

# Missouri Environment & Garden

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## **It's time to start thinking about that pre-emergence...**

Remember last year. A number of folks out there followed the calendar for their applications of pre-emergence herbicides and were too late. Typically in Missouri, we recommend those applications take place toward the end of March to the middle of April. Some like to follow the phenology of forsythia blooms dropping to dictate their applications of pre-emergence herbicides. In all cases, with a year like last year; you would have been too late.

Pre-emergent herbicides are so-named because they must be in place before annual weed seedlings emerge. Pre-emergent herbicides will not kill weeds that have already emerged. The optimum time to apply your pre-emergent is when the soil temperature reaches 55 F for five consecutive days in the top inch of soil. You can be assured that annual weeds will begin to emerge at that time. Applying a pre-emergence herbicide at this time will provide the optimum length of control. However, length of control is also dependent on other factors such as amounts of rainfall, temperatures, etc. It is imperative that the pre-emergent be applied at the right time and watered down into the soil surface either by light irrigation or rainfall (approximately ½" of water).

If using an organic pre-emergence, such as corn gluten, applications should be anticipated seven to ten days prior to these soil temperature requirements. Organic products will require a little more time to breakdown and become active. Organic products should be watered-in lightly as well in order for particles to come in contact with soil microbes to begin activation. As the plant proteins of the organic fertilizer (corn gluten) breakdown, a natural plant toxin is released which serves as a partial pre-emergent.

Many effective products are available, many of which are impregnated into fertilizers or used alone. Regardless of the combination, both need to be watered-in to be activated. Upon weed seed germination, that first root comes

in contact with the herbicide laden soil and dies.

Culturally, it is still best to maintain a good quality, dense canopy to compete against weeds. If at all possible, try mowing at the highest possible height. Mowing at a height of 3.5 inches versus 1.5 inches can reduce annual weed populations up to 80%. Creating a shade effect with good density is the best defense against annual weeds.



Crabgrass



Goosegrass

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# It's time to start thinking about that pre-emergence...

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**Table 1. Pre-emergence products for annual weed control.**

Active Ingredient	Trade Name	Turfgrass Species <sup>1</sup>	Annual Weeds
corn gluten	Bradfield Organics, Concern Weed Preventer, Espoma Organic Weed Preventer	KBG, PR, TF, Z	Barnyardgrass, Crabgrass, Foxtail, Dandelions, Pigweed, Purslane
dithiopyr <sup>2</sup>	Dimension 2EW, 40WP	KBG, PR, TF, Z	Barnyardgrass, Crabgrass, Foxtail, Goosegrass, Carpetweed, Henbit, Knotweed, Purslane, Spurge, Woodsorrel
isoxaben <sup>3</sup>	Gallery 75DF	KBG, PR, TF, Z	Chickweed, Henbit, Knotweed, Pigweed, Plantain, Purslane, Shepherd's-purse, Spurge
pendimethalin	Pendulum EC, FI, G	KBG, PR, TF, Z	Annual bluegrass, Barnyardgrass, Crabgrass, Fall Panicum, Foxtail, Goosegrass, Chickweed, Henbit, Knotweed, Purslane, Spurge
prodiamine	Barricade 65WDG, FI	KBG, PR, TF, Z	Annual bluegrass, Barnyardgrass, Crabgrass, Fall Panicum, Foxtail, Goosegrass, Carpetweed, Chickweed, Henbit, Purslane, Spurge

<sup>1</sup> KBG = Kentucky bluegrass, PR = perennial ryegrass, TF = tall fescue, Z = zoysiagrass

<sup>2</sup> Dimension provides some post-emergence activity, read the label.

<sup>3</sup> Controls only broadleaf weeds.



Prostrate Knotweed



Spotted Spurge

This combination will also reduce the number of perennial weeds you find, such as dandelion, plantains, etc.

