



THE OLD FARMER'S ALMANAC

LAWN RESCUE: A PRACTICAL GUIDE TO WEED CONTROL & HEALTHY GROWTH



**HOW TO GET RID OF
POISON IVY, POISON
OAK, KUDZU, AND
MESQUITE**



**TIPS FOR GROWING
A GREAT LAWN
WITH LESS
FERTILIZER**



**HOW TO GET RID
OF CRABGRASS
IN 5 STEPS**



**OUCH! HOW TO GET RID
OF PRICKLY WEEDS
THAT CAN HURT**



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LAWN RESCUE: A PRACTICAL GUIDE TO WEED CONTROL & HEALTHY GROWTH

In this booklet, we aim to equip you with practical strategies for tackling common lawn issues, drawing insight from *The Old Farmer's Almanac* editors.

Here at Almanac headquarters, we maintain a beautiful lawn and a stone wall border planted with seasonal perennials. Maintaining our lawn for employee picnics and outdoor fun is a rewarding goal. While we encourage healthy turf with clover and compost, challenges arise, such as invasive weeds and the desire to minimize chemical inputs.

Combating Invasive Weeds

Invasive species like crabgrass, prickly weeds, and poison ivy can quickly overrun a lawn if left unchecked. Crabgrass often appears in bare or thin areas of the lawn, germinating in early spring when soil temperatures reach 55°F. For us, this happens before the forsythia blooms. Use a soil thermometer in early spring to catch it before it germinates.

Prickly weeds mar the appearance of your lawn and can also pose physical hazards. Mow high for weed control—at 3.5 to 4 inches high, lawn grass will out-compete weeds. Overseed your lawn in late spring. In cases of severe infestation, use targeted herbicide treatments to limit chemicals use.

Removing more aggressive invaders like poison ivy requires careful handling due to their toxic properties and rapid growth. Apply herbicides directly to the plants to minimize impact on surrounding vegetation.

Achieving a Thriving Lawn with Minimal Fertilizer

Choose grass species suited for your soil and find out their nutritional needs. For example, fine fescues and turf-type tall fescues demand less fertilizer compared to other varieties. Do you use a sprinkler to water your lawn? It's best to water infrequently but deeply. And don't forget to use a mulching mower to recycle grass clippings for free fertilizer!

*This booklet will explore these topics in more detail,
providing guidance for achieving and maintaining the lawn you desire.
Let's get growing!*



HOW TO GET RID OF CRABGRASS IN 5 STEPS

Plus, the best crabgrass weed killer spray



Closeup of crabgrass with multiple tillers.
Credit: MMPhoto21/Shutterstock

Would it surprise you to learn that crabgrass is one of the easiest weeds to manage (even if it's pervasive)? See our weed experts' top five tips on getting rid of crabgrass—plus, find out the best crabgrass killer spray that won't hurt your lawn but will keep crabgrass from returning.

1.) What is Crabgrass?

Crabgrasses (*Digitaria* spp.) are low-growing, summer annual plants spread by seed and from rooting nodes on top of the soil. Undisturbed, it can grow to 2 feet tall. Typically, crabgrass germinates in the spring when soil temperatures reach 55°F for several consecutive days. Crabgrass spreads all summer long and then produces seeds in the fall.

Crabgrass thrives in poor lawns, edges of lawn areas where soil meets the pavement, bare spots, and neglected areas. Think of crabgrass as nature's red flag!

What Does Crabgrass Look Like?

Once crabgrass seeds germinate, they begin the stages of leaf growth, starting with one leaf. When young, crabgrass looks like a small corn plant with blades that angle out from the stem.

Mature crabgrass has a star pattern. After the crabgrass has grown to the fourth or fifth stage of leaf growth, it begins to “tiller” or branch off of the leaves.

All of the stems radiate from a single root in the center of the plant but spread along the ground with “crablike” growth. Along the prostrate stems are nodes from which roots develop. (If you pull out “crabgrass” and find long taproots, that's a different weed!)

By fall, the plant produces seed heads with spikes from the top of the stem. Each plant can produce thousands of seeds that remain viable in the soil for several years, so we say that this “annual” is a “perennial” problem.

2.) Weed by Hand

If you have limited issues with crabgrass, you can easily hand-pull the plant when it's young, thanks to its shallow root system. Crabgrass can't regrow if you pull up the plant's entire crown (basal growing point). Just water the area first to soften the soil and—to make removal even easier—use an upright weeding device.

As plants mature and the central taproot develops, removing the entire growing point becomes more difficult. Still, we do not recom-

mend excessive tilling, as this will often bring up even more crabgrass seeds to the surface.

3.) Use the Right Herbicide

When it comes to crabgrass, you either a) prevent it before it germinates or b) deal with it after it's emerged. Your timing will affect what you do next.

a) Before crabgrass emerges: Obviously, it is best to prevent crabgrass before it germinates. This means “**pre-emergent**” herbicide spray.

