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Key Garden Tasks for Fall

BY CANDICE MILLER

When fall rolls around, it's easy to feel like just being done with garden work for the season. But numerous fall gardening activities will help prepare your landscape for greater success next year.

Overwinter tender plants indoors. Think about bringing inside some of the plants that wouldn't likely survive an Illinois winter—annuals like geraniums and purple fountain grass, and tropical plants like hibiscus and succulents. Then there are the summer bulbs—cannas, dahlias, gladiolus, caladium, elephant ear. If you wish to save these, they need to be dug up, stored in a cool area, and replanted in spring.

Prepare annual flower beds. After the first frost, prepare beds for next year's planting by removing this season's plants. Think about improving your soil by incorporating compost, manure, or other organic material.

Prepare perennial beds. Herbaceous perennials can be cut back to the ground either in fall or spring. Leave any perennials or grasses with interesting seed heads for winter interest and to provide food for winter wildlife. If any plants were disease- or insect-infested, cut off all stems and foliage and remove the plant material from the garden.

Protect trees and shrubs. Young, newly planted trees may need protection from winter wildlife damage. Consider wrapping stems or trunks with wire or a commercial tree guard to fend off deer or other gnawing wildlife. If winter burn is common in your landscape, screen evergreens, particularly exposed broad-leaved types, from drying winter wind and sun with burlap screens or shade cloth shelters.

Water evergreens. If rain is not prevalent this fall, be sure to water evergreens well to help prevent winter burn. When moisture is available, plants can better overcome water loss from drying winter winds.

Do fall pruning. Trees and shrubs can be pruned in the fall, but hold off until plants are dormant. Before pruning, consider any flowering times. As a general rule, shrubs that flower before June 15 should be pruned immediately after

flowering. Prune shrubs that bloom after June 15 in early spring or late autumn, before the new flower buds form.

Mulch. Fall is a great time to mulch. The goal of winter mulch is to keep plants dormant, so the mulch should be applied after the ground is cold and plants are fully dormant. To prevent rodents from nesting in the mulch and soil, wait until the ground freezes before applying 4 to 6 inches of organic material.

Do garden cleanup. Rake up fallen leaves and consider composting them or working them into the garden soil. Shredding leaves with a lawnmower will speed their decomposition in a compost pile. If you add them to the garden, shred them as well, and make sure to work them into the soil for faster decomposition. As noted earlier, remove any leaves or plant parts that were infected by disease this season.

"Numerous fall gardening activities will help prepare your landscape for greater success next year."

Plant bulbs. Fall is the time to plant spring flowering bulbs in Illinois because they need a cold resting period (vernalization) to flower. The ideal planting time is about 4 weeks before the ground freezes—usually around mid-October.

Clean your tools. Before putting tools into winter storage, clean them thoroughly to prevent disease spread. Dry them well to prevent rust. (See page 3 for a full article on readying tools and other equipment for next season.)

Fantastic, Funky Spring-Blooming Bulbs

BY MARTHA A. SMITH

Spring is such a glorious time of year, when gardens pop and colors assault our senses. Tulips, daffodils, Crocus, and Hyacinths emerge, and we know winter is finally over. But did you know there is a world of fantastic and funky spring-blooming bulbs beyond the traditional favorites?

One of these is *Eremurus* sp., commonly called desert candle or foxtail lily (supposedly resembling a giant candle or foxtail). *Eromos* is the Greek word for solitary, and *oura*, meaning tail, refers to the tall and showy flowering spikes. In June the impressive *Eremurus* blooms take center stage in the full-sun garden. The flower stalks can reach to 9 feet, with dense white, pink, yellow, or orange flowers on leafless stalks. These tapering flower spikes, which bloom from the bottom up, are most dramatic planted against a dark background or evergreens.

