

Uncovering Groundcovers

BY SANDRA I. MASON

Love them or loathe them, lawns are the ultimate groundcover. Lawn grass accepts foot traffic, can spread to fill in bare soil, stays green most of the time, holds soil against erosion, and offers a great place to play volleyball. However, sometimes we need or want alternatives to lawns. Worthy reasons include having areas that are difficult to mow or too shady for grass to grow well, wanting more wildlife-friendly options, and being sick of mowing.

First: a reality check. Areas planted in groundcovers do not translate into plant 'em, leave 'em, and forget 'em. During the first year groundcover plants should be mulched, plus watered periodically if rain doesn't provide at least an inch of water a week. Some weeding may be needed, especially until growth covers the soil. After groundcovers are established, scout for weeds and problems throughout the season.

Before planting prepare the soil properly by adding organic matter such as compost and working the soil to 8 to 10 inches deep. Remove any weeds, physically or using herbicides; future weeding will be reduced if you manage weeds before planting. For severe weed issues I recommend preparing your bed this fall and planting next spring once you are assured weeds are under control.

Here are just a few of the many perennial groundcovers. Keep in mind, these groundcovers will not tolerate heavy foot traffic, so keep your size 10s off.

Bugleweed (*Ajuga reptans*) has low-growing, attractive leaves in swirled rosettes. It spreads by above-ground stolons and prefers moist, well-drained soils in heavy shade to full sun. Protect bugleweed from winter winds. It tends to die out when plants get crowded, but enough plants usually remain to repopulate the area. Bugleweed has several cultivars with small to large leaves with maroon to variegated leaves.

Canada wild ginger (*Asarum canadense*) has heart-shaped leaves and grows to six inches tall. Wild ginger is a native plant excellent for partial to deep shade. European ginger has a glossier evergreen leaf and also makes a great groundcover.

Sweet woodruff (*Galium odoratum*) is a delicate groundcover that forms a mat of bright green whorled leaves. Its small white flowers are a delight in late spring. Sweet woodruff prefers moist, well-drained soils in medium to deep shade. It spreads to form Elizabethan collars around its neighbors.

Japanese spurge (*Pachysandra terminalis*) is evergreen with whorled leaves on upright stems. Best in full shade in moist, well-drained soils with lots of organic matter, it performs best if protected from winter winds. Japanese spurge does well in heavily shaded areas under shallow-rooted trees.

Dead nettles (*Lamium spp.*) suffer an unfortunate common name, but they are tough, adaptable plants for full shade to part shade. Many cultivars are available, with silver leaves and flowers of pink, white, or purple. Leaves are variegated with some degree of silver, which can light up a dark shady spot. Lamiums often flower all summer, and the foliage stays lovely well through December.

Tread lightly regarding exaggerated claims about total lawn-grass replacements. Lawn alternatives must be vigorous plants to be good groundcovers. Start by replacing a small area to determine how well the plants grow in your yard. Creeping thyme, for example, is often listed as a lawn alternative. It is a fabulous perennial plant, but it can struggle with our high-organic-matter soils and winters with little snow cover. Creeping thyme may substitute for lawn in other areas of the U.S., but soil conditions and climate in Illinois restrict its widespread use here.

Some nonnative groundcovers can become aggressive and spread too well, even into natural areas. For example, do not plant wintercreeper euonymus (*Euonymus fortunei 'Coloratus'*) or crown vetch (*Securigera varia*), which are known invasives. Before planting groundcovers, check with your local U of I Extension office or the websites Invasive Plant Atlas of the United States (www.invasiveplantatlas.org) or Midwest Invasive Plant Network (www.mipn.org/plantlist) to learn about plants of concern in your area.

Consider using taller plants as groundcovers, such as catmint, daylily, hosta, obedient plant, prairie dropseed, sedum, or 'Flower Carpet' rose. Check out extension.illinois.edu/groundcovers for more ideas.



Sweet woodruff



European ginger



Lamium maculatum 'Pink Pewter'



Office of Extension and Outreach

111 Mumford Hall (MC-710)

1301 W. Gregory Dr.

Urbana, IL 61801

Sugar and Spice and Everything Nice

BY RHONDA J. FERREE

Sugar and spice make lots of things nice, especially Christmas cookies. Do you know where your sugar and spices come from?

