

# Missouri Environment & Garden

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## Post-flowering Care of Spring Bulbs

*“The flowers of late winter and early spring  
occupy places in our hearts  
well out of proportion to their size”.*

This quote from the late horticulturist Gertrude Smith Wister expresses the yearning most people have for spring, and the beauty of nature that accompanies it. Interestingly, the word “spring” to describe a season of the year first appeared in the 16th century. Before that date, the season was called “springing time,” referring to the time of the year when plants started to appear, or spring, from the ground. Undoubtedly, many of the plants that suddenly appeared were the spring-flowering, or Dutch, bulbs. Centuries later, we still wait anxiously each year for their colorful arrival.

The beauty of spring-flowering bulbs is ephemeral; perhaps this is one reason we cherish them so. The question of what to do with the plants after they have flowered is an important one to consider, especially if we want to enjoy them again next spring. Spring-flowering bulb plants are fairly self-sufficient as long as we give them proper care during and immediately after their flowering season.

Most of the recommendations for the post-flowering care of spring-flowering bulbs are aimed at encouraging bulb enlargement. During bloom and (particularly) after bloom time, it is important to keep the foliage of spring-flowering bulbs healthy and growing. Vigorous leaves are necessary if the plant is to produce the food needed for bulb development. In order for flower buds to form in them, bulbs must hold adequate food reserves. The premature removal of leaves, or allowing them to be shaded out and weakened, can lead to few if any flowers the ensuing spring. Therefore, it is best to allow foliage to remain on the bulbs until it begins to yellow and die as the season progresses. The earliest leaves should be removed is at the yellowing stage, when leaves are no longer manufacturing food because of the lack of chlorophyll. If possible, it is best to allow them to die back naturally. When spring-flowering bulbs are located in flower beds or borders, gardeners often tie the foliage together



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# Lawn Seed and Fertilizer: One Size Does Not Fit All

*Note: It's crucial to know if you have (or want to have) a warm-season or cool-season type turfgrass species in your lawn. A simple question to ask is "Did my lawn turn completely tan or brown this past winter?" If it turned brown, you have a warm-season turfgrass such as zoysiagrass or bermudagrass. If it didn't you have a cool-season turfgrass, such as tall fescue or tall fescue mixed with Kentucky bluegrass.*



## Put Cool Season Lawn Seeding and Fertilization on Hold

- A)** Buying lawn seed now may be a good deal, but seeding it won't. Make sure to check the seed label on the bag to know what turf species you are purchasing and how much of it is in the bag.
- B)** Fertilizing cool-season lawns should also be postponed until September as it will result in lush leaf growth prone to drought and disease.

Spring has kicked into full gear, and a number of targeted advertisements have been released which are aimed at rousing us out of our winter doldrums and getting into action in our lawns and gardens. For the most part, this push out the door is a good thing, and results in homeowners taking an active part in their outside environment and providing for the health of their lawn. It is critical to realize, however, that these advertising campaigns are national in nature, and do not take into account the nuances of each geographic region and climate. As any Missourian knows, Missouri's weather is full of nuances and therefore doesn't allow for easily contrived blanket statements.

In Missouri, we are situated in the U.S. transition zone, meaning our temperatures vary widely between our winter and summer seasons. Sub-freezing temperatures during fall and winter cause warm-season turfgrasses like bermudagrass

and zoysiagrass to go dormant and sometimes (perhaps after this 2014 winter) may result in winterkill. Sweltering summer temperatures cause considerable heat stress to cool-season turfgrasses such as tall fescue and Kentucky bluegrass, which can subsequently suffer from severe disease outbreaks. Because of this unique Catch-22, selecting the correct turfgrass species and cultivar that has the highest tolerance to these varying conditions is crucial to a successful lawn. Additionally, timing of fertilizer applications must match the type of grass (warm- or cool-season) that you are managing. The following brief guide is intended to serve as a general guide for decisions regarding lawn seeding and management. For more detailed recommendations, please see MU extension publications G6700, G6705, G6706, and MG10.

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# Lawn Seed and Fertilizer: One Size Does Not Fit All

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## Choosing the Right Turfgrass Seed & Planting it at the Right Time

Viewing the broad array of turfgrass seed choices in the home improvement store can be a daunting experience. However, if you know your growing environment, and know what turfgrass species is most suited for Missouri, the process of elimination can be fairly straightforward. For the most part, cool-season turfgrasses are the only lawn grasses that are available to seed. Most warm-season grasses, such as zoysiagrass, will need to be sodded or sprigged and are discussed later.

