



HOW TO PUT A HALT TO SALT CEDAR

Individual Plant Treatment Leaf and Stem Applications

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Saltcedar is one of the most invasive, hard-to-control woody plants in the world. Introduced from Eurasia into the western United States in the early 1800s, this plant rapidly spreads along rivers, lakes, and streams. Once established, it quickly chokes out desirable vegetation. Most important, saltcedar can draw water from underground aquifers—as much as 200 gallons per plant per day.

Here are two three-step methods to control saltcedar; both are easy, inexpensive, and environmentally responsible. They involve spraying a small but potent concentration of herbicide directly on each plant to selectively control unwanted saltcedar. Remember, controlling saltcedar is not a one-time job. Both livestock and wildlife spread seeds, so monitor your land regularly to control unwanted seedlings.

These Brush Busters control methods were developed and approved by professionals with Texas A&M AgriLife Extension Service and Texas A&M AgriLife Research, both agencies of the Texas A&M University System. Your results may vary with weather and other plant conditions, but you should usually be able to kill 76 to 100 percent of the trees you treat.

These Brush Busters control methods depend on the tree density and size. For low densities of smooth-barked saltcedar with few stems, the stem spray method may be a good option. For dense stands of saltcedar less than 6 feet tall, the leaf spray method may be more suitable. Either method can be successful.

BRUSH BUSTERS LEAF SPRAY METHOD

Works well: On saltcedar that have good leaf canopy and are less than 6 feet tall. This method is also known as high-volume foliar spraying.

When to apply: Begin in July and spray through September or until leaves begin to turn yellow.

1. Prepare the Equipment

You may use a pump-up garden sprayer, backpack sprayer, cattle sprayer, or sprayer mounted on a 4-wheel, all-terrain vehicle (ATV). Backpack sprayers and ATV sprayers will be more efficient if there are many plants to spray. Before you start spraying, make sure that you have an adjustable cone nozzle, such as the Conejet™ 5500-X6 or X8 nozzle that can deliver a coarse spray with larger droplets to the top of a 6-foot tree.

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2. Mix Herbicides

You can achieve 76 to 100 percent mortality by spraying saltcedar with a mixture of the herbicides imazapyr (trade names: Arsenal®, Habitat® [aquatic product] and glyphosate (trade names: Roundup PowerMAX®, Rodeo® [aquatic product], Roundup WeatherMAX®, many generic formulations available). If spraying over water, it is important to select herbicides with an aquatic label.

The amount of glyphosate herbicide needed in the mix depends on the strength of glyphosate active ingredient (acid equivalent) in the container. This acid equivalent is noted underneath the percent of active ingredients on the front of the herbicide container label. Use the glyphosate conversion chart below to determine the amount of herbicide to include.

To prepare the spray mix, add 0.5 percent of imazapyr and the correct amount of glyphosate (see Conversion Chart) to water (see table below). To make sure the foliage is coated thoroughly, add a high-quality (80 to 90 percent active ingredient) non-ionic surfactant to the spray mix. Add a dye, such as Hi-Light® blue dye, to mark plants that have been sprayed and ensure proper coverage.

RECOMMENDED LEAF SPRAY HERBICIDE MIX OPTIONS*

Ingredient	Concentration in Spray Solution	Tank Size			
		1 gal	3 gal	14 gal	25 gal
Imazapyr	0.5%	0.64 oz	2 oz	9 oz	16 oz
Glyphosate	See Table Below				
Surfactant (if needed)	0.25%	0.32 oz	1 oz	4.5 oz	8 oz
Hi-Light™ blue dye	0.25–0.5%	0.32–0.64 oz	1–2 oz	4.5–9 oz	8–16 oz

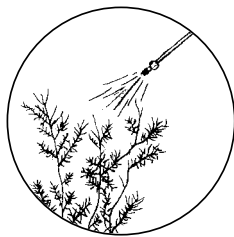
*All spray solutions are mixed in water.

