

# **TURF - COOL SEASON TURFGRASS - CREEPING BENTGRASS- FAIRWAYS AND ROUGHS**

## General Information

### PRODUCT INFORMATION

XONERATE Herbicide is a selective, postemergence herbicide that may be used for the control of certain weeds in established turfgrasses. It also has preemergence activity on certain weed species at rates of 5.0 to 10.0 oz XONERATE Herbicide/A.

XONERATE Herbicide is formulated as a 70% water dispersible granule (WDG) Herbicide.

XONERATE Herbicide's mode of action is inhibition of photosynthesis at photosystem II.

Apply XONERATE Herbicide either alone, in tank mix combinations with, or sequentially prior to or after additional herbicides. When tank mixing, always observe all precautionary statements and limitations on labeling of all products.

In turf applications, water is the recommended liquid carrier for XONERATE Herbicide.

### RESISTANCE MANAGEMENT

For resistance management, XONERATE Herbicide is an Herbicide Resistance Action Committee (HRAC) Group C1 Herbicide, a photosynthesis II inhibitor (Weed Science Society of America (WSSA) Group 5). Any weed population may contain or develop plants naturally resistant to a herbicidal mode of action. Resistant biotypes can eventually dominate the weed population if herbicides with an identical mode of action are used repeatedly on the same site. If this happens, control of resistant biotypes will not occur unless a herbicide with a different mode of action is utilized. Whenever possible, tank mix or rotate the use of XONERATE Herbicide with herbicides that have a different mode of action.

XONERATE Herbicide will not control triazine-resistant (atrazine, simazine, metribuzin) and diuron-resistant weeds.

Other resistance mechanisms that are not linked to site of action, but specific for individual chemicals, such as enhanced metabolism, may also exist. The use of XONERATE Herbicide should conform to resistance management strategies established for the use area. Consult with your chemical dealer, consultant, extension turfgrass specialist or agricultural advisor for resistance management strategies for your area.

Read the entire DIRECTIONS FOR USE before using XONERATE Herbicide.

#### USE RESTRICTIONS

- Do not apply this product using aerial application equipment.
- Do not apply this product if the soil pH is greater than 7.4.
- Do not mix, load or clean spray equipment within 50 feet of any wells or aquatic systems, including marshes, ponds, ditches, streams, lakes, etc.
- Do not apply within 50 feet of well-heads or the above mentioned aquatic systems.
- Do not apply more than 10.25 oz/A (ounces per acre) of XONERATE Herbicide per season.
- Do not apply more than 10.25 oz/A of XONERATE Herbicide per single application.
- Do not allow this chemical to drift onto other crops.
- Do not apply this product through any type of irrigation system.
- Do not use flood irrigation for activation or incorporation of this product.

#### USE PRECAUTIONS FOR TURF

- Do not apply XONERATE Herbicide where annual bluegrass is maintained as a desirable turf.
- Use on turfgrass species other than those listed in the Cool-Season Turfgrasses and Warm-season Turfgrasses tables may result in unacceptable injury.

- Do not apply XONERATE Herbicide to newly established (within six months) turfgrasses, unless otherwise directed on this label.
- Do not replant any crop to treated areas other than turfgrasses for a period of 12 months after the last application.
- Do not apply when turfgrasses are under stress.
- Allow at least 1 week between last application and overseeding with winter grasses.
- Apply to actively-growing weed populations.
- Does not control perennial broadleaf weeds in turf.

#### SPRAY DRIFT MANAGEMENT

Spray equipment and weather affect spray drift. Consider all factors when making application decisions. Where states or tribes have more stringent regulations, they must be observed. Avoiding spray drift is the responsibility of the applicator or grower. To reduce the potential for drift, the application equipment must be set to apply medium to coarse droplets (i.e., ASAE Standard 572) with corresponding spray pressure. Use high flow rate nozzles to apply the highest practical spray volume. With most nozzle types, narrow spray angles produce larger droplets. Follow the nozzle manufacturer's directions on pressure, orientation, spray volume, etc., in order to minimize drift and optimize coverage and control.

#### Equipment

Ground equipment must be properly maintained and calibrated using appropriate carriers or surrogates.

#### Sprayer Cleanup

To avoid injury or exposure to non-target crops, thoroughly clean all mixing and spray equipment, including pumps, nozzles, lines and screens with a good quality tank cleaner, on an approved rinse pad or on a field site where an approved crop is grown.

#### SPRAY APPLICATION

## Broadcast Treatment

Accurately calibrate the sprayer prior to mixing the herbicide treatments. Apply XONERATE Herbicide and the labeled tank mix partners in a minimum of 20 gal of total spray volume/A using broadcast boom equipment. Power sprayers equipped with a spray wand/gun may also be used for broadcast or spot application.

Application must be made at a sufficient spray pressure and volume to provide accurate and uniform application of spray particles to a given area without causing spray drift to non-target areas. If mixed with other labeled herbicides, the spray volume may be no less than the minimum volume recommended by any tank mix product used or 20 gal, whichever is greater. Use appropriately sized mesh screens and in-line strainers. Agitate thoroughly before and during application with either bypass or mechanical agitation. Rinse the sprayer thoroughly with clean water immediately after each use.

Improper spray pattern overlaps produce areas of over-application and may increase the potential for turf damage.

## Spot Treatment

Backpack and compression sprayers may be used for small turfgrass areas and spot treatments. Wands fitted with a flat fan nozzle tip should be held stationary at the proper height during application. A side-to-side or swinging arm motion may result in uneven spray coverage.

## APPLICATION METHODS AND TIMINGS

Apply XONERATE Herbicide postemergence to actively-growing broadleaf and grass weeds.

Do not apply when environmental conditions favoring drift.