The sugar we use comes from two different plants: sugar beets and sugarcane. Worldwide, 70% of sugar comes from sugarcane, a tall grass that looks similar to corn and grows in tropical areas, including Hawaii and Jamaica. In the U.S. it is grown commercially in Florida, Hawaii, Louisiana, and Texas.

To get sugar from sugarcane, the cane is pressed to extract the juice, which is boiled and spun to produce raw sugar and syrup (molasses). The raw sugar is then sent to a refinery, where it is washed and filtered to remove color and remaining non-sugar ingredients. It is then crystallized, dried, and packaged into refined (or granulated) sugar.

In the U.S., most sugar derives from sugar beets, a root crop grown mostly in the temperate zones of the north. Processing is similar to that for sugarcane, but it lacks the raw sugar stage. The sugar beets, which resemble large parsnips, are washed, sliced, and soaked in hot water to separate the sugar-containing juice from the fiber. The juice is purified, filtered, concentrated, and dried to create the finished product.

And what about spices? Most of ours are native to the tropics, and many come from trees. If you've ever traveled to the Caribbean, you've probably seen the plants that produce allspice, cinnamon, nutmeg, and ginger.



Sugarcane in Costa Rica

Allspice, grown on the pimento tree (*Pimenta dioica*), is a dried berry native to Jamaica that tastes like a blend of nutmeg, cinnamon, and cloves.

Cinnamon comes from the inner bark of tropical cinnamon trees (*Cinnamomum* sp.) These small trees, native to southwest India, grow about 30 feet tall.

Nutmeg trees (*Myristica fragrans*) are native to Indonesia. Their tropical fruit is the only one that is the source of two different spices. Nutmeg is the seed of the tree's fruit, and mace is the seed's veil-like covering. Nutmeg is used in many sweet dishes, while its milder version, mace, is used more in savory cooking.

Ginger is an herbaceous perennial plant with a beautiful flower. Its knobby, bumpy rhizomes have a peppery yet slightly sweet flavor. The tropical spice ginger (*Zingiber officinale*) is native to Asia and is quite different from our native ginger (*Asarum canadense*), which should not be consumed because it contains aristolochic acid.

The next time you eat "sugar and spice and everything nice," think of our tropical friends that produce these crops.

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Starting Herb Seeds Indoors

BY NANCY KREITH

Herbs are a favorite in most gardens, and transplants can be expensive. Why not try starting seeds this year as you're anticipating spring? March is a good time to begin.

Some herbs do well sown directly into the garden. Direct-seeding cilantro and arugula, both cool-weather herbs, in early spring provides a bountiful leafy harvest from midspring to midsummer. For warm-loving herbs like basil, sow after the danger of frost has passed.

Other herbs are better candidates for starting indoors, including lavender, oregano, thyme, sage, chives, and tarragon. Many of these seeds are very fine and take a fair amount of time to germinate. You can start these herbs early in March and be ready for transplanting into the garden in mid- to late May.

To start herb seeds indoors, use a soil-less seed-starting mix that is peat-based. Professional grower mix works well. Moisten the mix with water until it reaches the consistency of a wrung-out sponge. Fill a seed-starting flat, or any container with holes in the bottom, with the moist mix. Plant three to five seeds (or a pinch) of one herb type per cell in the flat, or lightly spread seed over the container.

As a rule of thumb, seeds should be planted just two times their thickness under the soil. After planting the seed, sprinkle a light layer of potting mix on top and cover the flat or container with plastic cling wrap. Label as appropriate with the herb name(s) and date of planting. Then place the container in a sunny window, either western or southern exposure. If a sunny window is not available, you can use supplemental grow lights or fluorescent lighting. Use of a heat mat will speed the germination rate and time.

The plastic wrap will help hold in heat and moisture. Keep the potting mix consistently moist, and remove the plastic once the seeds germinate in 10 to 14 days. Be careful not to overdo your watering; allow the soil to dry out before you water again. Too much water can lead to diseases such as damping-off, a common soilborne fungal disease that ultimately kills young seedlings. Constant moisture can also attract fruit flies.