GLYPHOSATE CONVERSION CHART

Glyphosate Acid Equivalent (lb/gal; not percent)	Concentration in Spray Solution	Tank Size			
		1 gal	3 gal	14 gal	25 gal
3 lb/gal	0.67%	0.85 oz	3 oz	12 oz	21.5 oz
4 lb/gal	0.5%	0.64 oz	2 oz	9 oz	16 oz
4.5 lb/gal	0.44%	0.57 oz	2 oz	8 oz	14.5 oz
4.8 lb/gal	0.42%	0.42 oz	2 oz	7.5 oz	13.5 oz

3. Spray the Saltcedar

Adjust the nozzle to deliver a course spray in a wide pattern. Wet ALL the leaves of each saltcedar plant until the leaves glisten but not to the point of dripping.



Keep These Points in Mind:

- ▶ Follow herbicide label directions.
- ▶ For best results, do not spray when:
 - Leaves have turned yellow
 - Rains have stimulated new growth at the end of the stems
 - Leaves are wet from rain or dew
 - Foliage shows damage from hail, insects, or disease
 - Working upwind of desirable trees, shrubs, or crops
- ▶ Check the imazapyr product label for restrictions on use related to endangered species and livestock grazing or haying.
- ▶ Where spray may contact aquatic environments, use glyphosate, imazapyr, and surfactants with appropriate aquatic labels
- ▶ The cost of treatment rises rapidly as the brush becomes bigger and denser. Download the Brush Busters Cost Calculator app to easily estimate treatment costs.
- ▶ Leave treated saltcedar undisturbed for two full years after treatment for best results.
- ▶ Controlling saltcedar is not a one-time job. You will need to monitor your land every year to check for new plants.

BRUSH BUSTERS STEM SPRAY METHOD

Works well: On low densities of saltcedar and larger, tree-type plants with few stems. Multi-stemmed saltcedar plants are much more difficult to control.

Research and demonstrations have shown excellent results while using minimum amounts of herbicide.

When to apply: Anytime during the year, although best results occur during the growing season.

1. Prepare the Equipment

Almost any type of pump-up hand sprayer can be used, but the most efficient way to apply the stem spray to many trees is with a backpack sprayer.

Make sure the sprayer's nozzle has a small orifice. One such nozzle is the Conejet™ 5500- X1 (or X2). Compared to standard nozzles, this nozzle can reduce the amount of spray applied by 80 percent, making the use of chemicals much more cost-effective.

2. Mix the Herbicide Spray

A mixture of triclopyr ester (trade names: Remedy® Ultra, Relegate®, Triclopyr 4E, Clear Pasture, Triclopyr 4EC, many generic 4 lb/gal a.e. formulations available) and diesel fuel oil is very effective for this method. Diesel acts as a coating agent to ensure good absorption. A basal bark (vegetable) oil may be used instead of diesel if desired.

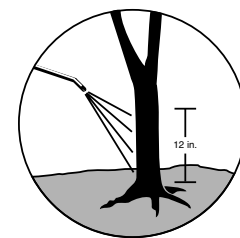
Recommended Herbicide Mix

Pour 25 percent triclopyr ester into the mixing container, then add diesel fuel to bring the mixture to the total volume desired. Agitate the mixture vigorously.

Glyphosate Acid Equivalent (lb/gal; not percent)	Concentration in Spray Solution	Amount/gallon mix
Triclopyr ester	25%	32 oz
Diesel	75%	96 oz
Hi-Light™ blue dye (optional)	0.25–0.5%	0.32–0.64 oz

3. Spray the Saltcedar

Adjust the sprayer nozzle to deliver a narrow, cone-shaped mist. Spray the mixture lightly but evenly on all the plant stems from the ground line up to 12 inches. Apply the mixture to all sides of every stem, but do not wet it so much that it runs off the stem and puddles.



Keep These Points in Mind:

- ▶ Follow the herbicide label directions.
- ▶ The cost of treatment escalates rapidly as brush becomes denser or the number of basal stems per plant increases. Download the Brush Busters Cost Calculator app to easily estimate treatment costs.
- ▶ Multi-stemmed or rough-barked plants are more difficult to control with this method.
- ▶ Do not spray when the basal stems are wet.
- ▶ After mixing herbicide with diesel, shake or agitate the solution vigorously.
- ▶ This method is more difficult to apply if there is dense grass around the basal stems.