If you read this article after crabgrass has emerged, you should still address prevention next year. The most effective pre-emergent programs involve split applications: (1) Apply several weeks before expected crabgrass germination (often in April, in many regions) and then (2) make a second application 2 months later.

b) After crabgrass appears: “Post-emergent” herbicides are the solution once crabgrass has already started to grow. This was a considerable challenge because many of the older post-emergent herbicides were ineffective and unsafe. Today, however, effective solutions can be sprayed **directly on the crabgrass leaves without harming your lawn.**

For those interested, here is one of the best [ready-to-use crabgrass post-emergents](#), made by Gordon's®. It kills crabgrass and 200 other weeds (such as Canadian Thistle and foxtail) without harming your lawn. It also comes ready to use with a trigger sprayer formulation to spray directly on the weeds. Once the spray is dry, both people and pets can safely and immediately re-enter the areas.

The Importance of Timing With Sprays

a) **Using a pre-emergent herbicide** can be tricky. Doing so not only requires planning but also very careful timing. It has to be applied **BEFORE** the seeds germinate at 55°F. How will you predict germination timing? Monitor soil temperatures and rely on your experience and phenological keys (e.g., when the forsythia bush flowers). Most garden centers sell inexpensive



The crabgrass weeds in this garden are mature and now difficult to pull by hand.

Credit: Christian Delbert/Shutterstock

soil thermometers that you can use to zero in on the right timing.

b) Because of this challenge, it's essential to be on top of **post-emergent herbicide** applications so that you tackle that crabgrass when it's small!

❶ Do not delay spraying a post-emergent spray—it's most effective when the weeds are immature and actively growing.

❷ This may require scouting for weeds. Just make it part of your daily walk around your yard and garden!

❸ Addressing this issue well before planting seeds is essential, or you'll have an even bigger problem the following year.

❹ Use the right amount for the space to be effective. For example, with the Gordon's® [post-emergent crabgrass killer](#), you measure your lawn area to be sprayed. Measure length x width for square footage. Then, mix just 2.5 fluid ounces with 1 gallon of water for every 400 square feet of lawn. Apply to crabgrass with the ready-to-use spray bottle or in a spray pump or hose-end sprayer.

❺ Using the same pre-emergents over and over can make crabgrass more resistant, so it's vital to tackle this problem with post-emergent herbicides

to maximize herbicide efficacy and manage against resistance that will grow over time.

4.) Prevent Seed Heads

Do not let the weeds grow seed heads!

New seeds produced by weeds go into the soil, eventually leading to more weeds. Imagine the thousands of seeds waiting on your lawn for next year!

- ❶ Certainly, mowing will help reduce crabgrass growth, but remember that prostrate crabgrass tends to hug the ground and can still set seed when it's as short as a 1/2 inch tall.
- ❷ A post-emergent herbicide is the best way to finish off those crabgrass weeds.

5.) Grow Healthy Turf

Crabgrass loves a poor lawn. So, the best protective step for managing crabgrass is a healthy, actively growing turfgrass. Always use best cultural practices (i.e., mowing, fertilization, irrigation). Because seedling crabgrass isn't very competitive, a healthier lawn will crowd out new seedlings.

- ❶ **Select turfgrass adapted to your location.** So many people don't choose the right grass for their conditions! Regarding beating out crabgrass, perennial ryegrass is the best competitor. It also provides some natural insect control, emitting a natural poison that gives some small, damaging bugs the "flu." Ask your garden center about ryegrass or what works best in your climate.
- ❷ **Feed your soil to get turfgrass off to a strong start!** Supply nitrogen in early autumn and, if needed, in spring, when cool-season grasses are more competitive than these warm-season weeds. Again, speak to your local garden center.
- ❸ **Mow at the highest height recommended!** Mowing too low allows more light into your



*A specimen of crabgrass with roots and new leaves.
Credit: Marekuliasz/Shutterstock*



*Crabgrass with forked seed heads which hold thousands of tiny seeds which will scatter on open soil.
Credit: Doikanoy/Shutterstock*

lawn grass, which aids more crabgrass germination. Mowing high won't get all crabgrass, but research shows that doing so works significantly better than a low mowing height to reduce crabgrass infestations.

- ❹ **Water the correct way!** Light, frequent sprinkling only encourages crabgrass, which has shallow roots. Real turfgrass needs deep, infrequent irrigation to reach its roots. The ideal solution is an irrigation system that waters only when you notice that the grass seems dry. If you mow tall, you may not even need to water turfgrass in the spring, provided you get an inch of weekly rainfall.

With the major five steps above, you can take control of crabgrass. By following good cultural practices (such as mowing high), regularly scouting for young weeds, and using an effective post-emergent herbicide, you'll break the cycle and prevent the spread of crabgrass! ★



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TIPS FOR GROWING A GREAT LAWN WITH LESS FERTILIZER

Maximizing lawn health while minimizing fertilizer use



*Closeup of measuring stick in a healthy lawn.
Credit: J.J. Gouin/Shutterstock*

Grow a great lawn using less fertilizer! Like many things, fertilizer is expensive right now, so here are worthwhile actions you can take to reduce your lawncare costs while growing a healthier lawn.

The best defense is a good offense. To maximize the health and beauty of your lawn while minimizing fertilizer use, consider: the proper grass species, the health of your soil, and cultural practices. Learn more about the basic turf fundamentals everyone should follow to grow a healthier lawn.

1. Choose The Right Grass Species

How much you fertilize and water your lawn depends on which grass type you select. Here are the main cool-season turfgrasses:

- Kentucky Bluegrass
- Perennial Ryegrass
- Fine Fescues
- Creeping Bentgrass
- Turf Type Tall Fescue

Use a Grass With Lower Fertilizer Needs

If you really want a low-maintenance lawn, consider that the turfgrass species you grow can lower the amount of [lawn fertilizer](#).