Not a true bulb, *Eremurus* grows from a tuberous root, often described as starfish-shaped with fleshy tapering roots extending outward. In early fall, plant each crown 4 to 6 inches deep over a mound of soil. Carefully spread the finger-like roots over the mound, similar to planting a bare-root rose. In early spring a basal rosette of strappy foliage emerges, followed by a leafless flowering stalk that can reach between 4 and 9 feet, depending on the species. *Eremurus* needs well-drained soil to avoid root rot. Tall stalks should be staked. Plants die back midsummer, and old foliage can be removed. *Eremurus stenophyllus* offers 3- to 4-foot bright yellow spikes. *Eremurus* Spring Valley Hybrids is an amazing mixture of several different hybrids grown from seed and propagated in Idaho by cut-flower grower Ken Romrell. *Eremurus* 'Orange Marmalade'' is a crowd pleaser with its dark orange spikes.

Alliums are another spring-blooming bulb offering garden pizzazz. *Allium* sp., known as ornamental onions, grow similarly to foxtail lily in that they are planted in the fall, prefer sunny, well-drained sites, and have strappy basal foliage that appears in spring followed by a leafless flowering stalk. Bulbs are planted at a depth three times the bulb diameter.

Do your research if you have had reseeding issues with Alliums in the past, as there are newer sterile varieties. *Allium* 'Summer Beauty' reaches 18 inches tall, offering tight pink/purple blooms in July that are sterile. *Allium* 'Globemaster' boasts silvery pinkish purple softball-size flowers, also sterile, and reaches 2½ to 3 feet tall. Allowing the flowers to dry in the garden adds visual interest later in the season.

Allium schubertii is the favorite of many gardeners. Sometimes called Tumbleweed Onion, this perennial bulb is grown for its impressive rose-purple 9- to 12-inch airy spherical flowers, often described as spidery. Let them dry in the garden for a fantastic August accent, or cut the stalks at ground level to make a great dried flower. They can reseed; seedlings may take several years to reach a blooming size. Another interesting twist with Alliums is spray-painting the dried flowers in the garden the color of your choice; people will stop and ask what they are!

Why not try planting something new every fall? Who knows what your next fantastic, funky, favorite spring bloomer might be.



The unique flowers of Allium schubertii, borne on stems 1 to 3 feet tall, are large and spidery.



The flower stalks of Eremurus may stretch as high as 9 feet.



A close-up view of the showy Eremurus.

Daffodils, Narcissus, or Jonquil?

BY JENNIFER FISHBURN

You say narcissus, I say daffodil. No matter which name you use to refer to this plant, most gardeners would agree that daffodils are among the most vigorous and colorful flowers of spring. Daffodil is the common name, while Narcissus is the Latin or botanical name for the genus. Jonquil refers to a specific kind of narcissus and is not correct for the group in general.

Currently there are more than 25,000 registered cultivars of daffodil, which are divided into 13 descriptive divisions. The classification of a daffodil cultivar is based on the size of the trumpet, or cup, in relation to the size of the flower petals. Some daffodils flower as early as February and others as late as May. With thousands of cultivars to choose from, I would have to say that my favorite daffodil is an old-fashioned, fragrant pheasant eye flower.

Daffodils come in all colors and sizes. Flower colors are yellow, orange, white, green, pink, red, and bicolors. Sizes range from 5-inch blooms on 2-foot stems to miniature half-inch blooms on 2-inch stems. There may be one or several flowers to a stalk. Flowers may be single- or double-petaled, and some flowers are fragrant. The trumpet may be long and tubular or short and cuplike.

Daffodils are generally easy to grow and are dependable bloomers. Once established, daffodils generally thrive for many years and often spread to produce larger clumps by producing small offset bulbs. If the bulbs get too crowded, the clumps can be lifted as the foliage fades, divided into smaller clumps, and replanted.

Late September through October is bulb planting time. Plant daffodil bulbs in a moist, well-drained soil. Generally large masses of a single color give more show than scattered plantings or mixed colors. Plant in groups rather than straight lines, and avoid planting daffodils at the front of a garden bed. A row of summer annuals or perennials planted in front of daffodils will hide the bulbs' foliage as the later plants mature. Daffodil bulbs typically range in price from 30 cents to \$100 per bulb, depending on the scarcity of the cultivar. Generally bigger bulbs are more expensive but offer a greater flower show. Bulbs may be purchased from mail-order garden catalogs, garden centers, or retail outlets.

