

Safer
BRANDWay
to
Grow

Thicker, Greener, Healthier

SIMPLE STEPS TO YOUR LUSHEST LAWN EVER

You've seen people who are so determined to have the best lawn on the block that they spend their weekends seeding, mowing, fertilizing, watering, and caring for it. Maybe you're one of them. Or maybe you can't or don't want to do all that work yourself, so you've hired a lawn-care service.

Pardon us for saying so, but that's a waste of time and money. Now, we're not saying you shouldn't have a full, lush swath of green to frame your home. Quite the contrary: A nice lawn enhances your home's curb appeal and gives you a cool, spacious place to play and relax outdoors. But you don't need to labor for hours or spend lots of money to get it. With a few simple strategies that work with, rather than against, nature, you'll have a thick carpet of green that asks little of you. Even better, your lawn will be safe for kids, pets, and all living things. With these tips, you will be amazed at how easy it is to maintain a beautiful lawn, and how much more time you'll have to enjoy it.

1. KNOW YOUR GRASS.

“Grass” isn’t just one plant: There are 18 different species that are commonly used for lawns. These “turfgrass” species (as the industry calls them to distinguish them from pasture grasses and other related plants) are all low-growing, green ground covers, but they differ in how and when they grow in various climates, and in how well they are adapted to specific soil types and uses. Understanding what type of grass you have will help you maintain it most effectively.

Cool or Warm?

Lawn grasses can be broadly divided into two categories: cool season and warm season. Cool-season grasses are green and lush in spring and fall, but grow slowly and often turn brown when temperatures are consistently 85 degrees or warmer.

Lawns in the northern half of the United States typically have cool-season grasses—a blend of Kentucky bluegrass, fescue, and perennial ryegrass is the most widespread. Warm-season grasses thrive in the heat but go dormant and look gray or brown in cooler months. They are prevalent in the South. Many lawns in the region have been planted with centipede grass, which grows very slowly, so it needs mowing only a few times during the season. Whenever summers are scorching, winters mild, and moisture constant—that is, in the Deep South and along the Gulf Coast, Bermuda grass is the most common species. It grows year round and,

because it is resilient even under heavy use, it is planted at sports fields, playgrounds, and parks. Bermuda grass is better adapted to alkaline soils than most other types of turfgrass, so it’s often the choice for the Southwest, where soil tends to have a higher pH (more on that in the coming pages).

TOUGH BUT ROUGH

Buffalo grass is what it sounds like: a prairie grass that buffalo fed on.

Because it’s a native of the Plains states, it’s well-adapted to hot, dry summers and harsh winters, but it survives in just about any climate. Its color tends to be gray-green (kind of olive drab) and the leaves are coarse, so it’s not ideal for curb appeal.

Buffalo grass is slow-growing, so you don’t mow it often, but it holds up well even when trampled by the herd.

If your lawn takes a beating from the weather or foot traffic, consider planting buffalo grass.

In what lawn-care experts refer to as the “transition zone” (from the mid-Atlantic states to Indiana and Arkansas), lawns may be planted with either cool or warm season grasses. Zoysia grass is a warm-season type that survives cold winters, though it does turn brown and stop growing when the weather is cold. Many people in the region plant zoysia grass because they want their lawn to be green in the warm months when they are outside. It spreads and forms a dense mat like Bermuda grass and doesn’t need to be mowed often. Perennial ryegrass and turf-type tall fescues are cool-season types that fare well in the moderate climate of the transition zone.

SHADY SITUATIONS

In all but the hottest climates in North America, grass grows best where it gets direct, all-day sun. Many grass types grow well where

the sun is blocked for a little while each day, but no grasses thrive in a spot that is shady all day long. Whenever your lawn is completely shaded

by a dense stand of trees, buildings, or other structures, your best bet is to plant another low-growing ground cover such as pachysandra or ivy.

QUICK TIP

WHEN BUYING SEED, GO FOR BAGS THAT LIST SPECIFIC NAMES FOR THE TYPES OF GRASS. FOR INSTANCE, LARAMIE TALL FESCUE IS BETTER THAN A GENERIC TALL FESCUE.

2. BUILD THE SOIL

Growing a thick and healthy lawn depends less on what you do above ground than on all that's happening underground. Soil that is rich in organic matter and alive with earthworms and countless microorganisms is the ideal environment for growing grass. Use these strategies to continually build your soil and your lawn will thrive and demand little of your attention.

