounce is more vigorous and taller. 'Bounce™ Pink Flame' is a 2015 AAS winner. From Selecta Seeds.

Impatiens Divine Mix (*Impatiens hawkerii*). Its well-branched plant habit produces masses of large, luscious blooms. Impatiens 'New Guinea Divine' is a great alternative to garden impatiens (Impatiens walleriana) where downy mildew is a problem. From Harris Seeds.

Impatiens SunPatiens® Compact Pink and Compact Royal Magenta (*Impatiens x hybrida*).

Compact SunPatiens® produce dense, bushy plants that are well-branched and covered with flowers. They grow 24" to 36" tall and equally wide in the garden, but slightly shorter in containers and baskets. In the garden, the Compact series is early to flower and well behaved with an upright, 'stocky' growth habit. Compact SunPatiens are good choices for exceptional patio pots and hanging baskets as well as for the garden. From Sakata Seeds.

Impatiens SunPatiens® Spreading Shell Pink (*Impatiens x hybrida*). The truly unique genetic background of SunPatiens® Shell Pink delivers unsurpassed garden performance with season-long, soft pink flowers that never slow down. This impatiens thrives under heat, rain and humidity. The vigorous spreading plants keep their shape all summer; plus, they do just as well in full sun as in shade. These low-maintenance plants are perfect for gardeners looking for impatiens that are resistant to downy mildew. 2015 AAs winner. From Sakata Seeds.

Lobelia Starship Scarlet (*Lobelia x speciosa*). Starship Scarlet is a showy, mid-height plant covered with masses of flowers. Ideal for containers or for the center of the border. The sturdy, bushy plants are low maintenance. From Ball Seed.

Lobularia YOLO White (*Lobularia maritima*). 'YOLO White' sweet alyssum shows great heat tolerance, making this a wise choice to transition from early spring until frost. The clear white, fragrant flowers are sure to make this a favorite in mixed plantings or in a bed or border. From the Dummen Group.

Marigold Garland Orange (*Tagetes erecta*). The very tall (28-60"), bushy plant habit of this selection lends itself well to the background of gardens. Deep orange blooms on long stems make excellent cut flowers for indoor enjoyment. Like most marigolds, it is easy to grow and adaptable to a wide range of soil conditions. From Harris Seeds.

Ornamental Pepper Conga™ (*Capsicum annuum*). Ornamental Pepper 'Conga' has dark purple leaves, with peppers that start out purple and mature to a bright red. A fabulous alternative to flowers, 'Conga' does well in combination planters. From American Takii.

Ornamental Pepper Mambo™ Purple Orange and Mambo™ Yellow (*Capsicum annuum*).

Ornamental Pepper 'Mambo'™ Purple Orange' and 'Mambo™ Yellow' are ideal for fall plantings and great for Halloween decorating. Fruit emerge dark purple and mature to brilliant orange; plants will have both purple peppers and bright orange peppers. From American Takii.

Petunia Easy Wave Velour Red (*Petunia x hybrida*). 'Easy Wave Velour' petunias have deep, dark texture and fashion-forward color. Plant habit is more compact than regular Wave petunias. Plant this fabulous petunia anywhere you'd like to add summer-long color. It is perfect for a patio display on your patio, or trailing from hanging baskets overhead. Give it sun and feed it regularly for lush, vigorous blooms through the summer. From Ball Seed.

Petunia Opera Supreme™ Red (*Petunia x hybrida*). Petunia 'Opera Supreme™ Red' is more vigorous than other red trailing petunias, easily spreading 3 to 4 feet in width. It is covered with flowers from the center of the plants all the way to the very tips of each stem. Short internodes allow the production of flowers close together so plants are so loaded with blooms; virtually no foliage is visible. From American Takii.

Petunia SuperCal® Grape and SuperCal® Salmon Glow (*Petchoa hybrid*). This new petunia exhibits exceptional garden performance under all kinds of weather, even during the heat of summer. SuperCal® series combines the best characteristics of petunias and calibrachos in one exceptional series. The series offers vibrant colors, large blooms and high pH tolerance. From Sakata Seeds.