If you currently have daffodils but they didn't bloom well this year, here is a list of possible reasons:

- · Bulbs have not been fertilized in a couple of years.
- Bulbs have been fed with a high-nitrogen fertilizer, which encourages production of leaves.
- · Plants don't get the needed half-day of sun.
- · Daffodils are competing with other plants for food.
- · Growing area has poor drainage.
- · Plant leaves were removed too soon the previous year.
- Bulbs have a virus.
- · Bulbs need to be divided.

For more information about daffodils, visit The American Daffodil Society online (www.daffodilusa.org) or the University of Illinois Extension Bulbs and More website (http://extension.illinois.edu/bulbs).



Ready Garden Tools and Equipment for Winter

BY CHRIS ENROTH

At the end of a long gardening season, don't retire for the winter before giving your garden tools and other equipment the attention they need. Fall is an ideal time to clean, sharpen, and prepare your tools for next year and to prepare other items for their hibernation.

TLC FOR TOOLS

When working with garden tools, always wear safety glasses and leather gloves to protect your eyes and hands. Throughout the season, tools tend to accumulate sap, dirt, and rust. Disassembling them may make it easier to clean and sharpen. Clean dirt off of shovels and trowels with water and a brush. To dissolve any sap accumulated on pruning tools, clean with orange rind oil, turpentine, or a comparable solvent. Rust can be removed by using any of the same solvents, scrubbing with steel wool, and employing some elbow grease.

Most high-quality pruners are tool steel (very hard) and cannot be sharpened with a regular file. Instead use a sharpening stone, also called a whetstone, making uniform strokes down the slope and across the cutting edge. This technique will create a burr, or rough edge, on the back of the tool's cutting edge. Remove the burr using a file, a sharpening stone, or sandpaper with a light flat stroke on the back of the cutting edge. Loppers and hedge shears can be sharpened with a file.

For shovels and hoes, use a mill file, which sharpens only on a forward stroke. Start by securing the tool head in a vice. Then, holding the file with both hands, push it away from your body along the edge of the blade. Again, be sure to remove any burrs created on the backside of the blade.

Another good option is to have tools professionally sharpened. Most garden equipment dealers offer this service.

After tools have been cleaned and sharpened, apply oil or silicone spray, or treat metal surfaces with a rust inhibitor.

Why Not to Cut Your Perennials This Fall

BY KIM ELLSON

Most gardeners think of fall as the time to cut and remove perennials and rake up leaves. We want gardens that look tidy over the winter, and we like being able to cross a few jobs off our list of tasks otherwise done in spring. But did you know that removing all this plant material can jeopardize next year's butterfly population?

Removing spent plant material means you are also removing the overwintering sites for many butterfly species. Dead vegetation, peeling tree bark, and leaf litter all serve as suitable places for hibernation.

Depending on the species, butterflies may overwinter in any stage of development: egg, caterpillar, chrysalis, or adult. A swallowtail butterfly will overwinter as a chrysalis in plant stems or leaf litter, while the viceroy butterfly seeks shelter as a caterpillar in a fallen, curled leaf. The question mark butterfly overwinters as an adult, nestled in leaf litter or under tree bark.

A meticulous gardener may find it unthinkable to allow dead vegetation to stand in the flower bed or leaf litter to remain on the ground. But some compromise can both achieve aesthetic appeal and support beneficial wildlife.

What are the benefits of leaf cover? It provides insulation, protecting more tender plants from cold damage; it acts as a soil amendment, nourishing soils and supporting soil microorganisms as it breaks down; and it is a natural weed suppressant. Remove fallen leaves from lawns and other prominent areas, but let them remain in garden beds and set-back spots. Do remove any diseased plant material. Mulching leaves with a mower will let them look less intrusive and break down faster.

As more gardeners understand the value of butterfly and pollinator plantings, it is essential we also give attention to the overwintering of these creatures. Though a few butterflies, such as the Monarch, migrate, most overwinter in our very own yards. If we want to enjoy butterflies during the summer in our pollinator gardens, we must ensure they survive the winter.

Other beneficial predatory insects that overwinter in stems, leaf litter, and tree bark include ladybugs, lacewings, damsel bugs, assassin bugs, and ground beetles. These insects are critical to controlling next year's damaging insect pests. Overwintering insects and caterpillars are also an excellent food source for birds.