Several “easy”, or “as seen on TV” seed products have been recently introduced to the market. These products are marketed nationally and may lead to utilization of turfgrass species that are not suited to the brutal Missouri environment. Pay particular attention to the state-mandated label on the back of every seed bag that describes the variety, turfgrass species (or kind), and amount of seed the package contains.

- If the variety is “not stated” or “NS”, then beware, as this is often cheaper seed that may come from various sources and is not adequately tested.
- Secondly, use a turfgrass species suited to Missouri and not to more northern climates. A mixture of red fescue, perennial ryegrass, and Kentucky bluegrass may work in Massachusetts, but would be ill suited to cope with a Missouri summer. Turf-type tall fescue, or a mixture with a very high percentage of this species, should be used here for cool-season lawns.
- Lastly, check the percentage of inert material that is included in the bag. This could be mulch, fertilizer, or anything else that may improve germination and establishment. However, the inert material is not seed and will impact how much yard area the bag can adequately cover. A single bag of one of these newer products may cost \$30 and only cover 250 sq ft. Conversely, a 50 lb bag of an improved tall fescue blend may cost \$80 and cover 7,000 sq ft for seeding a new lawn. To seed the equivalent 7,000 sq ft, the new product would cost nearly \$1000. A more economical solution would include adequately preparing the seedbed (which should be done either way), irrigating effectively, and applying fertilizer separately.

Far and away, tall fescue is the most appropriate and popular species for lawn use in Missouri. The turf-type tall fescue cultivars are more tolerant of heat, drought, diseases, and insect damage than other cool-season species. Tall fescue is tolerant to moderately shaded environments. Hard, sheep, creeping red or Chewing’s fescue may also be appropriate as part of a mix for use in shaded areas. These species however, have a narrower leaf blade, are not as heat or drought tolerant, and will require more frequent irrigation during a dry summer to survive.

Other species commonly sold in Missouri include Kentucky bluegrass and perennial ryegrass. Kentucky bluegrass has an advantage over tall fescue in that it spreads via rhizomes and can recover more readily into damaged areas (be aware that some rhizomatous tall fescues are becoming available). For this reason, it is heavily utilized on sports fields. However, it is more prone to diseases, heat and drought stress than tall fescue and requires more irrigation and maintenance, and by itself may only be suited for northern Missouri. A low percentage of Kentucky bluegrass with predominantly tall fescue can be a good seed mixture. Perennial ryegrass is the quickest germinating grass (~ 7 days after seeding) and can provide immediate groundcover. It also is the least tolerant to environmental stresses, and will not survive a normal Missouri summer unless intensely managed. Annual ryegrass is utilized as a cover crop, but is not suitable for use as a turfgrass in Missouri.

Timing of your lawn seeding is as important as turfgrass selection. Seeding a lawn in May, or even April, is often a losing proposition. The summer stress period is ahead, and young, spring seedlings are mere cubs cast into an environment full of hyenas. Fall seeding around mid September allows seedlings to develop over a full fall and subsequent spring into a lion that can deal with summer heat, drought, and disease. So now, buy (the hopefully discounted) cool-season turfgrass seed and store it in a cool, dry place until summer is over and fall provides the better opportunity to spread it.

## Warm season turfgrass lawns

If attempting to establish a warm season turfgrass species such as zoysiagrass, bermudagrass, or buffalograss, basically flip everything around that has been previously stated. Sprig, sod, or seed these species in mid May – early June. Zoysiagrass, particularly the cultivar ‘Meyer, is the most

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## Lawn Seed and Fertilizer: One Size Does Not Fit All

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popular warm-season lawn turf in Missouri because of its superior winter tolerance compared to bermudagrass. 'Meyer' is not available by seed and must be sodded, plugged or sprigged. Buffalograss, a native turfgrass species, is a hardy warm-season species that is established by seed, plugs or sod. Buffalograss is seldom used, however, since germination and establishment is slow, and requires aggressive weed control and patience.

### Cool-Season Nitrogen Fertilization

A popular commercial is currently exclaiming "Feed your lawn, feed it!"; but at this time of year it should state "Stop!" Applying nitrogen fertilizer now to cool-season lawns may be aesthetically pleasing and provide a flush of gratifying darker green color. At this time of year, and particularly into late May and early June, this dark green is in reality a fool's gold. Late spring/early summer fertilization of cool-season lawns has two ugly drawbacks. First, the lush leaf growth comes at the expense of deep root growth, as resources are diverted towards generating new leaves (which we mow off). This resource allocation is in lieu of a deeper root system, which can scavenge limited water resources during the trying times of a hot, dry summer. Secondly, lush leaf growth predisposes turfgrasses to two devastating foliar diseases, brown patch and Pythium blight. Particularly in wet, shaded lawn areas, late spring N fertilization may make fungicide applications necessary to prevent widespread damage from these two diseases.