Petunia Surfinia Sumo (*Petunia x hybrida*). The world's leading vegetative petunias just got bigger with the introduction of the Surfinia Sumo series. As the name implies, 'Surfinia Sumo' is big and bold. Plants produce mega mounds of color and are full of big flowers. This vigorous series is perfect for large containers, baskets and landscape beds. Colors include 'Sumo Pink', 'Sumo Plum' and 'Sumo Bold Lilac'. From the Suntory Collection.

Petunia Tidal Wave® Red Velour (*Petunia x hybrida*). Expect fabulous and stunning

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New Bedding Plants for 2015 (continued)

color on this vigorous Wave petunia. The first Tidal Wave® to win an AAS award was 'Silver' in 2002. Now there is 'Velour Red' with gorgeous deep red velvety blooms that don't fade even in the heat of summer. Large flowers literally cover the vigorously spreading plants that rarely need deadheading because new blooms continuously pop up and cover the old, spent blooms. Tidal Wave® petunias are the tallest of the Wave family and bloom over and over all season long and recover quickly, even after hard rains. Tidal Wave® is an excellent landscape performer, covering a large area quickly and beautifully. 2015 AAS winner. From Pan American Seed.

Petunia Trilogy Red (*Petunia x hybrida*). The Trilogy petunia series has a new color with this stunningly rich, vibrant red version. Trilogy petunias are known for their compact dome-shaped habit sporting large, non-fading blooms throughout the season. The plants cover and recover themselves in blooms providing a constant mass of color in flower beds, baskets, and containers. Gardeners in high heat areas will appreciate the heat-tolerance of this variety and all gardeners will like how quickly it bounces back after a rain. 2015 AAS winner. From American Takii.

Salvia Blue Marvel (*Salvia nemorosa*). Salvia 'Blue Marvel' has the largest flowers of all Salvia nemorosa cultivars. It reblooms reliably in the perennial garden and attracts pollinators to its upright, colorful spikes all season long. From Ball Seed (Darwin Perennials).

Salvia Summer Jewel White (*Salvia coccinea*). A third color in the popular Summer Jewel series, 'White' brings a much-needed color to compact salvias. Its dwarf-sized, compact plants have a prolific bloom count throughout the summer. As a bonus, the blooms appear almost two weeks earlier than other white salvias used as comparisons. Also, it is attractive to bees, butterflies and hummingbirds, making it perfect for a pollinator garden. Because of the compactness and number of flowers, 'Summer Jewel White' is great for large landscaped areas, as well as containers and small beds. 2015 AAS winner. From American Takii.

Scaevola Surdiva Variegated Blue (*Scaevola aemula*). 'Surdiva Variegated Blue' is the first scaevola with variegated

foliage, creating new interest and dimensions in this heat-tolerant plant with blue, fan-shaped flowers. Native to Australia, most scaevolae are naturally wild-looking and rangy. Surdivas have short internodes and compact habit, creating a tidy appearance and exceptional flower coverage. As one of the most heat tolerant bedding plants, Surdivas offer continuous color through summer's harshest conditions. From the Suntory Collection.

Verbena EnduraScape Hot Pink (*Verbena hybrid*). EnduraScape verbena is tougher than other verbenas. Seven exciting colors fill this series of vigorous landscape verbena that won't cycle out of flower in the heat and is hardy in frost conditions. It's the first verbena that's hardy into the low teens and reblooms in spring. Great for use as a ground cover, it also has excellent powdery mildew resistance. Available in several appealing colors. From Ball Seed.

Verbena Wicked Cool Blue (*Verbena hybrid*). The flowers of 'Wicked Cool Blue' verbena feature a striking contrast between bright white and vivid blue. They are perfect for adding interest to mixed plantings. This verbena will mix well with others and bloom non-stop all summer. From the Dummer Group.

Viola ColorMax (*Viola hybrida*). 'ColorMax' is a giant-flowered viola that is heat tolerant and fills pots easily, even under heat stress where standard violas suffer. ColorMax is a superb autumn performer and a great choice to start the season. This alternative to pansies comes in a number of eye-catching and unique colors that are extremely versatile, performing equally well in pots, baskets and mixed containers. Available in 10 colors. From Sakata Seeds.