So instead of cutting back all of your perennials this fall, why not enjoy the exquisite winter interest that they offer: attractive flower heads and seed pods, magnificent branching, graceful plumage rising out from under a deep snow cover. What could be more rewarding than enjoying a goldfinch eating the seeds off a coneflower in your garden?







Clean wooden handles and smooth the wood with medium-grit sandpaper. To keep handles from drying and cracking, rub them with boiled linseed oil; make sure to follow product directions for use and storage.

HOSES, FOUNTAINS, AND IRRIGATION SYSTEMS

When water freezes, it expands. As temperatures drop to freezing, water left sitting in hoses, pumps, fittings, or fountains will wreak havoc. Drain garden hoses by stretching them out and allowing them to empty. Roll up the drained hose–connecting the ends to each other to seal the hose and keep debris and insects out–and hang it in a sheltered location. Ensure that fountains are drained and empty of water. Some may require covering or being moved to an enclosed or sheltered area. Read the operator's manual for the pump and follow the recommended winter storage instructions. Irrigation systems should be drained and blown out using an air compressor. Gather and store all garden irrigation drip tubing and assemblies in a sheltered location.

PLANTERS AND CONTAINERS

Pots made of terracotta, ceramic, or concrete are susceptible to the same problems with freezing as hoses and pumps. Plastic pots stand up to winter

elements better, but keep in mind that no container is freeze-proof. Empty spent container plants and potting soil into the compost bin, then wash the pots with a dish detergent. Scrub plastic pots with a washcloth or brush. Use a wire brush for any stubborn debris on stone and clay pots. After washing, disinfect pots by soaking them for 30 minutes in a solution of one part bleach to nine parts water. Be sure to rinse pots with clean tap water afterward.

Cleaning garden tools and equipment is a productive way to spend time during chilly autumn days. Gardeners will reap benefits knowing that when spring rolls around, they will be ready to go.





Handling Your Fresh-Picked Produce

BY BRUCE J. BLACK

The fruits of our summer labors are ripe and ready for harvest. Because it is common to overplant, most gardeners end up with more produce than they can use. Neighbors, friends, and others typically benefit from the overflow. Keep the tips here in mind to help get the longest life out of your harvest.

Produce shelf life and quality after harvest are often said to follow an 80–20 rule: 80% of the quality is built into the crops before harvest, while 20% is determined by how produce is handled after. There are three general categories of preharvest factors: genetic, environmental, and cultural.

Genetic factors include the traits for determining growth and production. Commercially, quality of both appearance and texture as well as how the produce ships have an influence. Most home growers, however, tend to select varieties for flavor and use of the fruits and vegetables. They also harvest when items are at their best ripeness.

You can be reminded of the other two categories by the old saying, When life gives you lemons (an environmental factor), make lemonade (a cultural factor). Environmental factors are the ones you cannot control: the amount of natural light and rain, temperatures (over winter, through the summer, and variations across seasons), and wind. Even if you have poor environmental factors one season, cultural factors can help give you a growing chance. Cultural factors are the practices you can control: irrigation, fertilizing, pesticides, and planting and harvest times.

Though the 80% preharvest factors may have the bigger proportion of influence, the postharvest 20% can actually make the more significant difference with your produce, starting with harvesting and handling. Take extra care when harvesting to prevent dropping, bruising, or picking injury, which will extend shelf life. Injury to a fruit or vegetable has four results: increased rate of respiration, increased ethylene production, increased water loss, and the creation of a port of entry for pathogens. Ethylene is the gaseous plant hormone responsible primarily for ripening. A few of the top producers are apples, melons, and tomatoes. Not all produce is affected by ethylene, but peppers, green beans, cucumbers, and lettuce are among the sensitive crops. Storing ethylene producers separately from ethylene-sensitive harvest can increase the life of your produce.

Another postharvest factor to consider is temperature. Morning is the best time to harvest, when lower temperatures mean there is not a lot of field heat stored in the produce that needs to be removed. Heat has a ripening effect, causing produce to mature faster. If you have to do a large harvest later in the day, keep picked produce out of the sun. Shading the produce under a tree or an umbrella can help reduce premature spoiling.



Three fresh-pulled purple carrot varieties.