A starter fertilizer rich in phosphorus will aid root development. Once your seedlings are a couple weeks old, you can apply fertilizer. If seedlings become overgrown, they can be transplanted into a large cell or a bigger container. If they become leggy, make sure they are getting 4 to 6 hours of sunlight or 12 to 16 hours of artificial light. Once seedlings reach 6 to 8 weeks, pinching back the top leaves will help the plants become bushier.

Most herb seedlings should be ready to transplant outdoors in approximately 10 weeks. Help the tender plants "harden off," or become acclimated to their new climate, by placing them outdoors on mild sunny days and bringing them back indoors at night for 1 to 2 weeks. Once plants are hardened off they can be transplanted safely into the garden for beautification, culinary, and therapeutic purposes.

For best flavor, harvest herbs just before they flower. You can find details about specific herbs, their growing requirements, and harvesting and storing methods at extension.illinois.edu/herbs.

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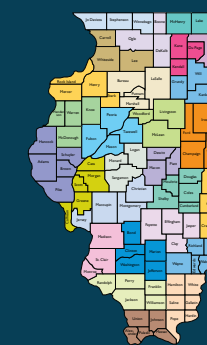
CONTRIBUTORS

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



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Holiday Horticulture Trends

BY KELLY ALLSUP

The nostalgia of the holidays would be incomplete without living décor: vibrant red poinsettias, crisp evergreen trees, aromatic rosemary topiaries, and glossy boxwood wreaths are among the season's horticultural traditions. This year's trends, meanwhile, will reveal some not-so-traditional plants with do-it-yourself applications.

Succulents remain popular because of their ease of care, interesting colors, and appealing textures. Create a living table runner by interspersing pots of succulents with ball jars filled with fresh evergreen sprigs. Cover individual pots with fabric or burlap, or place them in tin cans. Another idea is to adorn containers of mixed succulents with ornaments or figurines.

"Reindeer moss"—actually a lichen that is dried, preserved and colored—is trending in floral design for its interesting texture. For a simple statement piece, glue reindeer moss to a wreath form (found in craft stores) and affix a bow.

Evergreen wreaths may be traditional, but each year sees them used in creative ways. Combine small, medium, and large wreaths to create whimsy with a homemade feel with a green snowman. Affix the wreaths to a heavy-duty stake, and add a hat and scarf to keep Mr. Snowman warm. A striking



indoor focal piece can be made by framing a wreath and hanging it on the wall like a work of art. Spritz the wreath with water regularly to keep it fresh.

Neon colors are sure to make an appearance this holiday season. Instead of a traditional red poinsettia plant, consider opting for bright orange or vibrant pink.

Tillandsia, commonly known as air plants, make beautiful home decor accents and great gifts. It is common to see them trimming holiday trees inside clear plastic ornaments. The plants can be placed anywhere because they do not need soil to grow; rather, they absorb moisture from the air. (Although inside our dry Illinois homes, they do need some extra help. Spritz them one to two times a week to keep them hydrated.)

Finally, don't forget to decorate your "Charlie Brown tree." Everyone has seen that one forlorn sapling—growing in an alley against a bare fence or tucked away in the back yard. Sprucing up a small tree with some color can feel like doing a good deed for the winter landscape.

Whether you pick up a new trend for this year's decor or stay with tradition, a little horticulture for the holiday helps lend a homespun feel.

Why Fruit Trees Fail to Bear, and How You Can Help

BY RICHARD HENTSCHEL

A young fruit tree in the home orchard should begin to fruit once the tree has become established. Five major factors are involved, and some of them gardeners can help with: typical age for the tree to bear, tree health, weather, training, and proper pollination.

Fruit trees that are moderate growers often begin to bloom ahead of faster- or slower-growing trees. For example, apples can start to flower in as little as two years (though three is more common), while plums take three to five years. Sour cherries are in the two- to three-year range. Fruit trees purchased from a garden center or retail nursery are typically at least two years old. Flowering, though, can take another two years or more, even if the tree was in bloom or had fruit on it when you bought it. A fruit tree ordered from a catalog may only be one year old and sold as a whip.