Pre-emergence herbicides are often referred to as crabgrass preventers. This should not be common terminology. Pre-emergence herbicides and corn gluten control far more than just crabgrass. If you read the labels of these products you will find annual grasses, such as annual bluegrass, barnyardgrass, crab-

grass, goosegrass, foxtails, fall panicum, etc. Pre-emergence products also control several annual broadleaf weeds, such as carpetweed, henbit, purslane, knotweed, spurge, etc. Always check the product label to determine which product may benefit you the most and read label directions carefully. Do not over apply, either by excessive overlapping or by applying more material than recommended to a specific area. Applying too much herbicide product could result in damage to turfgrass roots.

Table 1 includes a list of current pre-emergence herbicides and provides active ingredient, trade name, turfgrass species and a condensed weed list.

All herbicide information is presented with the understanding that no endorsement of named products is intended by the University of Missouri, nor criticism implied of similar products that are not mentioned. This article is not a substitution for any product label. Before using any herbicide please read the label carefully for directions on application procedures, application rates, first aid, storage and disposal. Make sure that the herbicide is properly registered for the intended use. Carefully read all precautions on turfgrass sensitivity to products and timings.

Company websites readily allow access to and the downloading of product labels and MSDS's. Manufacturers and suppliers maintain toll-free numbers for the purpose of providing answers to any technical question you may have on their specific products. You can also contact your local extension office.

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# New Bedding Plants for 2013

Perhaps the best thing that can be said about February is that it's the shortest month of the year. The cold, dreary days of winter can be made a bit more tolerant, however, by poring over seed catalogs (and websites) wishfully thinking about the upcoming growing season. If the prospect of growing something new or different interests you, then 2013 should be quite a gardening treat. Seed companies have introduced 60 new varieties of annuals and perennials, several of which received the coveted All American Selection (AAS) Award. Below is a description of a number of the new bedding plants for 2013 that should, in most cases, fare well in Missouri.

**Angelonia 'Serenita'** (*Angelonia angustifolia*). 'Serenita' angelonia is a great choice for beds, borders, or containers for long-lasting color with very little maintenance. Free-blooming, it also is deer and rabbit resistant. For water-wise gardeners, 'Serenita' is heat and drought tolerant. Mix with other sun-loving annuals to add height and interest. This is a good plant for beginning gardeners and is available in several colors. From PanAmerican Seed.

**Begonia 'Ikon Bronze' F<sub>1</sub>** (*Begonia x hybrida*). 'Ikon Bronze' is a true performer. Its rich, bronze foliage contrasts beautifully with its blush-white flowers. It displays a vigorous spreading/mounding growth habit making it ideal for containers, baskets and ground beds, either on its own or in combinations. It thrives in sunny or shady spots and can tolerate heat and humidity with minimal care. 'Ikon Bronze' is self-cleaning and drops its spent flowers.

**Begonia 'Million Kisses Honeymoon'** (*Begonia boliviensis*). Begonia 'Million Kisses Honeymoon' is a vigorous trailing begonia perfect for large-size hanging baskets. Its branches are full of large, light-yellow blooms that brighten up a shady setting. It also is easy to grow with little maintenance needed to keep it blooming summer through fall. From Ball Ingenuity.

**Begonia 'Santa Cruz'® Sunset'** (*Begonia boliviensis*). Native to Bolivia, this tough plant is perfect for landscapes, hanging baskets or containers that need to tolerate extreme weather conditions. It branches naturally to

produce a full, lush-looking plant that's loaded with flowers all season long. The large 5" wide bright scarlet flowers show off in any location from full sun to partial shade. 'Santa Cruz'® Sunset' doesn't need deadheading. In spite of the record breaking heat this past summer, 'Santa Cruz'® Sunset' performed beautifully across the country.

**Begonia 'Sparks Will Fly'** (*Begonia hybrida*). 'Sparks Will Fly' begonia has dazzling tangerine flowers that shoot forth from bronze foliage. It is a great choice for brightening up shady garden areas, and ideal in small patio containers. 'Sparks Will Fly' is low-maintenance for easy gardening and decorating. Plants bloom until frost; flowers are flushed with yellow in the fall. From Burpee Home Gardens.