Soil-Test Secrets

A simple soil test is the best way to begin understanding your soil's strengths and weaknesses and what it needs

to grow grass effectively, says Paul Tukey, author of *The Organic Lawncare Manual* (Storey Publishing, 2007) and founder of SafeLawns.org. Every county in the United States has a cooperative extension office (usually found by looking up your state's big public university), and the extension agent can tell you where you can get an inexpensive soil test, typically for less than \$20, and in some places for no charge. Get the soil tested in early fall, so you can begin building it for the following spring's growth.

One of key measurements on your soil test report is the percentage of

organic matter. Compost, decaying leaves, grass, and the like feed earthworms and other, less visible creatures living in the soil. They digest the organic matter and

THE PH FACTOR

A soil test also shows the relative acidity or alkalinity of the soil—its pH, as you may remember from high school chemistry class. The ideal pH for most types of turfgrass is a slightly acidic 6.0 to 7.0. You may have heard that you should spread lime on your lawn every year. Lime is an alkali that raises the pH of your soil. Before you apply it, check your test to be sure that the soil's pH is too acidic. Where the soil is too alkaline, adding sulfur reduces the pH. But don't add either without getting an accurate measurement from a soil test.

break it down into nutrients that grass's roots can take up. Your lawn needs a minimum of 3% organic matter, and the ideal is 6%, according to Manjula V. Nathan of the University of Missouri Extension Service. Because organic matter is constantly consumed by soil-dwellers, you need to add more regularly. This is very easy to do by simply leaving grass clippings and mowed leaves on the lawn (rather than bagging them) and by spreading compost on your lawn each fall. Starting a compost pile is easy with kitchen scraps, straw, and Ringer Compost Plus.

COMPACTION ACTION

Air and water are as vital to plants' roots and the helpful microbes in the soil as they are to all of us. The clay soil that is common in many areas of the country is so dense that heavy foot traffic (to say nothing of the heavy equipment used in new home construction) compacts all of the open spaces in the topsoil, leaving

no pathways where air and water can flow. When it rains, the water just runs off compacted soil and any fertilizer you use washes away before it reaches the grass. Adding organic matter to your lawn helps solve the problem: Earthworms tunnel up to eat it, and as they do, they open pockets in the soil. Where compaction has

been severe, consider renting a core aerating machine, which has spikes that poke holes in the soil to allow air and water to infiltrate it. Bear in mind that core aeration is necessary only for the worst compaction. For most lawns, regularly adding organic matter solves the problem and prevents it from recurring.

QUICK TIP

THE SOLUTION TO SOIL THAT IS TOO DENSE OR TOO LOOSE IS THE SAME: APPLY COMPOST. IT BREAKS UP HEAVY CLAY AND HELPS SANDY SOIL HOLD WATER AND NUTRIENTS.

3. MOW HIGH

Cutting your grass is the simplest aspect of lawn care, though it takes more of your time (or money, if someone else does it) than any other lawn-care task. How your lawn is mowed can make all the difference between a healthy, vigorous lawn and grass that requires a lot of attention and treatments. Remember these mowing hints and see what a difference they make in your lawn.

Growth Is Good

You can reduce weeds, improve the lawn's drought tolerance, and make it look thicker with one simple move: Set your lawn mower to cut the grass to no less than 2 inches high for warm-season grasses, and 3 or 4 inches for cool-season types. (Three or 4 inches is the highest setting on most lawn mowers.) As grass grows taller, it builds a deeper and wider root system to support the tall leaves on top.

A bigger network of roots is better able to collect water and nutrients from the soil. Taller grass also shades the soil, reducing evaporation. And tall grass keeps sunlight from reaching weeds, reducing their germination and stunting their growth. Last but not least, taller grass just looks thicker. When your lawn's growing period is coming to its seasonal end, you can lower the mower's blade and cut the grass a half-inch shorter than you had been. This reduces the risk of snow mold or other fungi growing on the grass.



Rule of One-Third

When you mow the lawn, cut off no more than one-third of the grass blade at a time, even if it has grown taller than 4 inches high. When you take off too much of the grass, there will not be enough leaf remaining to gather and photosynthesize the sunlight the roots depend on to continue growing. Scalping the lawn makes the grass more susceptible to drought, too, because the soil is more exposed to the sun.

