



COMPARISON OF TURF GRASS AND SOD REMOVAL METHODS

Removal Method	Advantages	Disadvantages
Physical removal with sod cutter, skid steer, or shovels and sod taken off site	<ul style="list-style-type: none"> • Can be done at any time of the year. • Immediate results. • Creates a clean template for landscaping. • Considered to be an organic approach 	<ul style="list-style-type: none"> • Causes soil disturbance, compaction, and encourages weed growth. • 2" of biologically active topsoil is removed, including bugs and other fauna. Topsoil should be replaced with new soil or compost (extra cost). • Grass and weeds can still re-sprout from small pieces of root material. • Requires significant amounts of time, physical labor, and equipment, which creates higher costs. • Fees associated with dumping or recycling the sod. • Cannot use this method around existing trees without damaging the tree roots. • Will not eliminate invasive weeds and can encourage some weeds to spread. • Machinery consumes gasoline and creates greenhouse gas emissions.
Physical removal with sod cutter, skid steer, or shovels, sod flipped in place, tilled, or used to make berms	<ul style="list-style-type: none"> • Can be done any time of the year. • Immediate results. • Biologically active topsoil is kept on site • Flipped sod acts as a natural weed barrier. • Dead grass slowly decomposes into the topsoil, providing nutrients for new plantings. • Considered to be an organic approach 	<ul style="list-style-type: none"> • Causes soil disturbance and encourages weed growth. • Flipped sod can make planting and landscaping more tedious and time consuming. • Grass and weeds on flipped, tilled, or bermed sod can resprout. To mitigate this, cut sod should be dried for weeks or months, under plastic if it's the rainy season. This requires a delay. • Requires significant amount of time and physical labor (higher cost to the client) • Cannot use this method around existing trees without damaging the tree roots. • Machinery consumes gasoline and creates greenhouse gas emissions. • Will not eliminate invasive weeds and can encourage some to spread. • May harm bugs and other fauna in the topsoil.
Chemical removal or Spray killing using glyphosate	<ul style="list-style-type: none"> • Can be done at any point during the growing season (grass must be actively growing). • Results within two weeks. • Does not disturb the soil, which helps control weeds. • Dead grass acts as a natural weed barrier. • Dead grass slowly decomposes into the topsoil, providing nutrients for new plantings. • Requires minimal amount of time and physical labor (cost savings to the client). • Effective in controlling some invasive weeds. • Glyphosate may take years to fully break down, but the soil and plants start to "digest" it quickly; it is considered safe for foot traffic and new plantings after the first 24 hours. 	<ul style="list-style-type: none"> • Scientific studies have shown damage to the soil fauna and microbiome, especially in the first 24 hours. • Potential carcinogen if allowed to flow into drinking water sources or if exposed to over a continual basis. • Must be applied properly to prevent damage to nearby plants. • Must be applied during a non-windy, non-rainy day. • Ethical and moral considerations around supporting chemical agricultural corporations. • Environmental footprint associated with producing the chemical. • May eliminate some invasive weeds but not all.



Removal Method	Advantages	Disadvantages
Sheet Mulching (covering the area with cardboard or newspaper, then a deep layer of wood chips or bark mulch)	<ul style="list-style-type: none"> • Can be done any time of the year. • Does not disturb the soil, which helps control weeds. • Organic material will break down over time and increase the organic content of the soil, which is ideal for fruit bearing trees and shrubs. • Can help support a more fungally dominated microbiome for trees and shrubs. • Provides a closer mimic to a woodland ecosystem. • Materials may be sourced for free. • Creates minimal pollution. • Is less harmful to soil microbiome than other approaches. • Considered to be an organic approach 	<ul style="list-style-type: none"> • Does not create suitable conditions for many xeric native perennials and some natives may not grow well in deep organic mulch. • Cardboard and mulch layers prevent access to the soil for ground-dwelling pollinators and may trap some existing bugs from coming out of dormancy • Deep organic mulch layers can be habitat for rodents and pests. • Deep organic mulch layers prevent rain water from penetrating deeply into the soil, resulting in shallow rooted, less drought tolerant plants. • Sheet mulching large areas can be time consuming or infeasible. • If care is not taken, plastic tape will be left in the soil, and chemicals from adhesives/paints/inks will leach from the cardboard into the soil, which may damage soil life. • Mulch must be a minimum of 4 inches thick to be effective at smothering a lawn, which may not look aesthetically appealing in some areas or may not be feasible. May require edging. • In windy areas, cardboard or newspaper is often left exposed. • Grass may not be fully killed off along the edges. • Will not eliminate invasive weeds and can encourage some to spread.
Solarizing (using clear plastic, which is the most effective)	<ul style="list-style-type: none"> • Does not disturb the soil. • Requires less physical effort and time than sod removal or sheet mulching, even if the area is large. • Topsoil is left on site (but will be biologically killed for a short time). • Dead grass acts as a natural weed barrier. • Kills soil pests, weeds seeds, and pathogens in the top 2-6 inches of the soil. • Speeds up the breakdown of organic matter in the soil, which releases nutrients beneficial to new plants. • If no plastic is left behind in the landscape, can be considered to be an organic approach 	<ul style="list-style-type: none"> • Can only be done during the hottest months of the year (generally June-September) and requires a minimum of six weeks to be effective at killing turf grass. • Soil life is temporarily sterilized, and should be allowed to regenerate before planting. • Cannot be used on shady yards. • Creates a large amount of plastic waste (consider offering your plastic to others to re-use). 4mil-6mil recommended to prevent deterioration of the plastic from UV rays. • Will not eliminate invasive weeds that spread via roots or rhizomes; e.g. bindweed, tree of heaven. • Plastic needs to be firmly trenched or pinned at its edges in order to be most effective, which takes time and labor. • Will harm bugs or other fauna in the soil that cannot migrate out of the heat zone. May harm mycorrhizae in the soil (no known studies).
"Do Nothing" i.e. Natural succession (stop watering the lawn and plant or seed directly into the lawn)	<ul style="list-style-type: none"> • Does not disturb the soil. • Does not create pollution of any kind. • Does not require any up-front labor. • Topsoil is left onsite. • Grass roots act as a natural weed barrier. • Will not harm bugs, other soil fauna, or mycorrhizae in the soil. • Very cheap to implement 	<ul style="list-style-type: none"> • Should only be done in late fall and early spring when grass will not compete with new plants. • Difficult to establish new plants from seed or small seedlings due to competition with turf grass. Large plants will perform better. • As the turf grass becomes less watered, it will appear patchy, drought-stressed, messy, and/or weedy. • Turf grass will likely never completely die off. • Periodic mowing may still be required to maintain an aesthetic look. • Will not eliminate invasive weeds.



This document was created in collaboration with Eryn Murphy of Restorative Landscape Design, <https://restorativelandscapedesign.com>

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