Kentucky Bluegrass and Perennial Ryegrass require 2 to 5 pounds of nitrogen fertilizer per 1000 square feet yearly just to maintain their appearance! That means two to five applications annually. However, a Fine Fescue or Turf-type Tall Fescue requires half of this, needing 1 to 2 pounds annually. Fescue can also handle drought better, requiring less watering.

If you don't want to use any fertilizer, a "hard" or sheep fescue would be a good choice for ground cover. No, the turf won't have the same soft carpet appearance as a Kentucky Bluegrass, but you will have even plant coverage to protect the soil from weeds and erosion and be maintenance-free.

Adjust for Sun Versus Dappled Shade

Certain grasses such as fine fescues grow better in shade; they can be used in partial shade or dappled shade spots. Or, mix Kentucky Bluegrass with Creeping Red Fescue in these areas for a more even look.

Speaking of shade, don't fertilize all parts of your lawn equally. Not all grasses grow at the same speed. Grasses growing in partial or dappled shade grow more slowly, so they certainly don't need the same amount of fertilizer or water.

2. Maintain Healthy Soil

As with vitamins for your own body, you do not want to over-fertilize your grass. Too many nutrients simply go to waste and can even do damage, making your lawn's health worse. It is important to only apply as much fertilizer as your soil can hold or your lawn can use, no more and no less. So, how do you know what your soil needs?

Know Your Soil: Get a Soil Test

Not all soil is the same! Don't assume that a thin lawn simply needs a standard chemical fertilizer (N-P-K). Perhaps you need a [fertilizer with extra micronutrients](#). Understanding your soil will reduce unnecessary applications and reduce costs.

- Soil tests tell you how many nutrients are in your soil available for plant uptake. "Heavier" soils with greater clay and silt contents can hold more nutrients than "lighter" soils containing more sand.
- If your soil has a low nutrient holding capacity (i.e., cation exchange capacity), more fertilizer is needed to reduce nutrient loss

Soil tests are usually free through your county's [local extension offices](#). You can also find test kits at garden centers. Or see [how to do a DIY soil test](#). Just do it!

Amend Your Soil

Through a soil test, you may find out that your lawn doesn't need fertilizer. If that is the case, listen to the test results! Do NOT overfertilize, as this isn't healthy for the plant.

If your soil test tells you to amend your soil, take proper steps. A dense lawn cover is the end goal; it uses less chemicals in the long run and is the most storm-friendly lawn, avoiding run-off into our streams and waterways.

Adjusting Soil pH

Your soil test will tell you the soil pH, which



*There are many types of grasses and ground covers.
Credit: Kathie Nichols/Shutterstock*

Nitrogen

Phosphorus

Potassium

Micronutrients

Table 3. Annual Nitrogen Requirement		
Grass Species	Low Maintenance	High Maintenance
Turf-type tall fescue	1 to 2 pounds	2.5 to 4 pounds
Fine Fescue	1 to 2 pounds	2.5 to 4 pounds
Perennial ryegrass	2 to 3 pounds	3.5 to 5 pounds
Kentucky bluegrass	2 to 3 pounds	3.5 to 5 pounds

*If you want to use less fertilizer, one tip is to choose your grass type wisely.
Credit: Purdue.edu*



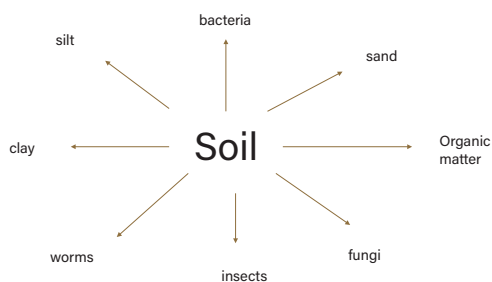
*Soil is everything! Know your soil above all else.
Credit: Pixabay*

can influence the availability of soil nutrients. Optimum pH for turf growth and nutrient availability is slightly acidic (i.e., 5.5 to 7). Soil pH can be corrected by applying certain amendments and/or fertilizers.

- Increase soil pH by applying lime
- Decrease soil pH by apply sulfur or sulfur-containing products

Adding Nutrients

Nitrogen, Potassium, and Phosphorus (N-P-K) are the most essential nutrients for plants. It is important to make sure the soil is sufficient for these elements. Calcium and Magnesium are sufficient in most soil types, though sandy



*Soil is not dirt. Know what type of soil you have, and what level of soil fertility.
Credit: Purdue.edu*

soils may need supplemental Ca and Mg applications.

Fertilizers can come in granular or liquid form. [Liquid fertilizers](#) have become increasingly popular because it is easy to apply more evenly with a sprayer, no matter whether you have a small or a large yard. Granulated fertilizer can get picked up by a lawn mower when the grass is mowed and eaten by birds and wildlife; granulated fertilizer also seems to run off more easily in heavy rainstorms.

To avoid overusing fertilizer, it is important to water-in fertilizer applications by applying irrigation after fertilizing turfgrass or timing fertilizer applications before light rainfall.

Soil Structure

A soil test will tell you if you have heavy, claylike soil or sandy soil and how to adjust. A heavy clay soil will be very compacted, which doesn't allow air to get to the roots or water to absorb into it, so the grass can't take up nutrients.

