

# **WINDBREAKS AND SHELTERBELTS - BROADLEAF GRASSES**

## General Information

### PRODUCT INFORMATION

GoalTender herbicide is a selective herbicide for postemergence and preemergence residual weed control in labeled crops. Directions provided in the General Use Information section of the label apply to all uses of this product. Use directions for listed crops are provided in the Crop-Specific Use Directions section of the label.

### Use Restrictions

The following use restrictions apply to all labeled uses of GoalTender (Refer to directions for use for individual crops for additional crop-specific use restrictions.):

- Do not graze or harvest plants from areas treated with GoalTender for feed or forage.
- Apply GoalTender only with ground equipment unless otherwise specified in crop-specific use directions.
- GoalTender is phytotoxic to plant foliage. Avoid accidental spray contact or drift with established crops. Do not apply when weather conditions favor drift to non-target areas.
- Some labeled crops are tolerant to over-the-top applications of GoalTender if applied during dormancy. Do not make over-the-top applications unless specifically allowed in crop-specific use directions.
- Do not treat ditch banks or waterways with GoalTender or contaminate water used for irrigation or domestic purposes.
- Do not apply GoalTender in enclosed greenhouses as foliage injury will result.

### Spray Drift Buffer Restrictions

- A 25 foot vegetative buffer strip must be maintained between all areas treated with this product and lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries and commercial fish farm ponds.
- Do not allow spray to drift from the application site and contact people, structures people may occupy at any time and the associated property, parks and recreation areas, non-target crops, aquatic and wetland areas, woodlands, pastures, rangelands, or animals.
- For ground boom applications, apply with nozzle height no more than 4 feet above

the ground or crop canopy when wind speed is 10 mph or less at the application site as measured by an anemometer.

- Use coarse spray according to ASAE 572 definition for standard nozzles or VMD of 475 microns for spinning atomizer nozzles.
- The applicator also must use all other measures necessary to control drift.

## Application Methods and Cultural Practices

### Preemergence Weed Control

Apply the specified rate in a broadcast spray volume of water per acre using calibrated spray equipment capable of uniform application to the soil surface. Seedling weeds are controlled as they come in contact with the soil-applied herbicide during emergence. Preemergence weed control is most effective when GoalTender is applied to soil surfaces that are clean (free of crop or weed residues or clippings) and weed-free. Prior to application, weed or crop residues should be removed by thorough incorporation into the soil using tillage equipment or by blowing the area to be treated. At least 0.25 inch of irrigation or rainfall is required to activate GoalTender and should occur within 3 or 4 weeks after application. For optimum results, GoalTender should be applied to prepared beds or soil surfaces that will be left undisturbed during the time period for which weed control is desired. Cultural practices that disturb or redistribute surface soil following treatment with GoalTender such as cutting water furrows will reduce weed control effectiveness.

**Application Rates and Rate Ranges:** Where rate ranges are given, use the lower rate in the rate range on coarse texture soils with less than 1% organic matter and lighter weed infestations. Use higher rates in the rate range on medium to fine texture soils, soils containing greater than 1% organic matter, heavy weed infestations, or for extended residual preemergence weed control.

### Postemergence Weed Control

Apply the specified rate in a broadcast spray volume of 20 or more gallons of water per acre (a minimum 10 gallons if applying GoalTender in tank mix with glyphosate). Because GoalTender is a contact herbicide, complete and uniform coverage of weed foliage is essential for optimum postemergence control. Increase the spray volume to ensure complete and uniform coverage as weed height and density increases or in the presence of heavy trash (weed or crop residue).

Postemergence applications of GoalTender are most effective when made to weeds at the seedling stage. Applications made later than the 4-inch or 4 leaf stage may result in partial control or suppression. Postemergence applications should be made to seedling grasses not exceeding the 2-leaf stage. The addition of 0.25% v/v (2 pints per 100 gallons of spray) of an 80% active nonionic surfactant, labeled for application to growing crops, will enhance herbicidal effectiveness in controlling emerged weeds.

Postemergence Application Rates: Where a rate range is given, use a higher rate in the rate range for heavy weed infestations, weeds in advanced stages of growth or for extended residual preemergence weed control following control of existing emerged weeds.

### Ground Application

Ground Broadcast: Apply GoalTender using conventional low-pressure ground spray equipment with flat fan spray nozzles. Follow manufacturer's recommendation for spraying pressure and boom height. An off-center (OC) nozzle positioned at the end of the boom may be desired. Check calibration of spray equipment before each use.

Directed Sprays: Apply GoalTender as a coarse low-pressure spray in a spray volume of 20 or more gallons of spray per acre (broadcast basis). Follow manufacturer's recommendations for nozzle spacing and operating pressure. Spray should be directed toward the soil at the base of the crop. In row crops, use a minimum of 2 flat fan nozzles per row (one on each side) and for optimum spray coverage use 4 flat fan nozzles per row (two on each side). The 2 forward nozzles should point forward and downward while the rear nozzles should point to the rear and downward.

With either sprayer system, nozzles should be adjusted to cover the weed foliage but minimize contact with the crop. Do not apply with hollow cone nozzles.

