



EPA Reg. No. 524-534

## Lawn Care Operator Use of Certainty® Turf Herbicide Using Handheld, Backpack Equipment in Warm-Season Turf

This product can be used for selective control of annual and perennial sedges, kyllinga species, grass weeds, and broadleaf weeds in warm-season turf.

All applications should be made at 2 gallons of spray solution per 1000 square feet. DO NOT spray to the point of runoff. Spray coverage, to the foliage of vegetation to be controlled, should be uniform and complete.

Using the Large Scoop (0.8-gram scoop) provided in the packaged product, refer to the following table for the appropriate Number of Scoops and Volume of Water required to achieve the Desired Rate of application per acre.

Desired Rate (ounces of product/acre)	# of scoops Large Scoop (0.8-gram/scoop)	Volume of water (gallons)	Spray volume (gallons/1000 ft <sup>2</sup> )
1.00	1	2.5	2
1.25	1	2.0	2
2.0	2	2.5	2

Add 2 teaspoons (1/3 fluid ounce) of non-ionic surfactant per gallon of water.

Ensure the product is measured as a level scoop, not rounded.

For increased broadleaf spectrum and activity, CERTAINTY can be tank mixed with broadleaf herbicides such as three or four-way phenoxy type herbicide premixes with excellent results.<sup>1</sup> Please refer to the label of the other product to be used before tank mixing.

For tank mixtures, add individual components to the spray tank in the following sequence: water, water dispersible granules (CERTAINTY), water-soluble bags, dry flowables, emulsifiable concentrates, drift control additive, water-soluble liquids, non-ionic surfactants.

When utilizing hand-held, backpack or other similar-type sprayers, one should consider replacing the factory nozzle with a flat-fan nozzle with an even (E) spray distribution. Maintain the nozzle at a uniform recommended height (usually 16-18" above target weed) and avoid back-and-forth or side-to-side motion with the wand. Hold the wand stationary and move at a constant pace over the area to be treated. This type of practice will minimize skips and ensure good spray coverage of the targeted area.

When utilizing "flood" nozzles, typically found on large commercial spray rigs, uniform spray distribution is more difficult. However, spraying half of the desired spray volume (1gal/1000 ft<sup>2</sup>) in one direction and then spraying the other half (1gal/1000 ft<sup>2</sup>) perpendicular to the original direction could significantly improve coverage and spray distribution while avoiding less than desirable results due to excessive spray runoff.

<sup>1</sup>Based on Monsanto research results, conducted in 2005.

## How to Control Sedges in Warm-Season Turfgrass Broadcast Application

- Use 1.25 ounces per acre of Certainty<sup>®</sup> with 0.25% v/v of a nonionic surfactant in 20 to 40 gallons per acre as a broadcast application.
- Use flat fan nozzles or equivalent made for applying post emergence herbicides. Avoid using flooding or hollow-cone nozzles meant for fungicide application.
- For best results, a second application of 1.25 ounces per acre of Certainty with 0.25% v/v of a nonionic surfactant may be made as needed, 6 to 10 weeks after the initial application.

## Other Considerations for Using Certainty for Weed Control

### Sites of Application

- Certainty may be applied to common and hybrid bermudagrass, zoysiagrass, centipedegrass, St. Augustinegrass, buffalograss, bahiagrass, seashore paspalum, and kikuyugrass turf.
- This product is labeled for use in commercial and residential turf and on other non-crop sites, including airports, cemeteries, fallow areas, landscaped areas, public recreation areas, residential property, roadsides, schools grounds, sod or turf seed farms, sports fields, and landscaped areas with established woody ornamentals.
- Avoid application of Certainty when turf or weeds are under stress since turf injury and poor weed control may result.
- This product may be applied at recommended rates as a post-directed spray around any established warm-season ornamental grass or established woody ornamental species growing in a landscaped area. Avoid areas where annuals plants are established and avoid contact of this product with leaves of desirable plants.

### Sedge Stage of Growth and Levels of Infestations

Certainty when applied under the conditions as recommended by the label (see Certainty label for all use directions and precautions) will control:

- Purple nutsedge
- Yellow nutsedge
- Green Kyllinga
- False-green Kyllinga
- Fragrant Kyllinga
- Globe sedge
- Annual sedges

Other grass and broadleaf weeds (see Certainty label for full listing)

- Begin applications of Certainty when sedge populations have become objectionable. Time application to occur between regular mowings. For best results, do not mow turf for two days prior or two days after application. This will allow the sedge to develop some leaf surface to intercept herbicide spray.
- Sedges are best controlled when treated in the 3 to 8 leaf stage of development. Large or well established sedge populations will require a second treatment for best results.
- For best control of tuber producing sedges (yellow and purple nutsedge), make initial application before the summer solstice (on or before June 21). Tubers are less mature at this time and more easily controlled.