Another bonus of organic lawn-care: the grass tends to grow a little more slowly than lawns fed on steroid-like synthetic chemicals, so you have to cut it less often. Paul Tukey of SafeLawns.org has calculated that when you use organic fertilizers (such as Ringer Lawn Restore), you need to cut your lawn, on average, about 20 times a year, versus 28 times when you use synthetic fertilizers. You save the time and effort of cutting the grass, and the cost—to you and the environment—of the gasoline.

THE POWER OF CLIPPINGS

When you cut off just a third of the grass blades, the clippings will disappear quickly into the lawn. Bagging the clippings removes vital nutrients and organic matter that helps nourish the soil microbes. You may have heard

that leaving grass clippings on the lawn causes “thatch,” a thick mat that forms on top of the soil and prevents water and nutrients from permeating it. Thatch and clippings are different, and in fact, thatch is caused by exces-

sive use of fertilizer and insufficient organic matter and microbes in the soil. In a healthy lawn, the earthworms and other soil-dwellers consume the clippings and release the nitrogen and other nutrients in them.

QUICK TIP

SHARPEN YOUR MOWER'S BLADE FREQUENTLY. A SHARP BLADE MAKES A CLEAN CUT. A DULL BLADE TEARS THE GRASS, LEAVING IT VULNERABLE TO DISEASE, WHICH CAN CAUSE BROWN TIPS.

4. FEED GRASS ORGANIC

Even in fertile, biologically active soil, grass depends on added nutrients to grow consistently healthy and thick throughout its season. It needs both the familiar macronutrients—nitrogen, phosphorus, and potassium, or N-P-K as they are listed on every fertilizer bag—and micronutrients such as calcium and magnesium. The good news is that, with these strategies, providing all of the nutrients grass needs is a lot easier and less costly than you think.

Choosing Fertilizer

Organic plant foods, such as Ringer Lawn Restore, nourish the microbes in the soil, which break down the ingredients into nutrients in the form that's best for grass's roots to take up. The nutrients release gradually, as the grass needs them. You can identify a bag of natural lawn fertilizer because the active ingredients listed on the label are not chemical formulas (such as ammonium nitrate or urea) but natural materials such as feather meal. Synthetic lawn fertilizers promise astounding results, but they are like steroids for people—they promote vigorous growth that ultimately weakens the plant and the soil.

Researchers at the University of Illinois published two studies, in 2007

and 2009, documenting how the usage of synthetic fertilizers becomes an addiction: They deplete the soil's ability to hold nutrients, requiring more and more to be used

each year. Moreover, the synthetics are high in salt, which gradually raises the soil's pH to levels that are too high for healthy grass growth.

Synthetic fertilizers are not just detrimental to your lawn—they're a hazard to the environment too. Because plants can't absorb the high payload of nitrogen and phosphorus all at once, the excess runs off into the freshwater supply, where the nutrients overstimulate the growth of algae and water plants, leading to stagnation in waterways, and making the water less hospitable to fish and other aquatic life.

FALL BEFORE SPRING

The most critical time to feed your lawn is from late summer to the middle of fall, according to studies at Ohio State University. The fertilizer breaks down over the dormant months and becomes available to the grass for spring green-up. This is also the best time to spread compost on your lawn. After the grass begins growing in spring, you can spread fertilizer again and apply it once more at the start of summer to provide nutritional support for the grass during the stressful heat and drought. Grass clippings provide

ENOUGH IS ENOUGH

Most types of lawn grass grow best when they get 4 to 6 pounds of nitrogen each season. If you let the grass clippings fall instead of bagging them when you mow, they provide about 1 pound of nitrogen as they decompose. Spreading a half-inch layer

of compost (homemade or store-bought) on your lawn each fall adds another pound of nitrogen to the grass. The remaining 2 to 4 pounds that your lawn needs should be supplied by organic lawn fertilizer.

Many people are tempted by

the idea that if a little is a good thing, more must be better. This is definitely not true of lawn fertilizer. Applying extra fertilizer is just wasteful: It won't be taken up by plants, and it is very likely to run off during the next storm.

QUICK TIP

WHEN ESTABLISHING A NEW LAWN OR RESTORING A SPARSE AREA, USE COMPOST TEA TO INOCULATE THE SOIL WITH MICROBES THAT BREAK DOWN NUTRIENTS FOR GRASS ROOTS.