Once you can get your harvested vegetables and fruits to a refrigerator, storing them in the crisper drawers will help control another influencing factor—humidity. The amount of humidity appropriate for storage varies from crop to crop. Though many crisper drawers allow you to vary the humidity level, in most cases you will have to strike a compromise because you are storing produce with different ideal humidity levels. For example, the optimal storage conditions for raspberries are 32°F and at least 90% relative humidity. Peppers, by contrast, prefer 45°F and 90–95% relative humidity. Storing these two crops together would not be a problem (though the temperature would have to be compromised for the berries, as the FDA recommends that refrigerators be kept at or below 40°F).

One of the best resources regarding the postharvest storage of produce is USDA Agriculture Handbook #66, *The Commercial Storage of Fruits, Vegetables, and Florist and Nursery Stocks* (http://www.ba.ars.usda.gov/hb66/ contents.html). The handbook contains all the information and recommendations from scientific studies done on produce. For each fruit or vegetable, there are details on harvest maturity, storage considerations, and unique horticultural information. The guidance from Handbook #66 is summarized in multiple extension publications; two are University of Illinois Extension's *Watch Your Garden Grow* and Iowa State University's *Harvesting and Storing Vegetables PM0731*.

Taking the factors discussed here into consideration as you harvest the fruits of your labor should help them last as long and as fresh as possible. Given the investment of both time and money in your gardening, preserving your produce value just makes sense.



Office of Extension and Outreach 111 Mumford Hall (MC-710) 1301 W. Gregory Dr. Urbana, IL 61801

Fall Preparation for Vegetable Gardens

BY ANDREW HOLSINGER

Every successful harvest starts with the soil, which provides a place for roots to anchor and take up water and nutrients. But both the benefits and detriments of soil can be easily overlooked.

A soil test gives a good indication of the nutrients present in your soil. If there is adequate fertility, you can save money and protect the environment by not adding fertilizers needlessly. Take soil from 6 to 8 inches deep in six to eight random locations. Mix all the soil together to create a representative sample for testing. Contact your local Extension office if you need guidance in sampling procedures or finding a testing laboratory.

Spring can be busy for gardeners, so why not get your soil tested now? You may be able to do some soil amending this fall to prepare for spring. Fall is also a good time to adjust the pH if your soil test indicates a need.

Work now toward remedying any problems you had in the garden this season. Some problems are easier to prevent than to cure, such as growing in a wet area with poor drainage. Before you settle on a garden location, test for drainage with a soil percolation test. This involves digging a hole, filling it with water, draining it, then refilling to measure how quickly the soil drains.

There is no easy solution for some soil problems. Contaminated soils can be avoided by using a raised bed with an alternative to the native soil. Raised beds also work well for increasing drainage and getting a disease-free start.

Organic matter, which can be worked directly into soil, helps maintain good soil structure and avoid compaction. Compost is a rich source of organic

matter, but it must be processed correctly before being applied to a garden. It takes time for the organic materials added to a compost pile to break down. Compost can be tested by a laboratory to ensure that it is ready for use.

Because spring weather is often unpredictable, fall can be a better time to till the soil. Till when soil is not overly wet to best preserve its structure. Integrated pest management procedures also are done in the fall. Scout for areas where insects or diseases may overwinter. Eliminating crop residues that can harbor them can help lessen pest populations.

If diseases were a problem in your garden, it is better to dispose of infected plant material than to compost it and risk having a disease carry over. Diseases can also be harbored in the soil; to reduce the presence of pathogens, rotate crops by plant family every three or four years.

Consider some weed control measures in the fall as well. Mulches are a great tool to reduce populations of weeds that germinate in the fall, like winter annuals, by preventing seed germination. Keeping weeds at bay is important because they compete for nutrients and moisture in the soil. Be cautious when using herbicides for weed control; always follow label instructions carefully. Some herbicides can have a residual effect in the soil that may delay planting. Preemergent herbicides, as the name implies, must be applied before weeds emerge from the soil to be effective.

By attending to these various preparation tasks in fall, you can help set the stage for a successful gardening season next year.

CONTRIBUTORS

SERIES EDITOR: Kari Houle · COPY EDITOR: Molly Bentsen · DESIGNER: Justin Parker · COORDINATOR: Stephen Wald



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