Many soils can benefit from more organic matter. One way to amend the soil and reduce fertilizer is to top-dress your lawn with organic compost, about 1/4 inch thick. Compost is a nutrient-rich form of fertilizer (and free if you compost yourself!). This will also save on fertilizer application costs.

If you have compacted soil, it's best to first loosen the soil to provide air circulation to the roots; this is best achieved by renting a "core aerator," a machine that pulls cores several inches long out of your lawn. After core aerating, top-dress the lawn with compost. Note: Avoid adding sand or peat moss to clay; they can worsen those problems! [Learn more about clay soil.](#)

3. Be Smart With Cultural Practices Mow Higher

The goal of your mowing regiment should be to maintain healthy grass. Every time that you cut your grass, you are injuring the turf plant. Let's learn to minimize the injury and the corresponding stress on the plant, which will result in a healthier, greener lawn!

- Most common lawn grasses prefer a higher height of cut, usually at least 3 inches. This leaves enough leaf material for the plant to photosynthesize at an appropriate rate to ensure good plant health.
- Mowing the grass at 3 to 3.5 inches tall also slows the rate of runoff and builds a more extensive root system that can absorb more water, be more tolerant to drought, prevent erosion, and suppress weeds.
- Don't allow grass to get too much taller; it's essential to mow frequently enough to minimize clippings left on the turfgrass surface.



*A nearly full plastic rain gauge in wet grass.
Credit: Doug McLean/Shutterstock*

Return Grass Clippings to the Lawn

Mowing grass clippings and leaves back into the lawn provides about 25% of your lawn's total fertilizer needs! This could be equal to one application of fertilizer if the lawn is getting three applications a year.

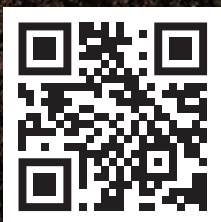
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Clippings from an old leaf generally contain all the nutrients required to grow a new leaf: about 4% nitrogen, 2% potassium, and 1% phosphorus.

A mulch mower is ideal for retaining and spreading clippings on your lawn. Don't worry: The clippings decompose quickly, providing these essential nutrients and a beneficial food source for bacteria in the soil! This technique can significantly reduce the need and cost of nitrogen fertilizers.

Note: It's a myth that clippings contribute to thatch or significantly contribute to phosphorus runoff. In fact, grass clippings are feeding the beneficial bacteria that decompose thatch for a healthier lawn.

Don't Overwater

Your turfgrass needs about one inch of water per week. If you don't have a rain gauge, one DIY method is to put out a few empty tuna cans in several parts of your yard. If your grass doesn't receive enough rain, you'll need to water it manually; split watering into multiple applications. There's no need to overwater or you will only increase fertilizer run-off.

If your grass isn't watered in 3 to 4 weeks, it will turn brownish. This is natural; it is not dead but simply dormant. Stop watering, and don't apply nutrients when the turfgrass is not actively growing.

During normal rainfall: If the water runs off the top of your soil and doesn't absorb, this is another clue that you have compacted soil; the water will "run off" with the nutrients, fertilizer, and soil.

Adjust Your Fertilizer Timing

Many folks get the timing of fertilizing all wrong; don't trust the flyers from lawn companies who want your business and will maximize applications, no matter what type of soil or seed you have.

To maximize plant uptake, fertilizer nitrogen applications must coincide with the most favorable growth periods. Over 70% of nitrogen

should be fall-applied for cool-season grass. Therefore, if you're only going to fertilize once a year, it should be in the fall! If you fertilize twice, it should be in the fall again—early fall and late fall. We would recommend using a [liquid fertilizer](#) three times to maximize plant uptake.

- ❶ Late spring/early summer,
- ❷ Early fall, and
- ❸ Late fall

Some Words on Weeds

Some of the same tips for reducing fertilizer use apply to weed control. Weeds grow in turf because of: compaction, poor fertility, shade, and subpar cultural practices. When it comes to weeds, remember:

- Pre-emergent control of weeds is easier.
- Mow turf at least 3 inches high.
- Time mowing to prevent weeds from going to seed.
- Maintain ideal soil and turf fertility through the practices discussed above.
- Avoid compacted or bare soil; a dense turfgrass stand limits weeds.
- Spot spray and overseed to encourage turf density.

There are liquid [“Weed and Feed” fertilizers](#) that efficiently combine broadleaf weed control with lawn fertilization.

In conclusion, take these steps to use less fertilizer: 1. Choose the right grass seed for the level of maintenance you can handle as well as sun/shade; 2. Improve the health of your soil so the plants can efficiently take up nutrients without overusing fertilizer, and 3. Keep up good cultural practices from using grass clippings to mowing high to timing your fertilizer applications to match growth periods. ★

OUCH! HOW TO GET RID OF PRICKLY WEEDS THAT CAN HURT

What are those prickly weeds in your backyard?



A very prickly thistle!
Photo Credit Jasmine Sahin/Shutterstock

Ouch, that hurts! Have you ever walked across your lawn and suddenly felt thorns stab your bare foot? Or, weeded your garden and touched a weed with prickly spines? Let's identify six plants that harm you and your pets—and then find out how we can best control these little pain dispensers.