**Buddleia 'Flutterby'** (*Buddleia hybrid*). Tolerant of drought and heat, Buddleia 'Flutterby' does well in many landscape settings, or in large-size containers. Its fragrant flowers are richly colored and bloom continuously from early summer until frost. Nectar-producing plants such as buddleia attract butterflies, bees and other pollinators to the garden. From Ball Ornamentals.

**Calibrachoa 'MiniFamous Double'** (*Calibrachoa* cultivars). 'MiniFamous Double' calibrachoa has a true double flower and exhibits great performance in the garden across a range of exposures. It is ideal for creating an upscale look for pots and mixed combos. The 'MiniFamous' color range broadens this year with new 'Rose Chai,' 'Deep Yellow' and 'Magenta.' From Selecta.

**Canna 'South Pacific Scarlet' F<sub>1</sub>** (*Canna generalis*). An AAS Award winner, 'South Pacific' will add a touch of the tropics to your garden with showy, 4" flowers that bloom all summer in a vibrant shade of scarlet. AAS judges raved about this seed-propagated F1 hybrid canna because it is such a free bloomer. 'South Pacific' grows up 4-5' tall, providing a great grouping of specimen plants or a back-of-the-border focal point. Its colorful blooms are produced on a flower spike held above the large-leaved, statuesque plants. As with other cannas, 'South Pacific' tolerates moist soil so it can be used as a pond border or in other similar settings.

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**Celosia 'Intenz'** (*Celosia caracus*). Celosia 'Intenz' has vibrant color on spiky blooms that add sought-after texture to mixed containers. 'Intenz' also is versatile. Plant it in beds, borders or patio containers. It performs great in full-sun and blooms all summer long. 'Intenz' is a low-maintenance plant with high appeal. From Ball Ingenuity.

**Cosmos 'Rubenza'** (*Cosmos bipinnatus*). 'Rubenza' represents a unique color for cosmos, with flowers that open as a dark ruby red and then mature to deep rose. Its color and visual effect in the garden is striking. It also attracts helpful pollinators like bees and butterflies. 'Rubenza' is gorgeous in flower beds and borders, and it also works well as a summertime cut flower. Like most cosmos, it performs well through heat, rain, and wind. Height: 24-32"; 14-20" spread.

**Echinacea 'Cheyenne Spirit'** (*Echinacea hybrida*). This AAS Award winner is a stunning Echinacea that flowers the first year. It captures the spirit of the North American plains by producing a delightful mix of flower colors from rich purple, pink, red and orange tones to lighter yellows, creams and white. This wide range of flower colors on well-branched, durable plants are sure to please the color preferences of any gardener. As an added bonus, 'Cheyenne Spirit' does not require a lot of water and still offers a wide-range of uses including a perennial border, a mass landscape planting, a butterfly garden or as a cut flower.

**Echinacea 'Sombrero Lemon Yellow'** (*Echinacea purpurea*). 'Sombrero' Echinacea offers bright, vibrant flowers coupled with outstanding garden performance. It is perfect for cottage, perennial and butterfly gardens. 'Sombrero Lemon Yellow' produces a compact plant with good branching; its flowers are rich and bright in color. From Darwin Perennials.

**Geranium 'Calliope' 'Burgundy' & 'Hot Pink'** (*Pelargonium interspecific*). Extremely well-branched, the Calliope® series is noted for vigorous, mounding growth habit with good heat tolerance. They are ideal for baskets, large pots and landscape applications. 'Calliope' 'Burgundy' & 'Hot Pink' represent two new colors to the series. Both produce large, semi-double flowers with stunning color. Both do well in full sun or part-sun/shade exposures.