So, like seeding, the best recourse is to save cool-season turfgrass fertilization until the fall when the plant will best be able to utilize the resource and have the summer stresses in the rearview mirror. Current recommendations are to fertilize tall fescue or cool-season lawns early- mid April with 0.5 – 1 lb nitrogen/1000 sq ft, preferably with a slow release form. Pile it on in the fall with 1 lb nitrogen/1000 sq ft in mid- September and another 1 lb nitrogen/1000 sq ft in mid-October.

### Warm-Season Nitrogen Fertilization

Similar to seeding, simply flip all of the above fertility recommendations if managing a warm-season lawn like zoysiagrass. Start fertilizing in late May – early June and apply 2-3 lb N/1000 sq ft in 2-3 equal feedings between then and mid August. Do not fertilize into September as the plant will soon be going into dormancy.

As a lawyer ad would state "The choice of lawncare practice is a significant one and should not be based solely upon advertisements." It is important to be a mindful consumer when it comes to turfgrass selection and maintenance in this dynamic climactic region of Missouri. Broad-based advertisements targeting a national audience just may not fit for this region.

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<http://ipm.missouri.edu/meg/>

## Post-flowering Care of Spring Bulbs...

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to make room for other herbaceous ornamentals. This practice is not recommended since, when tied together, the leaves of the plant cannot intercept the maximum amount of sunlight. This, in turn, reduces photosynthesis and the amount of food available for enlarging the bulb.

Adequate nutrition also is important for proper bulb development. As the plants flower (or immediately thereafter) fertilizer relatively high in phosphorous but low in nitrogen should be applied. Applying high amounts of nitrogen during the spring of the year can lead to root rots. A fertilizer such as 5-10-5 applied at the rate of about two pounds per 100 square feet is a good choice.

Bonemeal also is a good source of phosphorous and preferred by many for bulbs because of its slow breakdown and release of nutrients. It should be noted, however, that if digging animals are a problem in the garden, bonemeal tends to attract them. Whatever the fertilizer chosen, take care to keep it off the leaves and do not spread it too close to the base of the plants. Manure is not a good choice for feeding bulbs unless it has been very well aged.

Since the goal of post-flowering care is to direct as much of the plant's energy as possible into enlarging the bulb, removal of flowers after they have withered is recommended. This true especially for large-flowering bulbs such as tulip, hyacinth and narcissus. In addition to improving garden appearance, flower removal will cause the plant to focus its energy on bulb enlargement instead of seed formation.

Saving seeds is hardly worth the effort as a means of propagation spring-flowering bulbs, since it normally takes three or more years to produce flowering-sized plants from seeds. Additionally, because of cross-pollination, seedlings are quite variable and often are less attractive than the parents that gave rise to them.

Transplanting spring-flowering bulbs should wait until the fall, if at all possible. If bulbs must be moved during the spring, lift the clumps with as large a volume of soil surrounding the roots as possible. Carefully reset the plants with soil intact in the new location and water well. If some foliage should be lost, it does not necessarily mean that the bulbs will die. They will, however, have been weakened and might not flower the following season. Delicate species such as tulip might not survive if their foliage is lost during the transplanting process.



Good soil drainage is one of the most if not the most important considerations when locating bulbs. Tight soils with poor drainage frequently cause stunted growth. Additionally, the excess moisture held during wet periods stresses the roots of the bulbs leaving them more susceptible to rot. Many bulbs can be grown under deciduous trees, especially if the leaf canopy of the latter is not too dense. Such is often the case with younger trees. As trees mature and the shade they cast intensifies, the lack of light as well as root competition between bulbs and the tree will result in reduced growth and poor (if any) flowering. At that time bulbs should be transplanted to a better location.

After the foliage of spring-flowering bulbs has yellowed or died-back it should be removed and discarded. Even though leaf diseases are not a major problem with bulbs, dead leaves can help spread the inoculum of diseases that might have developed.

Tulips, hyacinths, narcissus and other bulb species forced in pots for spring bloom can be planted in the garden after their foliage has died. Planting can be done in the spring, or the pot of dormant bulbs can be placed in a cool, dry location until planted outdoors in the fall.