5. WATER WISELY

Grass is a thirsty plant (buffalo grass is an exception) that needs consistent moisture to stay green and keep growing. But that doesn't mean you need to sprinkle the lawn every day—in fact, that's counterproductive. Instead, remember these strategies to ensure your lawn has the moisture it needs, without wasting a drop.

When Water Matters

After you plant grass (whether with seeds, sod, or plugs), you need to keep the soil from drying out for several weeks, until the new grass is growing steadily. After the lawn is established, it needs to be watered in the growing season only during weeks when there is no rainfall.

When grass goes naturally dormant each year—in summer for cool-season grasses and in winter for most warm-season types—it needs significantly less water. Irrigating the grass regularly during its dormant season does not guarantee that the grass will stay green. In fact, it may make the lawn more susceptible to problems, rather than less, because the grass will try growing outside of its healthy temperature range.

You can tell a lawn is suffering from drought when you see footprints remaining on the lawn after walking across it (instead of the grass blades bouncing back up). A half-inch of water every other week during a drought is enough to keep the crowns and roots alive.

Soaking vs. Sprinkling

Your lawn will be thicker, healthier and better prepared for dry spells if you don't sprinkle it daily. Soaking the soil thoroughly when watering, and then allowing it to dry out before watering again, helps draw roots deeper into the soil to scavenge for moisture and nutrients. Allowing the soil to become dry after watering also helps prevent fungal diseases and discourages pests such as grubs. Frequent, light watering encourages the roots to stay near the surface—the area of the soil that dries out first.



The best time to water your lawn is in the morning, as close to sunrise as possible. This gives the soil and roots time to soak up the moisture before the sun begins to evaporate it. For the same reason, the next best time to water is an hour or two before sunset. Watering in the middle of the day is wasteful—too much dries off before it reaches the grass's roots. Watering after dark creates conditions that are hospitable to fungi. Before you water your lawn anytime, be sure that it's needed. An overwatered lawn is problem-prone.

SALT-FREE DIET

Salty foods make you thirsty, and the same is true for your grass. The best-selling brands of synthetic fertilizer are high in salts, which accumulate in the soil and draw

moisture away from grass's roots and away from the microbes in the soil that break down nutrients for them. Organic fertilizers, such as Ringer Lawn Restore, do not have

the high-salt content that synthetics do. A simple way to minimize your lawn's moisture needs is to use only organic fertilizers. Adding compost helps even dry lawns hold moisture.

QUICK TIP

SET A CUP WITHIN YOUR SPRINKLER ZONE. WHEN THE CUP HAS 1 INCH OF WATER IN IT, YOU HAVE IRRIGATED ENOUGH. TURN OFF THE SPRINKLER AND LET THE WATER PERCOLATE INTO THE SOIL.

6. BEAT THE WEEDS

The strongest temptation to use lawn chemicals comes when you see weeds in your lawn. We understand you want to simply wipe them out. But a healthy, thick lawn can outcompete weeds, and when a few undesirables show up (as they always do, whether blown in from a neighbor's yard or planted by birds), you can control them without harsh herbicides. When you see weeds, remember the following tactics that will help you reliably eliminate them, while promoting the long-term health of your lawn.

The Silent Messengers

You can learn a lot about your lawn and the soil from weeds. For instance, clover grows where the soil is low in nitrogen. Crabgrass tends to grow in acidic soil. Chickweed takes root in compacted soil. By avoiding the conditions that are most favorable to weeds and creating ones better suited grass growing, you help your grass compete more effectively. Coupled with your soil test, the information you glean from weeds can help you reduce them, if not eliminate them altogether.

Remember, however, that nature abhors a vacuum. Wherever grass is sparse, weeds move in. Restore bare spots in your lawn with a simple seed-and-fertilizer kit, like Safer Brand Magic Start Grass Patch, before weeds become established.

The Corn Solution

Corn gluten meal is a by-product of food processing that is often fed to livestock and would not harm you if you ate it. In 1991, Nick Christians, PhD, a researcher at Iowa State University, found that corn gluten meal prevents seeds



from germinating and that when it is spread on lawns in the spring, it acts just like pre-emergent herbicide, but has no residual effects on the environment. What's more, corn gluten meal is rich in nitrogen and other nutrients, so it helps feed your lawn as it controls weeds. Concern Weed Prevention Plus is a convenient corn gluten meal formulation you can use in an ordinary spreader. To reduce all kinds of lawn weeds, apply corn gluten meal in spring after the soil has warmed to at least 55 degrees F.