While some weeds are annoying and many are beneficial to wildlife, a small handful are noxious, invasive, and/or actually cause physical pain to you, your pets, farm animals, and equipment. Before we get into serious solutions for serious problems, remember that the first line of weed control is establishing a dense, healthy lawn by properly watering, fertilizing, and maintaining your turfgrass.

Check these five questions and reflect on what could be done better. Do you:

- ❶ Mow higher to develop a deep root system and lower weed infestation.
- ❷ Water your lawn and plants deeply and infrequently. Frequent light sprinkling only encourages shallow-rooted weeds and seed germination. Your lawn will wilt when water is needed.
- ❸ Recycle grass clippings (nutrients) back into the soil.
- ❹ Nourish your lawn two to four times per year so that it can crowd out weeds with regular feeding.
- ❺ Overseed in the less dense areas in the fall?

Refresh your best practices. Most weeds are “opportunists” that invade unhealthy lawns.

6 Weeds That Can Hurt People and Pets

What happens when the best practices aren't enough? Here at The Old Farmer's Almanac, we advocate minimal use of herbicides and recommend natural remedies as a general rule. However, some harmful plants are so tough that the solution ends up being an herbicide treatment. Toward that end, we've partnered with the folks at Gordon's Lawn and Garden—they've been around since

1924 and are a dependable brand that develops economic products for property owners.

Even in our local parks, we must spray for poisonous, invasive, noxious, and/or harmful plants that will destroy the natural ecosystem. However, we do two things to address the problem quickly, efficiently, and effectively: 1) We fully understand the weed cycle and when to spray, and 2) We aim to use a selective herbicide that does not harm the plants around it and limits harm to wildlife.

Now, let's identify those prickly weeds in your backyard—and share solutions on how to get rid of them.

1. Burweed: A Pain in the Foot!

It is a painful walk across the lawn if you have burweed (*Soliva sessilis*). This low-growing weed in your turfgrass produces sharp “burs” or “stickers” that cause sharp pain when stepped on.

Burweed is a winter annual broadleaf weed germinating throughout thin, weak grass in the fall as temperatures cool. When the weather warms up in the spring, burweed forms hard, spine-tipped burs. The seed is contained within the hooked bur.

How to Get Rid of Burweed

- A pre-emergent spray in the fall (usually late September or early October) is most effective because this will prevent



Lawn Burweed (*Soliva sessilis*).
Credit: Harry Rose on [Flickr]. (CC BY 2.0).



Sandbur (*Cenchrus longispinus*) bears terminal spike containing multiple sharp spiny burs.
Credit: Lukaspics/Shutterstock

the seeds from germinating. However, many gardeners may have missed the pre-emergent stage the first time.

- The key factor to effectively managing burweed is a post-emergent herbicide—meaning that the product must be sprayed onto the emerged plant—during the winter months before the burweed plants have developed the spine-tipped burs. Here's a concentrated three-way herbicide blend that controls burweed.
- Once you've hit spring, the spines have formed, and control's not possible. The lawn burweed will die in the summer when temperatures reach 90°F.

2. The Sting of Sandburs!

A summer annual grassy weed with sharp, spiny burs that cause physical injury to people and pets is called sandbur (longspine sandbur: *Cenchrus longispinus*; field sandbur: *Cenchrus incertus*).

As the name implies, sandbur grows in more sandy soil; however, it has acclimated to a wide range of conditions, especially lawns, sports fields, and parks. Sandburs are also common in grazing pastures; horses and other livestock get blisters or ulcerated lips and mouths, and the barbed seed heads can get in the gastrointestinal tract.

As with other summer annuals (such as crab-

grass), early identification is important to avoid stickers. Sandburs can resemble other grassy weeds like crabgrass and foxtail, but their seed heads are spikelike racemes with burs! Learning how to identify sandburs in your area and controlling them early will prevent stickers from growing in the fall.

Sandburs germinate in late spring and will continue to grow until flowering in late fall. The flowers are a raceme of burs, with each bur having sharp, painful spines. The seed is inside the bur, which will overwinter in the soil.

How to Get Rid of Sandbur

- Pre-emergent herbicides are the most effective. Apply 2 to 4 weeks before weeds sprout from seeds in the spring when the soil temperature reaches 52°F. Water in afterward.
- If you didn't get a pre-emergent herbicide down, use a post-emergent spray to control germinating burs after temperatures reach about 75°F and then water in thoroughly. In infested areas, spray again after 6 weeks.
- Once again, A healthy, dense lawn is the best protection, as weeds such as sandbur look for empty spots in weak lawns.

3. Canadian Thistle: A Prickly Problem!

Almost everyone who gardens has confronted thistle. Yes, these weeds come with prickly, painful spines around their margins.

There are many types of thistles: perennial thistles, such as the Canadian thistle; biennials, such as the bull thistle; and annual thistles that germinate in both spring and fall.

Canada thistle (*Cirsium arvense*) is an aggressive, perennial, broadleaf plant from Eurasia (despite its name). It's on the noxious weed list in many states, as it will completely dominate and leave land useless, outcompeting all vegetation for water, light, and nutrients.



Canadian thistle while still young—don't touch it with bare hands!
Credit: Amelia Martin/Shutterstock

The plant emerges from its roots in mid-to-late spring, forming small rosettes with jagged leaves covered in thick hairs. It grows up to 3 feet 4 inches tall and has very prickly leaves. Flowers bloom in summer and set seed in fall.