Viola Corina Black (*Viola cornuta*). 'Corina Black' represents a novel black-flowered addition to the Corina series. Compact spreading habit (height 6-8" spread 10-12") matches the other 15 colors available in the series. Violas are very frost tolerant so ideal for early season plantings as well as bloom well into late fall. It isn't unusual for violas to flower occasionally during the warm periods in winter when snow melts. Since violas are more heat tolerant than their pansy cousins, they tend to last longer into the warmer times of the year. From HemGenetics.

Viola Gem™ Lilac Antique (*Viola cornuta*). Viola Gem™ Lilac Antique represents a unique color in a sea of viola colors. Gem does well in cold conditions and will also withstand those sudden bursts of heat which can occur in spring. 'Gem™ Lilac Antique' blooms prolifically providing welcome color in late fall and early spring. It is great in containers, baskets and in the garden. From American Takii.

Zinnia Crouching Tiger (*Zinnia elegans*). Winner of a 2015 Fleuroselect novelty award for its improved double flowers and versatile habit 'Crouching Tiger' is compact, bushy, free-flowering, and so easy-to-grow. Its giant 3-inch blooms open single, with a daisy form, then mature to fully double, petal-packed pompons. Long-lasting on the plant or in the vase, they crowd among fresh green foliage on vigorous, well-branched plants. It is perfect for containers as well as the annual bed. From Park Seed Co.

Zinnia Salsiando (*Zinnia elegans*). 'Salsiando' is a superb mixture of two zinnia varieties: 'Macarenia' and 'Mazurkia'. 'Macarenia' has showy double-scarlet flowers with golden tips on each petal. 'Mazurkia' has double and semi-double scarlet flowers tipped with cream. Mixed together they give an exceptional display of bicolored zinnias. 'Salsiando' should perform well in any garden, from a small urban garden plot to large landscapes; it also is excellent for pick-your-own bouquets. From Van Hemert & Co.

Zinnia Zinderella Peach (*Zinnia elegans*). 'Zinderella Peach' blends shades of salmon, peach, pink and cream around its dark eyed center. This striking flower has scabiosa-shaped blooms with many doubled petals creating full mounded tops surrounded by a single row of larger petal on many. Excellent as a cut flower, it is very easy-to-grow and disease resistant. A Fleuroselect approved novelty. From Select Seeds.

Credit: Adapted from an article by the
National Garden Bureau.

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Lightning Damage in Trees

Lightning is on its way, along with spring and summer thunderstorms. Throughout Missouri, any location averages about 50 thunderstorms each year. Although thunderstorms occur during any month of the year, 60% of them rumble across the state between May and August. During these storms, people and trees are at risk from lightning strikes. A lightning strike can produce very high temperatures and an electrical charge of 100 million volts. An average of 25 million lightning strikes are detected annually in the United States.

Because trees are often the tallest objects in a landscape, they are especially vulnerable to lightning strikes. When lightning strikes only one side of a landscape tree, it can often recover with only a minor vertical scar along the affected area. However, when a strike passes through the whole tree, splintered bark and exploded wood around the entire trunk usually results in tree death. Electrical current or lightning can also pass from the tree trunk and into the roots, causing tree decline and death over time. After a lightning strike, remove any broken branches that may create an immediate hazard. For partially damage trees, wait a few months to determine if trees will recover. Also, during this time, irrigate trees to minimize tree stress during periods of drought.

For apple trees, damage resulting from a lightning strike is easily misdiagnosed after a healthy tree or its limbs suddenly die. Often the tallest tree limbs are struck by lightning with localized dieback. After a severe strike, the bark separates from the wood in the tree top, the central leader collapses, and its leaves turn brownish-black. The damaged leaves remain attached to the limbs and have sharply bent petioles, unlike the normal arc of healthy leaves and their petioles.

In orchards, lightning can damage individual free-standing or trellised apple trees. The number of trees damaged or killed by lightning will depend on the strength of the initial strike, the size and moisture content of the trees attached to the wire, and the conductivity of the posts within the trellis system. Usually, damage along the trellis will decrease from the center of the strike because metal posts and/or trees attached to the trellis will dissipate the charge. Pressure-treated wood line posts can also direct the current to the soil surface when posts are wet from precipitation, resulting in a line of damaged trees occurring between two line posts.

