WaterSmart

Converting Thirsty Lawns to Beautiful Beds: Turf Removal and Efficient Irrigation

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How to Remove Your Lawn

• Type of Lawn Removal Methods
• Steps for Various Methods
• Pros, Cons, Time, Cost Comparison
• Converting Sprinklers to Low-volume Drip
What type of lawn (turf, grass) do you have?

• Cool season
  • Green in winter
  • Dwarf & tall Fescues, Ryegrass, Kentucky Bluegrass
• Warm season
  • Brown in winter
  • Bermudagrass, St. Augustine
• Combination - Grass with weeds
Removal Methods – Manually (Shovel)

• Most cost-effective
• Great for small areas
• Labor-intensive
• Environmentally friendly
Steps to Removing Lawn Manually

- Water turf one to two days before
- Remove turf with shovel or mattock, depth depends on conditions
- Break down into pieces
  - Add cool-season grass to compost pile or turn over and leave in place
  - Warm-season grass and weeds dispose
Removal Methods – Sod Cutting

• Good for large areas and cool-season grass
  • Warm-season grass can regrow from deeper roots
• More uniform cutting depth
• Faster than removing manually
• Challenging to maneuver equipment & air pollution
• Allows you to create contoured shapes
Steps to Sod Cutting

• Water turf one or two days before cutting
• Soil moist to 4 inches deep
• Mark sprinkler heads
• Roll cut strips for removal or flip over if cool season grass
Removal Methods – Herbicides

• Consider other options first
• Herbicides are pesticides used to kill plants
• Use when grass is actively growing
• Easy and effective
• Expensive, can require 3 applications
• NOT environmentally sound
  • Kills soil biology
  • Waterways polluted from runoff
Steps to Chemical Removal

• Water turf well for about 2 weeks prior to application for longer grass blades
• Wear PPE (Personal Protective Equipment) = Cover skin, goggles, gloves, etc.
• Do not apply when windy and within 24 hours of predicted rain
• Read all directions before use
Steps to Chemical Removal

• Apply chemical
• Leave area undisturbed for 1 week
• After 2 weeks, mow, water, and wait 2 weeks
• If new growth appears, reapply chemical to actively growing grass and/or weeds
• Use the correct product for your specific vegetation
• Remember: Consider other methods before using chemicals!
Removal Methods – Solarization
Removal Methods - Solarization

• Plastic traps heat to sterilize turf
• Kills beneficial soil biology in top 3 – 4 inches
• Relatively quick (1 – 2 months) in hot areas
• Less effective on deep rooting grass and weeds, e.g., Bermudagrass, Nut sedge
• Does not require heavy equipment or chemicals
Steps to Solarization

• Remove any materials that can puncture plastic
• Mow turf short, leave grass on turf, & water to speed heating process once covered
• Mark sprinkler heads
• Dig out edges of grass approx. 6 inches deep & wide to make a trench
• Apply clear plastic (not black) 1.5 – 2 mil thick over turf and into the trench at the edges
Steps to Solarization (continued)

• Add soil, sand, or rocks on plastic in trench
• If using more than one piece of plastic, overlap edges 6 inches at seams
• Monitor
  • Avoid activity on plastic
  • Repair holes & tears
  • Keep edges secure
Lower Soil Grade Away from Hardscape

Reduces movement of mulch and materials onto sidewalk
Removal Methods – Sheet Mulching

• Minimizes weeds
• Improves soil
• Increases plant health
• No emissions from equipment
• No hauling
• Can do any time of year
• A process of layering
Steps to Sheet Mulching

• Mow turf short
• Leave cut turf in place
• Water turf so moist, not soggy
• Next to sidewalks, driveway: Dig out a 12” wide strip, removing soil several inches down to avoid overflow of material
Irrigation System Considerations When Sheet Mulching

Drip Irrigation: On top or underneath?

• Installing irrigation on top of the sheet mulch
  • Exposed lines, aesthetically unappealing
• Installing irrigation beneath the sheet mulch
  • Future planting, you have to work around lines
Steps to Sheet Mulching

• Spread layer of compost over lawn
• Install layer(s) of cardboard, overlapping edges by 6”
• Important: Moisten each layer during installation
• Final layer – Organic mulch
• Keep layers moist throughout decomposition process
# Pros, Cons, Time, Cost Comparison