How to Get Rid of Canadian Thistle

Canadian thistle is a unique challenge because it not only reproduces from seeds but also has an extensive root system that spreads underground up to 20 feet a season—so plants keep popping up. Ultimately, the goal is to keep Canadian thistle from flowering and producing seeds in the summer and fall. Controlling small infestations is more effective and less expensive.

- Pre-emergent sprays in the spring can control the seeds as they germinate and prevent them from growing and emerging.
- If Canadian thistle becomes rooted, the best way to control it is to stress the plants before they regenerate food reserves in their roots or produce seeds. Burning, tilling, and mowing early in May or June helps to weaken existing thistles.
- A post-emergent herbicide is effective with a fall application. Plants transport food to the root system for winter, and

the herbicide moves with the food and facilitates long-term control. Use a selective post-emergent spray that can [kill thistle without harming lawn grass](#). Repeated applications are necessary.

4. Bull Thistle: A Bully of a Weed

Bull thistle (*Cirsium vulgare*) is a robust and spiny plant found in every state in the U.S. and listed as a noxious weed in some states. It spreads entirely by seed and can produce 100 to 300 seeds per flower head, with one to more than 400 flower heads per plant!

As a non-native, it will outcompete all native plants once established. It's not palatable to wildlife or livestock. Bull thistle is a biennial, meaning it needs two seasons to reproduce. The plant forms a "rosette" up to 3 feet in diameter during its first season. This is a tap-root with a cluster of long, deeply lobed leaves, coarse, prickly hairs on the top, and woolly hairs beneath—and long, sharp spines along the edge! In the second year, the rosette sends up a flowering stalk with pink-magenta flowers that bear spine-tipped bracts below the petals.

How to Get Rid of Bull Thistle

- Pre-emergent herbicides can control the seeds as they germinate and prevent them from growing and emerging.
- Once Bull thistle has emerged, treatment in the rosette growth stage in early spring provides better control than later applications. The younger the rosette, the better the results! Once the plant is in stalk form or flowering, it's more challenging to kill. Use this [fast-acting weed killer](#) that is safe for people and pets once the spray has dried.

5. Black Locust: Thorny and Toxic

A tree with sharp thorns and toxic pods that hang from its branches? The unique black locust tree (*Robinia pseudoacacia*) can grow new branches by sprouting new roots and shoots. The tree grows with a single leader, and thorns



Bull thistle in rosette form (1 year)
Credit: Burhan Oral GUDU/Shutterstock



Black locust tree: The pods are poisonous.
Credit: CrystalDream/Shutterstock

can be found on the trunk or limbs.

This midsize deciduous tree contains several toxic components in its leaves, stems, bark, and seeds. When ingested, it is poisonous to animals and especially dangerous to horses, which will eat the young shoots or chew on the bark.

Would it surprise you to learn that this thorny, toxic tree is the only woody native that we now consider invasive? Originating in the Appalachian and Ozark Mountains, black locusts have invaded forest ecosystems where their trees outcompete native plants and negatively impact native ecosystems and species.

How to Control Black Locust

Because black locust is extremely difficult to eradicate, effective control requires an [herbicide for hard-to-kill brush](#) that is applied in different ways:

- Small trees (which have thinner bark) can be controlled using a **basal bark application** of a triclopyr-based herbicide.



®



IS IT A WEED? YOU DECIDE.

After all, it's your property and your thistle. Some folks eat thistles, so if you have a recipe, go for it! But if you don't want it choking out grasses in your pastures and lawns, control it with **LV MAX Fast-Acting Weed Killer.**



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Mesquite tree in Texas in the springtime.
Credit: cctm/Shutterstock

- Large trees should be controlled using a cut stump application with a triclopyr-based herbicide to prevent suckering. Cut the tree as close to the ground as possible and apply the herbicide within 30 minutes of cutting.

Caution: Once the black locust is established, any attempt at physical control will encourage MORE growth. Hand-pulling, burning, mowing, and cutting (without chemical control) is not recommended.

6. Mesquite

The mesquite tree (*Prosopis glandulosa*) is one of the toughest brush species in America and thrives across dry areas and pastures. Small and scraggly, mesquite has one or multiple twisting trunks that grow branches with sharp, spiky thorns and bear toxic bean pods about 8 inches long.

While once contained in its native desert in the Southwest, unfortunately, mesquite has become highly invasive due to its extremely long roots that can travel to seek water from very deep underground. Early-day ranchers called mesquite “the devil tree” because it absorbs most or all of the water in its surroundings, causing other plants and trees to wither away and die.

The bean pods are toxic to cattle, horses, and other grazing animals. But even beyond pastures, this plant negatively damages plants,

wildlife, cropland, and entire ecosystems.

Fortunately, mesquite that’s outside its native zone can be controlled with easy, inexpensive, and environmentally responsible methods—as long as you monitor and stay on top of this weed!

How to Get Rid of Mesquite*

- The stem spray method may be a good option for young seedlings or older trees with three or fewer smooth bark stems coming out of the ground. Spray anytime during the year, although the best results occur during the growing season. Here’s an example of a [brush killer, especially for mesquite](#).
- The leaf spray method may be the best option for bushy mesquite less than 6 feet tall with many stems at ground level. Multi-stemmed mesquite plants are much more difficult to control. Start spraying the leaves in spring, when mesquite leaves change color from light pea-green to a uniform dark green.