**IMPORTANT:** GoalTender is a contact herbicide. Contact of sprays or drift with foliage or green stems can cause severe crop injury. Use directed sprays and spray shields and/or leaf lifters as necessary to minimize contact of spray or drift with crop foliage or stems. Young green stems of woody plants are also susceptible to injury from spray contact. Potential for injury to woody stems diminishes with loss of green color and the development of relatively impervious non-living corky tissue (bark) on the surface of the stem.

**Band Application:** Application rates listed in the label are for broadcast application. For band application, the rate per broadcast acre should be reduced according to the following formula given in the label.

### Spot Application

For spot application, apply sprays uniformly to soil for preemergence weed control or on a spray-to-wet basis for postemergence weed control. Mix the required amount of GoalTender with the recommended specified amount of water. For preemergence weed control, use one-half to one gallon of spray per 1000 sq ft. For postemergence weed control use a minimum of 1 gallon of spray per 1000 sq ft and add an 80% nonionic surfactant at the rate of 0.5 fl oz (1 Tbs) per gallon of spray. If making spot applications within an established crop, use coarse low-pressure sprays and direct the spray to the soil beneath the plants. To avoid crop injury, do not allow spray to contact leaves and stems of herbaceous plants or leaves or green stems of woody plants.

### Aerial Application

Use aerial boom equipment designed for use with herbicides and a minimum spray volume of 10 gallons per acre (5 gallons per acre if tank mixed with glyphosate). Do not aerially apply GoalTender unless crop-specific use directions specifically allow and provide directions for aerial application.

**AVOID DRIFT:** Exercise extreme care to avoid herbicide contact with any desirable dormant or non-dormant crop, plant, tree or vegetation as severe injury may result. Extreme care must be exercised to prevent spray drift that could result in damage to other crops or desirable vegetation. Adhere to the following guidelines when aerial applications are to be made.

Spray Drift Management (Aerial Application): Avoiding spray drift at the application site is the responsibility of the applicator. The potential for spray drift is controlled by the interaction of many equipment-and-weather-related factors. The applicator and the grower are responsible for considering all these factors when making decisions. The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

1. The distance of the outer most nozzles on the boom must not exceed  $\frac{3}{4}$  the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

Where states have more stringent regulations, they should be observed.

The applicator must adhere to the following requirements when GoalTender is aerially applied:

1. Do not apply when the wind direction is not stable, when inversion conditions exist, or when wind velocity exceeds 10 mph.
2. When wind speeds are 5 mph or less, maintain a minimum downwind buffer zone of at least  $\frac{1}{2}$  mile from all crops and desirable vegetation, except the following:  
Maintain a minimum downwind buffer zone of:
  - 150 feet from dormant treefruit/nut/vine crops and overwintering sugar beets.
  - 650 feet from garlic, jojoba, legumes, onions, pastures, small grains, seedling sugar beets, and non-targeted vegetable fallow beds.
3. When wind speeds are between 5 and 10 mph, downwind buffer zones in excess of those listed above are suggested.
4. For upwind and side borders, maintain a minimum buffer zone of 150 feet from any non-targeted vegetable fallow bed, crop, or desirable vegetation.

The use of a drift control agent may be required by local regulations. However, the drift control agent may decrease the weed control effectiveness.

Important: Aerial applicators must be familiar with the label for GoalTender and follow all applicable use precautions. Applying GoalTender in a manner other than specified in the label is done at the user's risk. Users are responsible for all loss or

damage resulting from aerial spraying. In addition, aerial applicators should follow all applicable state and local regulations and ordinances. In interpreting the label and local regulations, the most restrictive limitations apply.

### Chemigation Instructions

Do not apply this product through any irrigation system unless the instructions for chemigation are followed. Do not apply GoalTender through chemigation equipment unless chemigation is allowed by Crop-Specific Use Directions.

Apply this product only through sprinkler (center pivot, solid set, portable lateral, or low-volume (micro-sprinkler)), drip (trickle), or flood (basin) irrigation systems. Refer to use directions for specific crops for instructions as to which type of irrigation system may be used. Do not apply this product through any other type of irrigation system.

- Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water.
- If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers, or other experts.
- Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
- A person knowledgeable of the chemigation system and responsible for its operation or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

### Sprinkler Chemigation (Foliar Spray Uses)

For sprinkler irrigation, sufficient water should be applied at the beginning of the irrigation period to insure uniform wetting of the plant and/or soil surfaces. Meter GoalTender into the sprinkler irrigation system at a continuous uniform rate during the middle 1/3 of the irrigation period to allow for uniform distribution to target weeds and/or soil surface.

Continue irrigation during the final 1/3 of the irrigation period to insure proper flushing of the irrigation system. During sprinkler irrigation, sufficient water should be applied to insure water penetration to a depth of two inches.

**AVOID DRIFT:** Extreme care must be exercised to prevent spray drift that could

result in damage to other crops or desirable vegetation.