XONERATE Herbicide may be tank mixed with herbicides registered for use on turfgrass sites. See tank mix instructions listed under specific turfgrass species for more information.

## WEEDS CONTROLLED or SUPPRESSED

Depending on the use rate, XONERATE Herbicide will control or suppress the following broadleaf and grass weeds in turf.

## Limitations, Restrictions, and Exceptions

### TURF

#### Recommended Turfgrass Sites

XONERATE Herbicide may be applied to tolerant turf species on golf courses, seed and sod production fields, residential sites (including home lawns), schools, playgrounds, parks, recreational areas, sports fields, common areas and grass roadsides maintained as a lawn. Do not apply XONERATE Herbicide where annual bluegrass is maintained as a desirable turf.

#### Turfgrass Tolerance

Apply to turfgrasses established for six months unless otherwise directed on this label. With the exception of Kentucky Bluegrass, cool season turfgrasses established in the fall months can be treated the following spring. Kentucky Bluegrass should be established for twelve months before application of XONERATE Herbicide. The use of XONERATE Herbicide on turf that is not well-established, or that has been weakened by weather, pests, diseases, chemicals, mechanical injury or other related stress factors may result in adverse turf injury.

This product should only be applied to sites that are composed of the following turfgrass species unless trial use has indicated that the turf species not listed here is tolerant to XONERATE Herbicide.

When applied as directed under the conditions described, established turfgrasses are tolerant to this product. Temporary yellowing of the turf may occur after application. This effect is temporary and the turf will recover in 14 to 21 days.

**APPLICATIONS TO COOL-SEASON TURFGRASSES WHEN THE DAILY HIGH AIR TEMPERATURE EXCEEDS 85°F MAY RESULT IN UNACCEPTABLE INJURY.**

**DO NOT APPLY XONERATE HERBICIDE TO CREEPING BENTGRASS WHEN THE DAILY HIGH AIR TEMPERATURE IS EXPECTED TO EXCEED 80°F. APPLICATIONS TO WARM-SEASON TURFGRASSES WHEN THE DAILY HIGH AIR TEMPERATURE EXCEEDS 90°F MAY RESULT IN UNACCEPTABLE INJURY ESPECIALLY TO ST. AUGUSTINEGRASS.**

## RESTRICTIONS:

- Apply XONERATE Herbicide only with ground equipment.
- Do not apply this product using aerial application equipment.
- Do not apply this product through any type of irrigation system.

XONERATE Herbicide may be applied postemergence to tolerant turfgrasses at rates of 1.0 to 10.0 oz/A. See additional information for specific turfgrass species in section titled Timing and Rates of Application.

### Cool-Season Turfgrasses

Annual bluegrass weed control in established creeping bentgrass, Kentucky bluegrass, fine fescues, tall fescue and perennial ryegrass.

### Creeping Bentgrass—Fairways and Roughs

Creeping bentgrass ('A1', 'A4', 'G6', 'L93', 'Pennway', 'Penncross' and 'Seaside') has demonstrated acceptable tolerance to XONERATE Herbicide. Other creeping bentgrass cultivars may be tolerant; however, the end user is advised to do a tolerance test on a small area before spraying all the intended turfgrass areas.

For annual bluegrass control, apply XONERATE Herbicide in the spring months, two to four weeks after the resumption of active bentgrass growth, at 1.0 oz. XONERATE Herbicide/A. Repeat the application at 7 day intervals for a maximum of up to 4 applications. Repeat applications should be made in an alternate direction to the previous application. Improper spray pattern overlaps produce areas of over-application and may increase the potential for turf damage. Additionally, all potential tank mixtures with fungicides, insecticides, and other herbicides should be tested on a small scale basis before widespread use.

- Apply XONERATE Herbicide at air temperatures ranging from 55 to 80°F.
- Do not apply XONERATE Herbicide to creeping bentgrass fairways when the daytime air temperature is expected to exceed 80°F, or immediately before or after periods of higher air temperatures.
- Do not apply XONERATE Herbicide to creeping bentgrass in the summer or early

fall months.

- Do not apply XONERATE Herbicide to creeping bentgrass exhibiting stress from adverse weather, pests, diseases, chemicals, mechanical injury or other related stress factors.
- XONERATE Herbicide is effective in controlling *Poa annua* and is recommended only for creeping bentgrass with a 10% or less population/density of *Poa annua*. Applications to creeping bentgrass with high populations (>10%) of *Poa annua* can result in a decrease of overall turf quality due to the rapid elimination of *Poa annua*.
- Results from controlling *Poa annua* infestations may be mistaken as temporary injury to creeping bentgrass or by thinning of the turf. Creeping bentgrass will gradually fill in the resultant bare areas. Treated areas may be reseeded at 7 or more days after the last application of XONERATE Herbicide.
- Do not apply XONERATE Herbicide to creeping bentgrass that has received an application of products that contain mefluidide within the previous 3 months

Alternatively, apply XONERATE Herbicide in the spring months, two to four weeks after the resumption of active bentgrass growth, at 2.0 oz. XONERATE Herbicide/A for annual bluegrass control. Repeat the application at 21 day intervals for a maximum of 2 applications.

XONERATE Herbicide may be tank mixed with labeled herbicides such as 2,4-D, MCPP, dicamba or two and three-way herbicides that contain mixtures of 2,4-D, MCPP, clopyralid, dicamba, fluroxypyr, or triclopyr to enhance control of emerged broadleaf weeds.

XONERATE Herbicide may also be tank mixed with preemergence herbicides for residual control of crabgrass species and other summer annual weeds.

Method

[Broadcast/Foliar Ground](#)

[Spot treatment](#)

Rates

[field rates 0](#)

[field rates 1](#)

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## Restricted Entry Interval

12 hours

Exception: If the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

Timings

[Postemergence \(Weed\)](#)