Let us know if you’ve discovered any prickly, thorny plants in your yard or garden! Did this article help you to identify them and discover solutions? We welcome your tips if you’ve experienced these plants that can hurt! ★

**Not for use on mesquite in California*

HOW TO GET RID OF POISON IVY, POISON OAK, KUDZU, AND MESQUITE

Removing Hard-to-Kill Aggressive Brush Quickly and Effectively

Poison ivy, poison oak, kudzu, and mesquite are four of the toughest brush species whose presence on a property goes beyond problematic and damaging. How do you remove poison ivy and oak quickly? How do you keep invasive kudzu and mesquite from choking plants? Here's how to get rid of hard-to-kill brush effectively.

Toxic. Aggressive. Invasive. In this article, we'll address four plants from around North America that need to be removed from our yards, gardens, and property. Out of the thousands and thousands of plant species, plants are rarely so intolerable that we can't coexist. However, protecting children at the playground from poison ivy or protecting valued pollinator trees from smothering kudzu requires serious action.

We'll discuss why these four plants are so tough to control and also provide easy, inexpensive, and environmentally responsible steps for you to take to remove them. The methods involve spraying a small but potent concentration of herbicide directly on each plant. This procedure allows you to keep the rest of the plants and selectively remove the poisonous or invasive plants. In addition, both people and pets can enter the area once this herbicide spray has dried after application.



*A batch of poison ivy on a summer's day.
Credit: Mark van Dam/Shutterstock*



*Poison Oak plant with mature green leaves as well as a newer red leaf.
Credit: ShutterstockProfessional*

How to Safely Remove Poison Ivy and Poison Oak

Thanks to itchy rashes and burning water blisters, many of us are familiar with poison ivy and poison oak, native to different regions of North America. For both species, the rash is caused by a reaction to an oily resin called urushiol (u-ROO-she-ol) found in the leaves, stems, and roots.

- **Poison Ivy** (*Toxicodendron radicans*) is a low-growing shrub or a woody climbing vine most prominent in the Midwest. Three leaflets—with smooth or toothed edges—turn reddish in spring, green in summer, and yellow, orange, or red in fall. The leaves can also appear waxy, shiny, or dull, depending on the time of year and rainfall. Berries are white.
- **Poison Oak** different plant but contains the same poison: urushiol. Poison oak also has three green leaflets which turn yellow or orange in the fall but the leaves resemble an oak leaf rounded tips; the leaves also have fuzzy hair on both sides. Berries are yellowish or greenish. There are two species of Poison Oak with different geographies (and neither grows in the Midwest):

1. **Eastern poison oak** (*Rhus toxicodendron*) is a low-growing upright shrub (not climbing) in the north-eastern and southern United States.
2. **Western poison oak** (*R. diversiloba*) is a woody shrub or vine that grows in the Pacific region.

Why Are Poison Ivy and Poison Oak So Tough to Control?

These woody plants grow among shrubs and ground covers, quickly reproducing by spreading via underground rhizomes and seeds. Vines have aerial rootlets that attach to whatever the vine may be growing on. Birds and other wildlife eat the berries and spread the seeds in their droppings, which is how poison ivy and poison oak usually get started in the landscape.

- Repeatedly cutting the plant back to the ground may eventually starve the plant. However, you expose yourself to the toxic leaves each time you cut it.
- Yes, you can dig up and discard small plants. However, if you leave behind any portion of the root system, the plant will likely resprout.
- You can NOT burn poison ivy. This can be extremely hazardous because the smoke contains the oils which, when inhaled, cause serious injury to your eyes, skin, and respiratory system.

How to Get Rid of Poison Ivy and Poison Oak

The best solution for getting rid of both poisonous plants is to apply an herbicide directly to the plant itself. Products with the active ingredient triclopyr are the most effective at total eradication.

Timing is important. Apply in spring to early summer when plants are in full-leaf stage, using a hand sprayer with a pump (or backpack sprayer for larger properties). Thoroughly spray the leaves and vegetative parts of the plant. Even better, cut down the poison ivy or

oak to the stem or stump and apply in early spring or fall. This is a more targeted approach. Spot-treat the stems or stumps if you have desirable plants nearby that you wish to keep alive. Also, keep in mind that herbicides are for non-crop areas.

[Learn more about solutions for poison ivy and poison oak](#), including [solutions for large properties](#).

How to Kill Kudzu

This highly invasive perennial vine grows at a rate of 1 foot per day, with mature vines reaching lengths of up to 100 feet! Kudzu (*Pueraria lobata*) can overtake any plant or structure in its path, often engulfing entire trees. It's especially invasive in the southern United States, which has the temperate climate of its native Asia.

Kudzu has alternating leaves made of three oval-shaped or lobed leaflets. After 3 years, it produces purple or red flowers that are edible. Imported innocently from Asia as an ornamental plant to reduce soil erosion on hillsides, kudzu has become an out-of-control scourge on the landscape. The U.S. Forest Service estimates that kudzu is overtaking over 2,500 acres annually. The Department of Agriculture estimates far more destruction, which has been extremely costly for farmers and property owners.

Why Is Kudzu So Tough to Control?

Known as “mile-a-minute” and “the vine that ate the South,” kudzu spreads incredibly rapidly through a combination of runners, rhizomes, and vines that root at the nodes to form new plants. From any node, kudzu extends stems or tendrils to attach to and climb any surface.