Damage from lightning is often confused with fire blight, which is caused by bacteria. Shoots damaged by lightning have a distinct margin between healthy and necrotic tissue and bacterial ooze is absent. Several weeks after a lightning strike, the pith in the center of the damaged shoot appears segmented (Figure 1). Presumably, the normally hydrated pith rapidly desiccates and shrinks into segments from heat associated with the electrical charge of lightning. At the base of a partially damaged shoot, leaves may appear normal, but there is a ring of darkly-colored tissue just under the bark in young xylem (wood) when the limb is cross-sectioned (Figure 2). In spite of this necrotic ring, the cambium survives and produces healthy new xylem that grows over the dead tissue. Several weeks after lightning damage, fungal bracts can occur on tree trunks of dead trees.

Most often diagnosis of lightning damages is based on the appearance of dieback in the highest part of the trees, lack of other disease or insect pests, and weather records indicating lightening activity in the area.



Photo credits: Dave Rosenberger



Photo credits: Dave Rosenberger

*Michele Warmund
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APRIL Gardening Calendar

Category	Week				Activity
	1	2	3	4	
Ornamentals	x	x	x	x	Study your landscape for gaps that could be nicely filled with bulbs. Mark these spots carefully and make a note to order bulbs next August.
	x	x	x	x	Enjoy, but do not disturb the many wildflowers blooming in woodlands throughout Missouri.
	x	x	x	x	When buying bedding plants, choose compact, bushy plants that have not begun to flower.
	x	x	x		When crabapples are in bloom, hardy annuals may be transplanted outdoors.
	x	x	x		Fertilize established roses once new growth is 2 inches long. Use a balanced formulation. Begin spraying to control black spot disease.
	x	x			Examine shrubs for winter injury. Prune all dead and weakened wood.
	x				Groundcovers can be mowed to remove winter burn and tidy plants up. Raise mowers to their highest settings. Fertilize and water to encourage rapid regrowth.
	x				Shrubs and trees best planted or transplanted in spring, rather than fall, include butterfly bush, dogwood, rose of Sharon, black gum (Nyssa), vitex, red bud, magnolia, tulip poplar, birch, ginkgo, hawthorn and most oaks.
	x				Winter mulches should be removed from roses. Complete pruning promptly. Remove only dead wood from climbers at this time. Cultivate lightly, working in some compost or other organic matter.
		x	x	x	Look for flowering dogwoods in bloom.
		x	x	x	Break off rims from peat pots when transplanting seedlings, otherwise they can act as a wick to draw moisture away from the roots.
		x	x		Transplant Virginia bluebells (<i>Mertensia virginica</i>) after bloom, but before the foliage disappears.
			x	x	Do not prune boxwoods before April 15.
			x	x	Evergreen and deciduous hedges may be sheared. Prune the top narrower than the base so sunlight will reach the lower limbs.
			x	x	Oaks and hickories bloom.
			x	x	Easter lilies past blooming can be planted outdoors. Set the bulbs 2 to 3 inches deeper than they grew in the pot. Mulch well if frost occurs.
			x	x	Apply controls for holly leaf miner when the new leaves are just beginning to grow.
			x	x	Balloon flower (<i>Platycodon</i>), hardy hibiscus, gasplant (<i>Dictamnus albus</i>) and some lilies are slow starters in the spring garden. Cultivate carefully to avoid injury to these tardy growers.
				x	Prune spring flowering ornamentals after they finish blooming.
				x	Begin planting out summer bulbs such as caladiums, gladioli and acidanthera at 2 week intervals.

Gardening Calendar supplied by the staff of the William T. Kemper Center for Home Gardening located at the Missouri Botanical Garden in St. Louis, Missouri. (www.GardeningHelp.org)