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<th>Type</th>
<th>Pro</th>
<th>Con</th>
<th>Time to Do*</th>
<th>Cost</th>
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<tbody>
<tr>
<td>Shovel</td>
<td>Inexpensive</td>
<td>Labor intensive</td>
<td>Days/Weeks</td>
<td>$</td>
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<tr>
<td>Sod Cutter</td>
<td>Fast</td>
<td>Rent equipment, hauling</td>
<td>Hours</td>
<td>$$</td>
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<tr>
<td>Sheet Mulching</td>
<td>Organic, Improves soil biology</td>
<td>Difficult on slopes</td>
<td>Weeks</td>
<td>$$$</td>
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<tr>
<td>Herbicides</td>
<td>Effective</td>
<td>Environmental impacts</td>
<td>Weeks</td>
<td>$$</td>
</tr>
<tr>
<td>Solarization</td>
<td>No Equipment or Chemicals</td>
<td>Time constraints</td>
<td>Months</td>
<td>$</td>
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</tbody>
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* Time to Do depends on conditions of project, and if a combination of methods is used.
No matter how you remove your grass:
Irrigation Infrastructure
Convert Traditional Sprinklers to Low-Volume Drip Irrigation

• Planning an efficient irrigation system
• System components / equipment
• Irrigation system considerations when sheet mulching
• WaterSmart irrigation techniques and tips
Planning an Efficient Irrigation System: Water pressure and flow rate
Low-Volume Drip Assembly

- Anti-Siphon Valve
- Filter
- Pressure Regulator
- Flexible Tubing
System Components / Equipment

Pressure Regulators

Filters
Spray-to-Drip Conversions

Spray-to-Drip Retrofit Kits

Convert Any Spray Zone to a Drip Zone!
The easiest and fastest way to convert a conventional spray zone to a low-volume irrigation zone.

1800-Retro
1800 Series Spray Body that contains a filter, pressure regulator, and 1/2” male threaded outlet

Installation
- Simply remove the top of any 1800 and remove the internal assembly (on the 1806 and 1812 leave the spring in the body)
- Remove the internal assembly of the retro kit and drop into the existing body
- Tighten the cap
- Use Easy Fit Fittings or a female adapter to connect to drip tubing or other 1/2” FPT devices

Features
- Can be installed above or below grade
- Provides 30 psi (2,1 bar) pressure regulation and 200-mesh (75 micron) screen
- Flow rate 0.50 to 4.00 GPM (1.9 to 15.1 l/m)
Spray–to–Drip Conversions

RBY Pressure-Regulating Filter

Unique, compact unit that combines filtration and pressure regulation in one compact piece for protection of downstream components.

Installation
- Simply connect the RBY Pressure-Regulating Filter into the water line.
- Use Easy Fit Fittings or a female adapter to connect to drip tubing.
- Install a valve or emitter box over the filter for easy access during cleaning.

Features
- Comes in 3/4" MPT (model PRF-075-RBY, not shown) or 1" versions (model PRF-100-RBY).
- 3/4" MPT (PRF-075-RBY) regulates pressure at 30 psi (2.1 bar) and flows 0.20 to 5.0 GPM (0.8 to 18.9 l/m).
- 1" MPT (PRF-100-RBY) regulates pressure at 40 psi (2.8 bar) and flows 3.0 to 15.0 GPM (11.4 to 56.8 l/m).
- Can be installed above or below grade.
- Robust body and cap are made of glass-filled polypropylene and provide 150 psi (10.3 bar) pressure rating.
- 200 mesh stainless steel filter (75 micron).
Two Types of drip

Emitters placed at the plants – Point Source for sparse plantings

Built-in emitters in a grid formation – Line Source for dense plantings
Point-source Drip
In-line Emitters in a Grid Formation
System components, equipment
System Components / Equipment

One Roll
Two Fittings
Less than an hour
of labor to irrigate up to 1800 sq. feet.

* Some flow rates and dripper spacings require more than one roll.
Do Not Recommend Using...

- Microsprays
- Soaker hoses
- Bubblers
Do Not Mix These on Same Zone

Sprinklers

Drip emitters
Lawn Irrigation

• Using existing system, extend sprinkler heights
• Switch to more efficient rotator sprinkler nozzles

20% more efficient!
WaterSmart Irrigation Tips

• Whatever system you use, know and understand it.
  • How much water does it apply?
  • How long does it take to apply it?
• Use weather-based controllers to adjust for seasonal changes.
• Ask questions
  • After years in the irrigation business, there’s always more to learn!
WaterSmart Irrigation Tips

• Begin with the end in mind.
• To select the best drip system for your situation and conditions, and learn how to select, group, and place plants.
• **Spray** the lawn, and **drip** the plants.
• Shop at irrigation supply stores.