**Geranium 'Pinto Premium White to Rose' F<sub>1</sub>** (*Pelargonium x hortorum*). This AAS Award winner is an addition to the 'Pinto Premium' series. Not only is the flower coloration unique and beautiful, but the numerous 5" blooms are long-lasting in the garden. Petals start out white then deepen to rose-pink as flowers mature, giving

an attractive bicolor effect. Dense, well-branched plants sport deep green leaves with darker zones that contrast beautifully with the light colored flowers. 'Pinto Premium White to Rose' is a great choice for carefree, colorful summer garden beds or patio containers.

**Geranium 'Salmon Frills'** (*Pelargonium x hortorum*). 'Salmon Frills' bears large salmon blooms with white edges and is very free flowering. This variety has medium green foliage with a dark zone, adding additional interest. Extremely weather tolerant, this variety has good vigor for a nice sized container or garden bed. It exhibits good garden performance and performs well from full sun to part-shade exposures.

**Heliomeris 'Sunsplash'** (*Heliomeris multiflora*). This new selection provides a luminous burst of entrancing color. A native plant from the American prairies, this free-flowering beauty is a standout. An unusual bicolor of white and yellow, the daisylike flowers are a gorgeous variant on the usual solid yellow flowers of the heliomeris. Winter-hardy, perennial plants achieve a height of 10" and flower the freely the first year and all summer long.

**Impatiens 'Patchwork Cosmic Orange'** (*Impatiens walleriana*). 'Patchwork' impatiens brightens shady garden spaces. It makes gorgeous and colorful hanging baskets and is low-maintenance. Patchwork's dark green-leaves showcase its vibrant tri-color blooms with non-stop flowers all season. Its unique colors "shimmer" in the shade. From Ball FloraPlant.

**Impatiens 'SunPatiens' Compact Electric Orange'** (*Impatiens x hybrid hort*). 'SunPatiens' Compact Electric Orange' will perform wonderfully in the landscape or in containers on a deck or patio. It produces dense plants that are covered with blooms from spring through a few light frosts. A robust grower, it can achieve a height of up to 36 inches in height and equal width in full to partial sun. SunPatiens® take heat and humidity well and keeps blooming all season.

**Ornamental Pepper 'Cubana'** (*Capsicum annuum*). This new ornamental pepper boasts large, vibrantly colored oval shaped peppers that are held above attractive, compact plants. Trendy, stylish and colorful, 'Cubana' makes an excellent fall display with its rich, autumnal colors. It is available in several colors including deep orange, light orange, red, yellow, multicolor orange and multicolor or red.

**Petchoa 'SuperCal' Violet'** (*Petchoa hybrid*). Petchoa SuperCal® 'Violet' exhibits a wonderful combination of petunia and calibrachoa traits. The series offers large blooms in unique colors that are sure to brighten up

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a front porch or patio. Its foliage is not sticky, so the flowers drop easily from the plant as they age. Additionally, the plants hold up very well in all types of weather--including the heat. Since 'SuperCal® Violet' tolerates cooler weather too, so it will perform well early spring through fall.

**Petunia 'Picobella™ Cascade Red'** (*Petunia x hybrida milliflora*). Loaded with dainty flowers that top highly-branched, spreading plants, this new introduction is ideal for beds, borders and premium baskets. It flowers early, even under short days and rewards its caretakers with a season-long display of vibrant color.

**Petunia 'Shock Wave Deep Purple'** (*Petunia x hybrida*). For high visual impact to a garden or patio 'Shock Wave Deep Purple' is hard to beat. It bears vibrant, deep purple 1½ - 2" blooms that appear early in the season and literally blanket the plant with color. Its mounded, spreading plants lend a full, color-packed look to patio containers and hanging baskets. Additionally, they keep a neat appearance through heat, rain, wind, and light frosts. Plants grow to a height of 7-10" with a 30-36" spread.

**Petunia 'Sophistica Lime Green'** (*Petunia x hybrida*). Bring a twist of lime to your garden this summer with 'Sophistica Lime Green'. Its big, splashy blooms offer bold impact on their own, and provide a high-impact complement to deep purple, blue, and burgundy petunias. Its bright green-yellow blooms make excellent specimen plants in the garden and perform very well in baskets and containers. 'Sophistica Lime Green' produces upright plants 10-15" in height with a 10-12" spread that are easy to manage and tolerate heat.