Tree health also influences how soon blooms start to show up. The goal is a tree that is healthy but not overly vigorous, which will delay the formation of fruit buds. If you allow leaf diseases to establish before fruiting, that can reduce potential yield by about 20%. Letting insects feed at will drops that

percentage even farther. Some insects can hurt the tree as well as the fruit. A regular spray program, either organic or inorganic, begun while a tree is young will get you off to a good start. Quite a few organic products are on the market now if that is your preference. Insects and diseases have to be managed very well to get those great-looking apples.

While you can't control your climate or the weather, siting fruit trees in the best locations in your landscape can help. Hardy fruit trees need a dormant period and later a chilling period to flower each year. Avoid low-lying spots to help protect the more sensitive flower buds from late frosts. Soil that drains well helps you avoid root rots. The most sensitive fruit trees are apricots and sweet cherries, followed by peaches and nectarines. Plums, pears, and sour cherries are next, with apples being hardiest. If you are new at growing fruit trees, start with apples, at least in northern Illinois. Once you master those, venture into less-hardy choices. Peaches, for example, may provide a crop only every few years in northern Illinois. Winter hardiness in Illinois improves greatly as you go south.

One of the biggest challenges for the home orchardist is training a tree—scaffold branches need to be chosen that later will bear the fruit load. Training starts the first year at planting time for both a whip and a lightly branched potted tree from a retailer. Waiting to train a fruit tree will usually mean a tree bigger than you expected and a delay in flowering.

The last factor in tree fruiting, and one you can control, is proper pollination. Most apples, for example, require being cross-pollinated, for which you need two trees of different varieties blooming at the same time. (If you chose a variety described as male sterile, then you will need yet two other varieties to ensure all three trees can bear fruit.) Other self-unfruitful trees include pear, American plums, and sweet cherries. In an urban setting, a flowering ornamental crabapple, which is closely related to the apple, can serve as a pollinator for your apple trees if all are blooming at the same time. Since fruit trees are pollinated by flying insects, a neighbor's crabapple tree may suffice. Choosing the proper varieties along with training that starts the first year will get you off to a good start as a home orchardist.



"Indestructible" Houseplants

BY JENNIFER SCHULTZ NELSON

Winter's cold winds and snow make many gardeners long for the first warm day of spring. Keeping a few houseplants indoors can help satisfy the desire for something green and growing nearby when winter is wearing out its welcome. What's more, houseplants have been shown to clean indoor air, increase humidity, improve moods, and make minds more productive.

Sometimes even experienced, accomplished gardeners lament that they just can't keep houseplants alive. A lot of factors contribute to success with houseplants, but just as with outdoor landscapes, choosing the "right plant for the right place" is important. Depending on the situation, plants that can survive a range of indoor conditions—so-called indestructible houseplants—may transform a brown thumb to a shade of green. Consider the following plants for your indoor landscape:

CAST IRON PLANT (*Aspidistra elatior*)

- Extremely brown-thumb resistant; will tolerate a lot of neglect and poor cultural practices.
- Look for variegated leaf cultivars 'Asahi' (white-tips), 'Milky Way' (white spots), and 'Variegata' (white-stripes).

CLIVIA (*Clivia miniata*)

- Produces beautiful blooms in February or March if given a cool, dry (no watering!) rest period for 12 to 14 weeks beginning in October or November.
- Needs bright indirect light indoors and a shaded spot outdoors in summer.
- Will tend to develop root rot if kept too moist.

PEACE LILY (*Spathiphyllum wallish*)

- A native of Central and South America; tolerates low light, but growth slows dramatically. Too much light inhibits the long-lasting white blooms.
- Another brown-thumb resistant choice; performs well in average-temperature homes, but cool temperatures increase likelihood of problems with crown rot.
- May be propagated by division. (Roots may be tough, so a serrated knife will help.)
- Susceptible to brown tips from fluoride in tap water or inconsistent watering.

PHILODENDRON

- Native to South American rainforests; can be found as a vine, tree, or shrub.
- Very tolerant of low light, but not low temperatures. Provide average temperatures to discourage root rot.
- Provide a winter resting period by watering only just before soil is completely dry.