SPOT TREATMENT

When a small cluster of weeds pops up in your lawn or in the areas around your lawn, such as patios and sidewalks, target them with a strong natural soap spray, such as

Safer Brand Fast-Acting Weed and Grass Killer. It is approved for use in organic lawn-care and will not move through the soil or injure nearby plants. The fatty acids in the spray

wash away the surface coating of weed leaves, leaving them to dehydrate. Spray weeds before they flower and begin producing seeds for next year's crop of lawn invaders.

QUICK TIP

CLOVER IS CONSIDERED A LAWN WEED BY MANY, BUT IT PULLS VALUABLE NITROGEN OUT OF THE AIR AND INTO THE SOIL. SO EVEN THREE-LEAF CLOVER IS LUCKY FOR YOUR LAWN.

7. KNOCK OUT PESTS

The insects that can plague lawns are not usually visible, though the damage they cause certainly is. Harsh pesticides are not the most effective, or the safest, way to control them. Instead, look for natural solutions such as these.

Grub Deterrent

The plump, gray-white larvae of beetles (such as Japanese beetles and Masked Chafer beetles) hatch in lawns and feed on grass roots. They are most active in late summer to early fall and can turn a section of lawn brown almost overnight. If you see a brown area surrounded by healthy green grass, dig up a small section of the lawn and look for the grubs just below the surface. If you see 10 or more in a single square foot, you have a grub infestation. The adult beetles are attracted to moist areas for laying the eggs that hatch into grubs. Letting the soil dry out between watering (as explained in the Water Wisely section) makes your lawn less attractive to adult beetles. Neem, a compound derived from an evergreen tree native to India, kills grubs and other pests, and is approved for use in organic lawn-care. Safer Brand Grub Killer is a neem-based spray that is easy to apply to your lawn by attaching the bottle to your hose.

Surface Feeders

Chinch bugs, armyworms, sow bugs, and a variety of other insects live on the soil surface and can chew up the grass. They're not as common as grubs—but where they get established, they are very destructive. Where you see dead or dying grass, tug on a few blades. If it comes up easily, with no roots attached, these pests are the likely culprits.

You don't need toxic pesticides to eliminate them. Natural

compounds, such as neem, insecticidal soap (fatty acids), and pyrethrin (a plant extract) stop these pests from feeding on your lawn with no residual effect on the environment. All three of these solutions are blended in Safer EndAll Insect Killer, a unique formula that eliminates pests from eggs to adults.

If you have a persistent problem with surface-feeding lawn pests, look for endophyte-enhanced grass seed (available in cool- and warm-season types). The endophytes are microbes that grow with the grass and deter pests from eating it. They have no effect on the grass's growth or appearance.

FIRE IN THE HOLE

In the South, fire ants are more than just a nuisance; they're aggressive swarmers and biters that can keep you from enjoying your lawn entirely. You can buy nontoxic baits that poison the colony, but pouring boiling water on the mounds is a safe, effective alternative. You may have to do this several days in a row, but it will drive them away. Be sure you are wearing long pants and thick-soled shoes when you apply the water, because the ants will come streaming out of the mound, ready to attack.

FUNGUS AMONG US

Mushrooms and other fungi show up in lawns where the soil stays wet and where decaying wood or dense piles of moldy leaves provide food for them. Mowing over fungi eliminates them for only a short time—you need

to change the conditions to keep them from coming back again and again. Start by removing as much of the decomposing wood or leaves as possible. Aerate the soil around it to allow water to drain away, depriving

the fungi of the moisture they need. Mix compost into the soil in the area, as deep as 6 inches or more. Help the lawn start growing in the spot again by using Safer Brand Magic Start Grass Patch kit.

QUICK TIP

CARTOONS ASIDE, NOBODY WANTS TO SEE—OR SMELL—A SKUNK. BUT SKUNKS DO FEED ON TWO SOIL-DWELLING PESTS THAT YOU WANT TO BE RID OF: GRUBS AND YELLOW JACKETS.