Kudzu's primary reproduction method is asexual vegetative spread (cloning), which is aided by the ability to root wherever a stem is exposed to soil. With its pace of growth (1 foot per day) and massive root system, kudzu has an exponential growth that outcompetes native plants.

Kudzu pushes out everything from native grasses to fully mature trees by shading them from the sunlight that they need to photosyn-

thesize. The loss of native plants translates to a virtual desert of biodiversity, leading to declines in insects, birds, and species.

How to Get Rid of Kudzu in the Yard and Garden

- For new and small patches of kudzu, it's possible to cut back or mow. However, continuous mowing and cutting back (and grazing if you have cattle or goats) are required for the plant to weaken. This can be highly time-consuming. In addition, the vine must be destroyed, or it will simply root and regrow.
- For larger growths or for a less time-consuming option, the most effective control is an herbicide with triclopyr. Because this can be expensive, the vines should be cut near the ground and carefully treated with herbicide. The most effective solution is to apply in late summer when the plants are more susceptible to transferring the chemicals into storage organs.

[See solutions for getting rid of kudzu effectively.](#)

How to Beat Mesquite

Moving to the south-central United States, we have the mesquite tree (*Prosopis glandulosa* Torr.), one of the toughest invasive brush species that exists. It's been called "the devil with roots"—the thorny bane of cattle, horses, and cowhands. The range of mesquite covers nearly 2.5 million acres of land across the U.S. and Mexico, extending from northern Mexico all the way through Kansas. In Texas, an estimated 25% of the state's grasslands are infested.

Though mesquite was native to creek bottoms and watershed areas, it has invaded grasslands and pastures due to the introduction of domestic livestock that eat and spread the seeds, increased control of wildfires, droughts, and overgrazing. Deep-rooted with thorns, this small tree loves water; a single tree can



*Invasive kudzu smothers trees in Blount County, Tennessee.
Credit: Katie Ashdown via Flickr (CC BY 2.0)*



*Texas honey mesquite tree.
Credit: Eugenie Robitaille/Shutterstock.*

consume nearly 21 gallons of water per day. By sponging up all of the groundwater, mesquite lowers the water table, causing all nearby vegetation to die, make watering holes inaccessible to animals, and even affect watersheds, which impacts lake water levels and the very water necessary for life to survive.

About 20 to 30 feet tall and thorny, mesquite has one or more trunks with many branches and a crown of bipinnate leaves that cast a light dappled shade. It forms 2-inch spiky thorns as well as spikes of fragrant white flowers in the spring. By summer, long edible beanpods hang from the tree.

Why Is Mesquite So Hard to Control?

Today, rural pastures are completely polluted with mesquite. Mesquite has very deep tap roots that reach down 200 feet. These roots not only reach down deep but also spread 50 feet outside the tree canopy.

Livestock and wildlife eat the fruit or "pods" of mesquite trees, which causes the seed to be

spread all across rural pastures and grazed land. Young seedlings spring up everywhere. Each pod contains 10 to 30 seeds and can lie dormant in the soil for several years.

In addition, mesquite can adapt to almost any type of soil, adapts to sun or shade, has low water requirements, and can live in very high heat. In drought, mesquite still thrives, sucking every last drop of water from nearby native grasses. Once mesquite invades, it's almost impossible to get rid of it. Its thorns are dangerous to livestock as well.

How to Get Rid of Mesquite in the Yard and Garden*

Mesquite can be removed by mechanical control, although its deep roots necessitate bull-dozing to uproot the trees, which is often cost-prohibitive. Most landowners spray the stumps or leaves with a handheld or backpack sprayer, a technique that has a 90% rate of success.

Some folks do both by using mechanical control to get rid of the bush and tree and applying heavy mulch and herbicide to the tree stump. If you do not spray the tree, however, additional cutting will be needed to clean future regrowth.

The Cooperative Extension services at Texas A&M AgriLife and New Mexico State University offer two ways to spray directly on the plant:

1. Spraying stems: For small, young mesquite trees that have a few basal stems or trunks emerging from the ground and smooth bark, spray the plant's trunk from the ground line to 12 inches up the stem. This method is known as the "low volume basal stem

technique" and uses very little herbicide per plant. Research has shown excellent results from using much less herbicide, which makes this approach economical and environmentally-responsible. Apply the mixture to all sides of the trunk, wetting the plant almost to the point of runoff. (Only stems less than 4 inches in diameter should be sprayed.) A benefit of the low volume basal stem technique is that it can be used at any time of year, although best results occur during the spring-summer growing season when temperatures are high.

2. Spraying leaves: If your mesquites are bushy, less than 6 to 8 feet tall, and have many stems at ground level, try the leaf spray method. This method is also known as "high-volume foliar spraying." When spraying the leaves, wait until the soil temperature has reached 75 degrees F at 12 inches deep and after the mesquite leaves have changed color from a light pea green to a uniform dark green color. In some areas, this may be closer to June. On a dry day, spray all leaves until they glisten and are wet, but not to the point of dripping. Spraying may continue throughout the summer until seedpods have fully matured. ★

Learn more about [Brush Killer solutions](#) that get rid of hard-to-kill mesquite.

No matter which part of the U.S. you're in, you can find [pest solutions tailored to your part of the country here](#). **Not for use on mesquite in California*





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