**Petunia 'Trellis Pink'** (*Petunia x hybrida*). Another great petunia improvement, 'Trellis Pink' exhibits a unique upright growing habit and is aggressive. It produces a multitude of flowers on plants that lend themselves to trellis production. 'Trellis Pink' is the only petunia on the market with an upright growth habit.

**Petunia 'Trilogy'** (*Petunia x hybrida*). Petunia 'Trilogy' has a novel dome shape and produces an abundance of care-free color all summer long. Plants have excellent performance in containers, baskets and in the garden. 'Trilogy' will spread up to 30 to 36 inches when planted in the ground and will wow you with its unique shape and flower power.

**Salvia 'Lighthouse Purple'** (*Salvia splendens*). 'Lighthouse Purple' is an excellent background plant for the border. Planted behind the likes of petunias, marigolds or other low-growing flowers, the deep purple spikes with dark to black corollas of the statuesque 3 foot plants become beacons of mesmerizing color. Showy in the garden or in a container, it is easy to grow. Its upright,

heat-tolerant plants are low-maintenance and have high visual impact.

**Sunflower 'Zohar' F<sub>1</sub>** (*Helianthus annuus*). 'Zohar' is an excellent sunflower for cutting. It produces straight, single sturdy stems that rise 3-4 feet in height and produce blooms 4-6 inches in diameter. Its flower petals are rays of rich orange surrounding a dark center disk. 'Zohar' is a pollen-less sunflower of superior quality. It can be used as a cut flower in as little as 40-50 days, when the first sign of color appears on the petals.

**Sunflower 'Solar Flare'** (*Helianthus annuus*). 'Solar Flare' is a glowing, showy sunflower that is a real attention-getter. This dazzling flame-type sunflower offers a unique color contrast. Its dark black disk is orbited by ray petals scarlet-red in color, finishing to gold at their tapered tips. It grows to 5-6 feet tall and its flowers are long-lived when cut.

**Verbena 'Lanai® Candy Cane'** (*Verbena hybrida*). 'Lanai® Candy Cane' is early to bloom and bears large, striking flowers in a wide assortment of colors. It exhibits exceptional powdery mildew resistance and tolerates heat well.

**Zinnia 'Profusion Double Deep Salmon'** (*Zinnia hybrida*). This AAS Award winner features an abundance of salmon colored, double flowers that cover attractive compact mounded plants from late spring through fall. It exhibits outstanding garden performance and offers disease resistance to both Alternaria and powdery mildew. Like all zinnias it puts up well with heat and is nearly maintenance-free.

**Zinnia 'Profusion Double Hot Cherry'** (*Zinnia hybrida*). This AAS award winner bears an abundance of double flowers deep rose in color. It blooms continuously from late spring through fall and covers attractive, well-mounded plants with a profusion of flowers.

*Credit: Adapted from a National Garden Bureau publication.*

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# Mite and Scale Control on Fruit Trees Begins Before Bud Break

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Control of two important fruit tree pests, European red mite and San Jose scale, begins early in the growing season at bud swell with an application of superior oil. In very early springs, such as that of 2012, this spray was easily missed. As in most Missouri springs, fluctuating late winter temperatures increase the need for daily monitoring fruit tree bud stages. Apricot, cherry, peach, and plum are generally the first fruit tree buds to begin growth, followed by apple and pear. Dormant oil is applied when the temperature is above 40°F. Its primary purpose is to smother overwintering mite eggs and young scale crawlers.

For red mites, the number of overwintering eggs is important as there are multiple generations during the growing season. In favorable climates where mites have about eight generations per year, a single pair of mites could potentially produce more than 227 million offspring by the end of the season. Fortunately, low humidity, low winter temperatures, natural enemies, and miticides prevent mites from attaining their reproductive potential.