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APRIL Gardening Calendar

Category	Week				Activity	
	1	2	3	4		
Lawns	x	x	x	x	Start mowing cool season grasses at recommended heights. For complete details, refer to University Extension Guide #6705, Cool Season Grasses.	
	x	x			Topdress low spots and finish overseeding thin or bare patches.	
	x	x			Aerate turf if thatch is heavy or if soil is compacted.	
	x	x			Apply crabgrass preventers before April 15. Do not apply to areas that will be seeded.	
Vegetables	x	x	x		Finish transplanting broccoli, Brussels sprouts, cabbage, and cauliflower plants into the garden. High phosphorous fertilizers help get transplants off to a quick start.	
	x	x			Plants started indoors should be hardened off outdoors in cold frames before being transplanted into the garden.	
	x	x			Start cucumber, cantaloupe, summer squash, and watermelon seeds indoors in peat pots.	
	x	x			Finish sowing seeds of all cool-season vegetables not yet planted.	
	x	x			Plastic films can be used to preheat the soil where warm season vegetables are to be grown.	
	x	x			Asparagus and rhubarb harvests begin.	
			x	x	x	Handpick and destroy asparagus beetles.
			x	x	x	Keep your hoe sharp! Don't allow weeds to get an early start in your garden.
			x	x	x	Flower stalks should be removed from rhubarb plants, if they develop.
			x	x	x	Try an early sowing of warm-season crops such as green beans, summer squash, sweet corn, New Zealand spinach and cucumbers.
			x	x		Thin out crowded seedlings from early plantings of cool season crops such as beets, carrots, lettuce, onions and radish.
			x	x		Sow seeds of luffa and hard-shell gourds indoors in peat pots. Soak seeds overnight before planting.
			x	x		Make succession sowings of cool-season crops.
				x	x	Begin planting lima beans, cucumbers, melons, okra and watermelons.
			x	x	Begin setting out transplants of tomatoes, eggplants, peppers and sweet potatoes.	
Fruits	x	x	x	x	Blemish-free fruits unmarred by insect or disease injury can rarely be produced without relying on regular applications of insecticides and fungicides For special information, consult University Extension Guide Sheet #G6010, Home Fruit Spray Schedule.	
	x	x			Wooden clothespins make useful spreaders for training young fruits limbs. Place pins between the trunk and branch to force limbs outward at a 60 degree angle from the trunk.	
	x	x			A white interior latex paint may be brushed on the trunks of newly planted fruit trees to prevent sunburn. This will gradually weather off in time.	
	x	x			Stink bugs and tarnished plant bugs become active on peaches.	

Gardening Calendar supplied by the staff of the William T. Kemper Center for Home Gardening located at the Missouri Botanical Garden in St. Louis, Missouri. (www.GardeningHelp.org)

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APRIL Gardening Calendar

Category	Week				Activity
	1	2	3	4	
	x	x			Leaf rollers are active on apple trees. Control as needed.
	x	x			Prune peaches and nectarines now.
	x				Plant bare-root or potted fruit trees as soon as the soil can be worked.
	x				Remove tree wraps from fruit trees now.
		x	x	x	Protect bees and other pollinating insects. Do not spray insecticides on fruit trees that are blooming.
		x			Destroy or prune off webs of eastern tent caterpillars. "B.t." (Dipel) is a safe biological spray.
			x	x	Orange, jelly-like galls on cedar trees spread rust diseases to apples, crabapples and hawthorns.
			x	x	Begin sprays for fire-blight susceptible apples and pears using an agricultural streptomycin.
				x	Spider mites and codling moths become active on apples.
Miscellaneous	x	x			Termites begin swarming. Termites can be distinguished from ants by their thick waists and straight antennae. Ants have slender waists and elbowed antennae.
	x	x			Look for morel mushrooms when lilacs bloom and the forest floor turns green.
	x				Mount a rain gauge on a post near the garden to keep track of precipitation so you can tell when to water. Most gardens need about 1 inch of rain per week between April and September.
		x	x	x	Mole young are born in chambers deep underground.
			x	x	Honeybees are swarming. Notify a local beekeeper to find a new home for these beneficial insects.
				x	Soaker hoses and drip irrigation systems help you save water and money.
				x	Hummingbirds return from their winter home in Central America.
				x	Wasp and hornet queens begin nesting.
		x			Raise purple martin houses this week.
			x		Purple martins return to the St. Louis area.
				x	The white flowers of serviceberry (<i>Amelanchier</i> sp.) and wild plum (<i>Prunus americana</i>) are showy in wooded areas.
				x	Watch for the fuzzy blooms of the pussy willow (<i>Salix</i> sp.).

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