

Turf Removal Methods Comparison Guide

Good site preparation is critical for successful plant establishment and minimizing ongoing weeds. Taking the time to do a thorough job will yield long-term benefits!!

There are several options for remove existing turf in residential settings in Colorado — choosing which one is right for you depends on a range of factors outlined in the chart below.

Comparison Chart

VARIABLE	SMOTHERING	SOLARIZING	SOD REMOVAL	GLYPHOSATE
Time	Medium	Slow	Fast	Fast
Cost	\$\$	\$\$	\$\$\$	\$
Weeds	Won't kill deep-rooted weeds	Won't kill deep-rooted weeds	Won't remove deep-rooted weeds	Effective against some deep-rooted weeds
Tree roots	Safe for tree roots	Safe for tree roots	Not safe in root zone	Safe for tree roots
Sunlight	N/a	Need direct sunlight	N/a	N/a
Organic	Yes	Yes-except plastic	Yes	No
Labor	Medium	Medium	High	Low
Steep grade	No- Mulch won't stay in place	Yes	Yes	Yes

1. Smothering (Sheet Mulching)

How it works

Cover existing turf with large pieces of **cardboard** that overlap by 6-8" or with heavy [contractor paper](#) topped with **4 inches of wood mulch**. Ideally, leave in place for two months or more, before planting to ensure turf has died (turfgrass can look dead when it is dormant). The cardboard or paper serves initially as a weed barrier and will break down with time. [Electric scissors](#) are helpful, especially for curved edges. Alternatively, skip the cardboard and apply **6-8 inches of mulch directly**.

Pros

- Organic and chemical-free
- Cardboard and mulch enrich soil as they decompose
- Minimal soil disturbance - Leaves top soil in place
- Materials are often free ([free wood chip mulch](#))
- Does not harm soil fauna or beneficial fungi

Cons

- Procuring large cardboard sheets and removing staples/tape is tedious
- Cardboard breaks down slowly in arid climates — and often has a water-resistant coating.

- Not effective against invasive or deep-rooted weeds
- Not ideal for many low-water native plants which prefer gravel mulch
- Can smother ground-nesting pollinators or trap emerging insects
- Mulch may blow away in high winds or on sloped sites.
- Thick mulch can compress into a particle board-like layer that blocks air and water circulation.

2. Solarizing

How it works

In **late spring or summer** (temperatures consistently $\geq 80^{\circ}\text{F}$), cut lawn as short as possible, water the area deeply, cover with 4-6 mil [clear plastic](#) (not black, it doesn't let as much heat pass through to the soil as clear), trench around outside of the plastic and bury the edges in soil to seal heat in, and pull plastic taut to avoid air pockets. To reach high temperatures, it is important that there are no unsealed edges. Leave in place for **6 – 12 weeks or, ideally, a whole growing season**. Tip: buy the widest plastic available to avoid the need to overlap plastic, if you do need to overlap, use heavy water-resistant tape along edge. Fence off area if needed to keep dogs and people from walking on plastic.

You may notice weeds sprouting up under the plastic — this is good! It's your soil's weed seed bank germinating. If so, remove the plastic about every 4 weeks and hoe or rake up the newly germinated weeds >re-peat above process from watering on.

Pros

- Does not disturb soil structure
- Kills turf and many weed seeds in top 2–4 inches
- Dead turf creates a natural weed barrier to plant into

Cons

- Uses a lot of plastic
- Effective only in full-sun sites during hot months
- Requires long prep time (6 weeks +)
- Will not eliminate deep-rooted weeds such as bindweed or thistle
- Labor-intensive to trench and secure edges
- May harm surface insects and microbes; may temporarily sterilize soil

3a. Sod Removal (Cutting & Hauling)

How it works

Remove top **4 inches** of turf using hand tools or a sod cutter.

Irrigate, wait for regrowth, and then weed or spot treat with herbicide before planting. Do not leave soil bare (i.e., un-mulched) for more than a few weeks to avoid weed seeds blowing in to a site that is perfectly primed for them.

Pros

- Immediate, visible results
- Can be done year-round (weather permitting)

Cons

- Disturbs soil and exposes dormant weed seeds previously suppressed by turfgrass.
- Removes topsoil; compost replacement may be needed
- Turf can regrow from root fragments
- Labor-intensive and requires sod disposal— which is expensive
- Risk of root damage around trees
- Higher carbon footprint (equipment + hauling)
- Deep-rooted weeds survive

3b. Sod Removal (Cutting & Flipping)

How it works

- Same as above, but instead of hauling away removed turf, **flip it grass-side down** on top of the soil. Ideally, let cut sod dry in sun for 2-3 weeks before flipping. Cover with plastic in rainy season to prevent regrowth

Pros

- No hauling or composting needed
- Preserves topsoil
- Flipped sod acts as a weed barrier

Cons

- Labor- and time-intensive
- Risk of regrowth in damp conditions
- Exposes weed seeds that are in cut layer of sod

4. Chemical Removal (Glyphosate)

How it works

Spray turf while it is **actively growing**. You may not see results right away — turf dies in about **two weeks**; a second application may suppress weeds that emerge after the turf—which previously suppressed them — has died.

Glyphosate moves into roots and kills plants systemically. Note: Always wear personal protective gear and follow label instructions when using chemical pesticides.

Pros

- Low labor and minimal soil disturbance
- No turf disposal required (reduced carbon footprint)
- Cost- and time-efficient
- Won't harm tree roots
- Dead turf roots decompose in place, improving soil structure
- Entry to areas treated with glyphosate is generally considered safe after 24 hours

Cons

- Not organic; potential toxicity to [pollinators](#) and humans (The World Health Organization classified Glyphosate as “probably carcinogenic.”)
- Drift or runoff risk (glyphosate is less volatile than many herbicides)
- May harm beneficial fungi and microbes
- Won't eliminate all deep-rooted weeds
- Can alter soil microbiota balance, sometimes increasing microbial activity after decay

Note: In 2024, Roundup was reformulated —without any labeling indicating new ingredients—to replace the active ingredient Glyphosate with a combination of 4 active ingredients that are more volatile, more persistent, linked to a variety of harms to human health, and more toxic to pollinators, earthworms and fish. These chemicals are considered [45 times more harmful to human health than Glyphosate](#).

Recommended Resource:

For detailed, research-backed comparisons of organic site-preparation methods, visit: [Xerces Society – Organic Site Preparation for Wildflower Establishment](#). Note that this guide is geared towards farmland rather than residential settings.