Because of their fecundity, control of the initial population of mites in overwintering eggs is important. Thorough coverage of the tree with oil is important as mite eggs overwinter on the underside of small branches, twigs, and fruiting spurs. Although eggs are red, they are hard to find with the naked eye as they are only about 0.15 mm in diameter. Usually, winter eggs hatch very quickly, within a period of 7 to 10 days. They begin to hatch at the tight cluster stage of floral development and about half of them hatch by the pink stage. By late petal fall, females have oviposited their summer eggs.

Mite feeding damage is generally the most severe on apple, pear, and plum trees. As mites feed, they withdraw cellular contents from leaves, including chlorophyll. Damaged leaves appear bronze in color and generally persist on the tree. However, partial leaf drop of injured leaves can occur during periods of water stress. Heavy

infestations (more than 30 mites per leaf) in early summer adversely affect flower bud initiation and subsequent fruiting in the next growing season.

In contrast to mites, scales do not overwinter as eggs as females produce six-legged offspring called crawlers. Most overwintering scales are first nymphal instars that cling to tree bark. In early spring, young crawlers travel about the tree for a few hours and then begin sucking on plant tissue. After about three weeks, they molt and begin to secrete a waxy covering. Females never leave their scale, but males emerge from their covering as winged adults by May and subsequently mate. Females generally produce about nine to ten living crawlers per day for about six weeks. Females may have up to generations per year and a single pair of scale could hypothetically produce 300 million crawlers per year.

San Jose scale attack bark, leaves, and fruit. Scale control is essential as it can kill young trees in two to three years. Older trees may take longer to die but fruit is severely blemished. Scale damage on fruit is easily detected by the red spots encircling a white center. It also attacks bark and leaves on trees. Crawlers are spread by wind and on orchard equipment, workers' clothing, and birds' feet. Although parasitic wasps and lady-bird beetles are natural enemies of scale, additional control is needed to prevent severe infestations. While additional pesticides can be used later in the growing season to limit San Jose scale and European red mite eggs, an application of dormant oil at bud swell is an effective method for controlling the initial population of these pests.

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# March Gardening Calendar

## Houseplants

- **Weeks 1-4:** Two handsome houseplants that provide fragrant blossoms indoors this month are the Confederate Jasmine (*Trachelospermum jasminoides*) and Japanese Pittosporum (*Pittosporum tobira*). Both thrive in average home conditions and are easy plants to grow.
- **Weeks 1-4:** As day lengths increase, plants begin new growth. Repot root bound plants, moving them to containers 2 inches larger in diameter than their current pot. Check for insect activity and apply controls as needed. Leggy plants may be pruned now.

## Ornamentals

- **Weeks 1-4:** Trees, shrubs and perennials may be planted as soon as they become available at local nurseries.
- **Weeks 1-4:** To control Iris borer, clean up and destroy the old foliage before new growth begins.
- **Weeks 1-4:** Fertilize bulbs with a “bulb booster” formulation broadcast over the planting beds. Hose off any granules that stick to the foliage.
- **Weeks 1-4:** Dormant mail order plants should be unwrapped immediately. Keep the roots from drying out, store in a cool protected spot, and plant as soon as conditions allow.
- **Weeks 1-4:** Loosen winter mulches from perennials cautiously. Re-cover plants at night if frost returns. Clean up beds by removing all weeds and dead foliage at this time.
- **Weeks 1-2:** Heavy pruning of trees should be complete before growth occurs. Trees should not be pruned while the new leaves are growing.
- **Weeks 1-2:** Seeds of hardy annuals such as larkspur, bachelor’s buttons, Shirley and California poppies should be direct sown in the garden now.
- **Weeks 2-4:** Summer and fall blooming perennials should be divided in spring.
- **Weeks 3-4:** Ornamental grasses should be cut to the ground just as the new growth begins.
- **Weeks 3-4:** Spring bedding plants, such as pansies and toadflax (*Linaria* sp.), may be planted outdoors now.
- **Weeks 3-4:** Apply a balanced fertilizer such as 6-12-12 to perennial beds when new growth appears.
- **Weeks 3-4:** Apply sulfur to the soils around acid-loving plants such as azaleas, rhododendrons, hollies and dogwoods. Use a granular formulation at the rate of 1/2 pound per 100 square feet.
- **Week 4:** Gradually start to pull back mulch from rose bushes.