Use the following guidelines when applications of GoalTender are made through sprinkler irrigation equipment:

1. Do not apply when the wind direction is not stable, when inversion conditions exist, or when wind velocity exceeds 10 mph.
2. When wind speeds are 5 mph or less, maintain a minimum downwind buffer zone of at least 1/2 mile from all crops and desirable vegetation, except for the following:  
Maintain a minimum downwind buffer zone of:
  - 150 feet from dormant treefruit, dormant vines and overwintering sugar beets.
  - 650 feet from garlic, jojoba, legumes, onions, pastures, small grains, seedling sugar beets and vegetable fallow beds.
3. When wind speeds are between 5 and 10 mph, downwind buffer zones in excess of those listed above are suggested.
4. For upwind and side borders, maintain a minimum buffer zone of 150 feet from any vegetable fallow bed, crop, or desirable vegetation.

To apply a pesticide using sprinkler chemigation, the chemigation system must meet the following specifications:

- The system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- The irrigation line or water pump must include a functional pressure switch, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system

interlock.

- Do not apply when wind speed favors drift beyond the area intended for treatment.

#### Flood (Basin) Chemigation (Soil Drench Uses)

GoalTender should be continuously metered into the water during the entire irrigation period. Agitation in the pesticide supply tank is suggested. Best weed control results from GoalTender applied through flood (basin) irrigation systems are obtained when a uniform distribution and flow of irrigation water is maintained over level land.

Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as drop structure or weir box to decrease potential for water source contamination from backflow if water flow stops. Systems utilizing a pressurized water and pesticide injection system must meet the following requirements:

- The system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- The pesticide injection pipeline must contain functional automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- The irrigation line or water pump must include a functional pressure switch, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.



## Drip (Trickle) Chemigation (Soil Drench Uses)

To achieve optimum distribution of GoalTender in the soil surface, meter GoalTender at a continuous uniform rate during the middle 1/3 of the irrigation period. For best results, GoalTender should be uniformly distributed across the wetted area to help reduce the "ring effect" of weed escapes. Continue irrigation during the final 1/3 of the irrigation period to insure proper flushing of the irrigation system.

To apply a pesticide using drip (trickle) chemigation, the chemigation system must meet the following specifications:

- The system must contain a functional check valve, vacuum relief valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pipe and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. The irrigation line or water pump must include a functional pressure switch, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- Systems must use a metering pump such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

## Limitations, Restrictions, and Exceptions

### WINDBREAKS AND SHELTERBELTS

(For Use Only in Minnesota, North Dakota, South Dakota and Wyoming)

### Preemergence and Postemergence

## Specific Use Directions

Apply GoalTender may be applied as a broadcast, banded or post-directed spray. Preemergence control is most effective when spray is applied to clean, weed-free soil surfaces. Pretransplant applications must be made after completion of soil preparation but prior to transplanting. Transplanting should be completed with minimal soil disturbance. For optimum weed control results, treated soil surfaces should be left undisturbed during the time period for which weed control is desired.

Postemergence Weed Control: For best results, apply before 4-leaf stage for broadleaf weeds or 2-leaf stage for grass weeds.

Conifers: GoalTender can be applied pretransplant, post-directed or postemergence (over-the-top) to conifers. Postemergence or post-directed applications should be applied prior to budbreak or after new growth foliage has hardened off and new terminal buds have formed.

Deciduous Hardwoods: GoalTender has exhibited selectivity to many deciduous species when applied pre-transplant or as a post-directed spray prior to budbreak.

### Precautions:

- Important: Some varieties or cultivars of conifers or deciduous species listed may be susceptible to GoalTender. Care should be taken to ensure that the particular variety to be sprayed with GoalTender is tolerant. For unfamiliar species, it is suggested that GoalTender be tested on a limited number of plants prior to large-scale application.
- Occasionally after the use of GoalTender, a spotting, crinkling or flecking may appear on the leaves of the deciduous species. Leaves that receive direct or indirect (drift) spray contact will be injured. Deciduous species typically rapidly outgrow these symptoms and develop normally.
- Application after budbreak may result in injury to deciduous species. If non-dormant application is required, apply only after foliage has fully expanded and hardened off. Avoid direct or indirect spray contact with the foliage by applying to the soil surface as a directed spray.
- Apply GoalTender only to healthy deciduous and/or conifer trees. Do not apply GoalTender to conifers or deciduous trees that have been weakened or under stress from excessive fertilizer or soil salts, disease, nematodes, frost, drought, flooding, previously applied pesticides, soil insects, or winter injury, as severe injury may

result.

Specific Use Restrictions for Shelterbelts:

- Do not apply more than 3 pints of GoalTender per acre in a single application or more than 9 pints per acre per year.

Method

[Broadcast/Foliar Air](#)

[Broadcast/Foliar Ground](#)

[Band application](#)

[Directed Spray](#)

[Broadcast/Foliar Air](#)

[Broadcast/Foliar Ground](#)

[Band application](#)

[Directed Spray](#)

Rates

[field\\_rates 0](#)

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Restricted Entry Interval

24 hours

Timings

[Preemergence \(Weed\)](#)

[Postemergence \(Weed\)](#)