POTHOS OR DEVIL'S IVY (*Epipremnum aureum*)

- Tolerates wide range of light levels, though in low light leaves will lose variegation.
- Extremely brown-thumb resistant; will survive extreme neglect, though it may lose most leaves in the process. Cut back bare stems and provide more consistent care to encourage new growth.
- Easy to propagate—cuttings root easily in water.

SNAKE PLANT OR MOTHER-IN-LAW'S TONGUE (*Sansevieria trifasciata*)

- Native to Africa; cream to yellow variegations are reminiscent of a snake.
- Probably the most brown-thumb resistant of all; many dead-looking plants will miraculously revive when proper care resumes.
- Repotting is seldom necessary; roots are sparse and plant looks best when allowed to crowd its pot.

WAX PLANT (*Hoya sp.*)

- Native to Asia; thrive under low light and dry conditions.
- Beautiful blooms may be influenced by available light, temperature, age and size of plant.

ZZ PLANT (*Zamioculcas zamiifolia*)

- Native to East Africa; adapted to long periods of drought.
- Prefers bright indirect light but will tolerate a wide range of levels.
- Difficult to propagate and slow growing, so often expensive to purchase.

Keeping Salt Out of Your Landscape

BY KENNETH L. JOHNSON, II

Winter in Illinois usually means snow and ice. Though plowing and shoveling are the primary means of removing snow and ice where they aren't wanted, deicing salts also help prevent slick, hazardous conditions. While salt is great in its place, it's not so great for many things that may encounter it.

Cheap and plentiful rock salt (sodium chloride) is the most common deicer. Rock salt is corrosive to both vehicles and concrete, and it can damage soil as well as plants. As salt dissolves in water, its ions (sodium and chloride) separate. These ions are what cause damage in high enough concentrations.

High amounts of sodium can damage the structure of soil, preventing it from clumping and making it susceptible to compaction, in turn reducing permeability and aeration. High sodium can also raise soil pH.

Nutrient imbalances can be caused by high soil levels of sodium, which restrict plants' uptake of magnesium and potassium. Sodium and chloride ions also can build up in the growing points of plants and become toxic, leading to stunted yellow foliage, leaf scorch, twig dieback, and stunted overall growth.

Just like the salt in your salt shaker, rock salt absorbs water. As it holds onto water, there is less available for plants. This can create drought-like conditions for plants, even when there is adequate soil moisture.

Salt spray, such as that spread by passing cars, also damages plants. Salt that lands on plant tissues can dry them out by pulling water out of plant cells. It can also enter the plant and accumulate in the growing tips to toxic levels. This most commonly occurs on the sides of trees facing a road and with plants that are downwind of road traffic. Many evergreen plants are very susceptible to salt damage, developing pale green, yellow, or brown foliage in late winter and early spring. Deciduous plants may suffer from killed or damaged buds and branch tips, which can lead to the formation of dense clusters of twigs, called witches' broom. Flowering plants may not bloom. If damage is not extensive, plants may grow out of it.

So how can you help prevent salt damage to your soil and plants? There are various steps you can take:

- Use salt judiciously, especially after March 1. Once plants begin to break dormancy, they become even more susceptible to damage.
- Limit salt applications to high-risk locations like steps, along with walkways and driveways on an incline.
- Finish clearing snow before applying salt. This practice will help prevent the movement of salt into the landscape.
- Salt can also be applied before a storm arrives. This helps prevent ice from sticking to pavement, making removal easier and reducing the amount of salt required.
- Avoid using pure salt by mixing it with an abrasive material such as sand, ash, or kitty litter to help with traction.
- Use deicing materials that are less damaging to plants, such as calcium chloride, magnesium chloride, and calcium magnesium acetate. (These are more expensive than rock salt, however, and can still cause some plant damage.)
- Protect plants near the street with a temporary barrier, such as plastic or burlap.
- Hose off any plants that have experienced salt spray as soon as possible.
- As the ground thaws in spring, soils that have had a heavy salt load on them can be thoroughly watered to leach salt out of the root zone.

If you wish to plant new trees or shrubs in areas that are frequently exposed to salt in winter, choose species and cultivars that are resistant to injury. Your local University of Illinois Extension office can provide a list of salt-tolerant plant species.