## Lawns

- **Weeks 1-4:** Mow lawns low to remove old growth before new growth begins.
- **Weeks 2-4:** Apply broadleaf herbicides now for control of cool-season perennial and annual weeds. These must not be applied to areas that will be seeded soon.
- **Week 2:** Apply controls for wild garlic. It will take several years of annual applications for complete control.
- **Weeks 3-4:** Thin spots and bare patches in the lawn can be over seeded now.

# March Gardening Calendar

## Vegetables

- **Weeks 1-4:** Any root crops such as horseradish, parsnips, Jerusalem artichokes, or carrots still in the ground from last year should be harvested before new green top growth appears.
- **Weeks 1-4:** Cultivate weeds and remove the old, dead stalks of last year's growth from the asparagus bed before the new spears emerge.
- **Weeks 1-4:** Fertilize the garden as the soil is being prepared for planting. Unless directed otherwise by a soil test, 1 to 2 pounds of 12-12-12 or an equivalent fertilizer per 100 square feet is usually sufficient.
- **Weeks 1-2:** Delay planting if the garden soil is too wet. When a ball of soil crumbles easily after being squeezed together in your hand, it is dry enough to be safely worked.
- **Weeks 1-2:** Asparagus and rhubarb roots should be planted as soon as the ground can be worked.
- **Weeks 2-4:** Plant peas, lettuce, radishes, kohlrabi, mustard greens, collards, turnips, Irish potatoes, spinach and onions (seeds and sets) outdoors.
- **Weeks 3-4:** Plant beets, carrots, parsley and parsnip seeds outdoors.
- **Weeks 3-4:** Set out broccoli, cabbage, Brussels sprouts, Chinese cabbage and cauliflower transplants into the garden.
- **Week 4:** Start seeds of tomatoes, peppers and eggplants indoors.

## Fruits

- **Weeks 1-4:** Gradually remove mulch from strawberries as the weather begins to warm.
- **Weeks 1-3:** Continue pruning apple trees. Burn or destroy all prunings to minimize insect or disease occurrence.
- **Weeks 1-2:** Continue pruning grapes. Bleeding causes no injury to the vines. Tie vines to the trellis before the buds swell to prevent bud injury and crop loss.
- **Week 2:** Cleft and splice grafting can be done now. This must be completed before rootstocks break dormancy.
- **Weeks 3-4:** Aphids begin to hatch on fruit trees as the buds begin to open.
- **Weeks 3-4:** Apply dormant oil sprays now. Choose a dry day when freezing temperatures are not expected.
- **Weeks 3-4:** Spray peach trees with a fungicide for the control of peach leaf curl disease.
- **Week 4:** Mulch all bramble fruits for weed control.
- **Week 4:** Peaches and nectarines should be pruned just before they bloom.

## Miscellaneous

- **Week 1:** Red maples begin to bloom.
- **Week 1:** Set up nesting boxes for bluebirds.
- **Week 1:** Watch for the harbinger of spring (*Erigenia bulbosa*) blooming in rich wooded areas.
- **Weeks 2-4:** Spicebush is blooming in moist woodlands.
- **Week 2:** Raise purple martin houses this week.
- **Week 3:** Purple martins return to the St. Louis area.
- **Week 4:** The white flowers of serviceberry (*Amelanchier* sp.) and wild plum (*Prunus americana*) are showy in wooded areas.
- **Week 4:** Watch for the fuzzy blooms of the pussy willow (*Salix* sp.).

*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](http://www.GardeningHelp.org))*