

Works Best: If you have only a few or scattered rayless goldenrod plants to control or do not have a ground broadcast sprayer.

When to Apply: This treatment works best if used during the fall.

① Prepare the Equipment

To properly apply the herbicide using this method, all you need is a pump-up garden sprayer, backpack sprayer, cattle sprayer or a sprayer mounted on an ATV.

If there are many plants to spray, backpack and ATV sprayers are more efficient. Make sure your sprayer has an adjustable cone nozzle (X6 to X8 orifice size) that can deliver a coarse spray (large droplets).

② Prepare the Herbicide Mixture

You can expect 76 to 100 percent control of rayless goldenrod by spraying with a mixture of 1 percent Tordon 22K™ in water.

To prepare the spray mixture, fill the spray tank half full of water, then add the desired amount of Tordon 22K™ and surfactant. Continue to fill the tank to the desired level with water.

It is also advisable to add a color dye to the mixture to mark the plants that have been sprayed. The following table of recommended spray mixtures shows the amounts of ingredients needed for typical tank sizes.

Mixing table for foliar leaf spray applications.

| Ingredient | Concentration in Spray Solution | Amount of ingredient for varying spray tank sizes (gallons) | | |
|-------------|---------------------------------|---|-----------|-----------|
| | | 3 | 15 | 25 |
| Tordon 22K™ | 1% | 4 ounces | 19 ounces | 32 ounces |
| Surfactant | ¼% | 1 ounce | 5 ounces | 8 ounces |
| Dye | ¼% | 1 ounce | 5 ounces | 8 ounces |

All spray solutions are mixed in water.

③ Spray the Rayless Goldenrod

Spray individual rayless goldenrod plants after the plants have flowered in the fall. Wet all foliage of the plant thoroughly until the leaves glisten, but not to the point of dripping.

Do not mow or disturb the plants for 1 growing season after treatment. Do not spray with winds exceeding 10 mph, when temperatures exceed 90 degrees F or when the humidity is below 10 percent.



Keep these points in mind:

- Follow the herbicide label directions.
- The cost of treatment escalates rapidly as the number of rayless goldenrod per acre increases.
- Do not spray when the plants are wet.
- Avoid contacting desirable plants and shrubs with spray.
- Controlling rayless goldenrod is not a one-time job. You may need to re-treat periodically.



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How to Repel Rayless Goldenrod

*Safe and effective
three-step ways
to control rayless goldenrod*

Weed Treatment Series

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Ground Broadcast Spray Method

Rayless goldenrod, sometimes called jimmy-weed, is a noxious, toxic plant commonly found on dry rangelands, especially in river valleys, along drainage areas and irrigation canals, and on gypsiferous soil outcrops. It usually grows at elevations of 2,000 to 6,000 feet and is found from southern Colorado into western Texas, Mexico, New Mexico and Arizona.

Rayless goldenrod is a low-growing, half-shrub with erect stems arising from a woody crown to a height of 2 to 4 feet. The leaves are resinous, sticky, narrow, alternate, and may be smooth or slightly toothed along the margins. The stems bear flat-topped clusters of yellow flowers through late summer.

All species of livestock may be poisoned by rayless goldenrod. The poison trematone is cumulative in the animal and is present in both green and dry leaves, making the plant toxic yearlong.

A lethal dose generally consists of 1.0 to 1.5 percent of the animal's weight, consumed over a period of 2 to 3 weeks. The toxin can be passed through milk. Although most cases of poisoning occur in the late fall or early winter, poisoning can occur year-round.

Professionals with Texas Cooperative Extension and the Texas Agricultural Experiment Station have developed, tested and approved two three-step ways to control rayless goldenrod. They are easy to use, environmentally responsible and effective.

The ground broadcast method was developed to treat larger areas with heavier infestations; the individual plant foliar treatment is used for scattered or smaller infestations. If you treat plants individually, you will be able to selectively kill unwanted rayless goldenrod plants without damaging desirable vegetation.

Keep in mind that controlling rayless goldenrod is not a one-time job. Because livestock, wildlife, wind and water spread the seeds far and wide, you will need to go over your land periodically to get rid of unwanted seedlings.

Although your results may vary, you should be able to kill at least seven of every 10 plants treated.

Works Best: On large or heavily infested areas.

When to Apply: This method works best if used during the fall.

① Prepare the Equipment

The herbicide can be applied with a boom-type or boomless broadcast sprayer that can deliver a total spray volume of at least 10 to 20 gallons per acre. Many types of broadcast sprayers are available, including trailer mounted and those mounted on four-wheel all-terrain vehicles (ATVs).

Check your sprayers for consistency of application, and calibrate them properly for the application. For step-by-step instructions on calibrating ground broadcast sprayers, see Extension publication L-5465, *Weed Busters Sprayer Calibration Guide*.

② Prepare the Herbicide Mix

Two herbicides are available to effectively control rayless goldenrod with the ground broadcast method: Tordon 22K™ and Escort™ (also sold under trade names Cimarron™ or Ally™). For broadcast treatments, it is recommended that you add a 90 percent active non-ionic surfactant to the spray mixture.

To mix, fill the spray tank half full of water, then measure and add the appropriate amount of herbicide and surfactant. Continue filling the spray tank with water to the proper level with agitation.

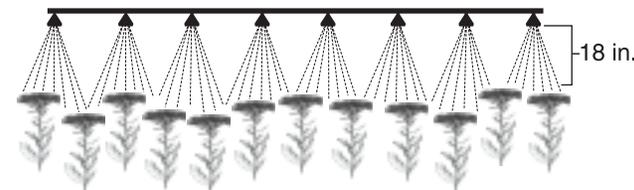
Herbicide rates for ground broadcast applications.

| Herbicide | Product/acre | Surfactant |
|------------------------------|--------------|------------|
| Tordon 22K™ | 1 quart | ¼% |
| Escort™ (Ally™ or Cimarron™) | 0.75 ounces | ¼% |

③ Spray the Rayless Goldenrod

The treatments described above are most effective if applied during the fall—typically during September and October for most of Texas. We recommend that the sprayer be equipped with flat fan spray nozzles, with the boom elevated at least 18 inches higher than the rayless goldenrod being treated.

When making multiple passes to cover an area, you may be able to cover it more uniformly if you use wire flags or wooden stakes placed a boom-width apart on each end of the spray area. To keep swath runs from becoming too long when making a ground broadcast application, it may help to block off large areas into several smaller ones.



Keep these points in mind:

- Follow the herbicide label directions.
- The cost of treatment with this method remains constant regardless of the number of rayless goldenrod per acre.
- Spray with a minimum total spray volume of 10 gallons per acre.
- Do not spray when rayless goldenrod plants are wet.
- Spray only during the fall.
- Take care not to let the herbicide “drift” onto sensitive or nontarget areas.
- Do not spray when wind speeds are greater than 10 mph.
- Controlling rayless goldenrod is not a one-time job. You may need to re-treat from time to time.