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# June Gardening Calendar

Category	Week				Activity	
	1	2	3	4		
Ornamentals	x				Deadhead bulbs and spring flowering perennials as blossoms fade.	
	x				Watch for bagworms feeding on many garden plants, but especially juniper and arborvitae.	
	x				Thin seedlings to proper spacings before plants crowd each other.	
		x	x	x	Plant tropical water lilies when water temperatures rise above 70 degrees.	
		x	x		When night temperatures stay above 50 degrees, bring houseplants outdoors for the summer.	
		x	x		Apply a balanced rose fertilizer after the first show of blooms is past.	
		x	x		Rhizomatous begonias are not just for shade. Many varieties, especially those with bronze foliage, do well in full sun if given plenty of water and a well-drained site.	
		x	x		Most houseplants brought outside prefer a bright spot shaded from afternoon sun. Check soil moisture daily during hot weather.	
		x	x		Apply organic mulches as the soil warms. These will conserve moisture, discourage weeds, and enrich the soil as they decay.	
		x	x		Apply a second spray for borer control on hardwood trees.	
				x	x	Softwood cuttings can be taken from trees and shrubs as the spring flush of growth is beginning to mature.
				x	x	Continue spraying roses with a fungicide to prevent black spot disease.
				x	x	Tired of the same old foundation plantings? Find fresh ideas among the evergreens planted in the Dwarf Conifer collection.
				x	x	Trees and shrubs may still be fertilized before July 4th.
			x	x	Pruning of spring flowering trees and shrubs should be completed before the month's end.	
Lawns	x	x	x	x	Water turf as needed to prevent drought stress.	
	x	x	x	x	Mow lawns frequently enough to remove no more than one-third the total height per mowing. There is no need to remove clippings unless excessive.	
	x	x	x	x	Gradually increase the mowing height of zoysia lawns throughout the summer. By September, the mowing height should be 2 to 2.5 inches.	
	x	x	x	x	Mow bluegrass at 2 to 3.5 inch height. Turfgrasses growing in shaded conditions should be mowed at the higher recommendations.	
	x	x			Zoysia can be fertilized now while actively growing. Do not exceed 2-3 pounds of actual nitrogen fertilizer per 1000 sq. ft. per year.	
Vegetables	x	x			Repeat plantings of corn and beans to extend the harvest season.	
	x	x			Plant pumpkins now to have Jack-o-lanterns for Halloween.	
	x	x			As soon as cucumber and squash vines start to 'run,' begin spray treatments to control cucumber beetles and squash vine borers.	
		x	x	x	Set out transplants of Brussels sprouts started last month. These will mature for a fall harvest.	
		x	x	x	Soaker hoses and drip irrigation systems make the most efficient use of water during dry times.	

## June Gardening Calendar

Category	Week				Activity	
	1	2	3	4		
<b>Vegetables</b>		x	x	x	To minimize diseases, water with overhead irrigation early enough in the day to allow the foliage to dry before nightfall.	
		x	x		Start seedlings of broccoli, cabbage and cauliflower. These will provide transplants for the fall garden.	
		x			Stop harvesting asparagus when the spears become thin.	
				x	x	Control corn earworms. Apply several drops of mineral oil every 3 to 7 days once silks appear. Sprays of Bt are also effective.
				x		To maximize top growth on asparagus, apply 2 pounds of 12-12-12 fertilizer per 100 sq. ft., water well and renew mulches to conserve moisture.
<b>Fruits</b>	x				Oriental fruit moths emerge. They are most serious on peaches where the first generation attacks growing tips. Wilted shoots should be pruned out.	
	x				Thinning overloaded fruit trees will result in larger and healthier fruits at harvest time. Thinned fruits should be a hands-width apart.	
	x				Enjoy the strawberry harvest.	
		x	x		Renovate strawberries after harvest. Mow the rows; thin out excess plants; remove weeds; fertilize and apply a mulch for weed control.	
		x	x		Summer fruiting raspberries are ripening now.	
		x	x		Begin control for apple maggot flies. Red painted balls that have been coated with tanglefoot may be hung in apple trees to trap egg-laying females.	
		x	x		Spray trunks of peach trees and other stone fruits for peach tree borers.	
				x	x	Prune and train young fruit trees to eliminate poorly positioned branches and to establish proper crotch angles.
<b>Miscellaneous</b>			x	x	When using any gas powered equipment, be sure to allow the engine a few minutes to cool before refilling empty fuel tanks.	
			x	x	A mailbox mounted on a nearby post makes a handy place to store and keep dry any small tools, seeds, labels, etc. frequently used in the garden.	

*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)*