

# **FOR SUPPRESSION OF KR BLUESTEM**

## General Information

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

Pastora Herbicide must be used only in accordance with instructions on this label or in separate BAYER CROPSCIENCE LP publications.

BAYER CROPSCIENCE LP will not be responsible for losses or damages resulting from the use of this product in any manner not specified by BAYER CROPSCIENCE LP. Do not apply this product through any type of irrigation system.

### PRODUCT INFORMATION

Pastora Herbicide is registered for use on bermudagrass pastures and hay meadows, and for use in non-crop areas. Check with your state extension or Department of Agriculture before use to be certain Pastora Herbicide is registered in your state. Do not use Pastora Herbicide in the following counties of Colorado: Alamosa, Conejos, Costilla, Rio Grande, and Saquache.

Pastora Herbicide is a dry-flowable granule that controls or suppresses broadleaf and grass weeds. Pastora Herbicide is mixed in water and applied as a uniform broadcast spray. A spray adjuvant must be used in the spray mix unless otherwise specified on this label.

Pastora Herbicide is noncorrosive, nonflammable, nonvolatile, and does not freeze. Pastora Herbicide controls broadleaf weeds by preemergence and postemergence activity and grass weeds by postemergence activity. For best results, apply Pastora Herbicide to young, actively growing weeds. Weeds hardened off by cold weather or drought stress may not be controlled. The use rate depends upon the weed spectrum and size of weeds at application. The degree and duration of control may depend on the following factors:

- weed spectrum and infestation intensity
- weed size and maturity at application
- environmental conditions during and following treatment
- application rate and coverage

It is permissible to treat intermittently flooded low lying sites, seasonally dry flood plains, and transitional areas between upland and lowland sites when no water is present. It is also permissible to treat marshes, swamps, and bogs after water has receded as well as seasonally dry flood deltas. DO NOT make applications to natural or man-made bodies of water such as lakes, reservoirs, ponds, streams, and canals.

#### BIOLOGICAL ACTIVITY AND ENVIRONMENTAL CONDITIONS

Pastora Herbicide is absorbed through the foliage and roots of weeds, rapidly inhibiting their growth. Leaves of susceptible plants appear chlorotic from 1 to 3 weeks after application, and the growing point subsequently dies. The final effects on annual weeds are evident about 4 to 6 weeks after application. The ultimate effects on perennial weeds occur in the growing season following application.

One to two inches of rainfall or sprinkler irrigation (enough to wet the top 2-3 inches of soil profile) may be needed to move Pastora Herbicide into the weed root zone before the next flush of broadleaf weeds emerge. The amount of moisture required for sufficient activation increases with crop or weed residue and for finer textured soils. Without sufficient rainfall or sprinkler irrigation to move Pastora Herbicide into the weed root zone, weeds that germinate after treatment will not be controlled.

Application of Pastora Herbicide provides the best control in vigorously growing pastures that shade competitive weeds. Weed control in areas of thin grass may not be as satisfactory. However, a bermudagrass canopy that is too dense at application can intercept spray and reduce weed control.

In warm, moist conditions, the expression of herbicide symptoms is accelerated in weeds; in cold, dry conditions, expression of herbicide symptoms is delayed. In addition, weeds hardened-off by drought stress are less susceptible to Pastora Herbicide.

Weed control or suppression may be reduced if rainfall or sprinkler irrigation occurs within 4 hours after application.

Weed control should be part of an overall pasture management plan which includes

good fertility, adequate moisture (rainfall, irrigation), insect and rodent control, and other agronomic practices which maximize bermudagrass growth. Consult your state cooperative extension service, local agricultural dealer, professional consultant, or other qualified authority for specific instructions regarding proper management of bermudagrass pastures.

#### IMPORTANT RESTRICTIONS

- Do not apply or drain or flush equipment on or near desirable trees or other plants, or on areas where their roots extend, or in locations where the product may be washed or moved into contact with their roots, as injury or loss of desirable trees or other plants may result.
- Do not use on lawns, walks, driveways, tennis courts, golf courses, athletic fields, or other high-maintenance, fine turfgrass areas, or similar areas.
- Do not apply to irrigated land where the tailwater will be used to irrigate crops.
- Do not apply to frozen or snow-covered ground as surface runoff may occur.
- Do not apply more than 2.5 ounces of Pastora Herbicide per acre per year for use in bermudagrass pastures and non-agricultural uses.

#### IMPORTANT PRECAUTIONS

- Grass species or varieties may differ in their response to various herbicides. Some bermudagrass varieties such as World Feeder, Midland 99, and Jiggs are more sensitive to Pastora Herbicide and are more likely to exhibit crop response in the form of temporary yellowing or stunting. BAYER CROPSCIENCE LP recommends that you first consult your state experiment station, university, or extension agent as to sensitivity to any herbicide. If no information is available, limit the initial use of Pastora Herbicide to a small area.
- Under certain conditions such as heavy rainfall, high pH, prolonged cold weather, or wide fluctuations in day/night temperatures prior to or soon after Pastora Herbicide application, temporary discoloration and/or grass injury may occur. Pastora Herbicide should not be applied to grass that is stressed by severe weather conditions, drought, low fertility, watersaturated soil, disease, or insect damage, as grass injury may result. Severe winter stress, drought, disease, or insect damage before or following application also may result in grass injury.
- Applications may make some toxic plants more palatable to cattle as the weeds are dying. Do not graze treated areas until toxic plants are dry and unpalatable to livestock.
- Applications of Pastora Herbicide to pastures undersown with legumes may cause

injury to the legumes.

- To reduce the potential for movement of treated soil due to wind erosion, do not apply to powdery dry or light sandy soils until they have been stabilized by rainfall, trashy mulch, reduced tillage, or other cultural practices. Injury to immediately adjacent crops may occur when treated soil is blown onto land used to produce crops other than bermudagrass.
- For ground applications applied to weeds when dry, dusty field conditions exist, control of weeds in wheel track areas may be reduced. The addition of 2,4-D should improve weed control under these conditions.
- Applications of Pastora Herbicide to grass grown for seed, sod, or sprigging has not been evaluated for all bermudagrass varieties. Use of Pastora Herbicide may result in reduced yield and should be evaluated by the user under local conditions. To the extent consistent with applicable law, this risk must be assumed by the user.

## WEED RESISTANCE

Pastora Herbicide, which contains the active ingredients, nicosulfuron and metsulfuron methyl, is a Group 2 herbicide based on the mode of action classification system of the Weed Science Society of America.

When herbicides with mode of action classifications that affect the same biological sites of action are used repeatedly over several years to control the same weed species in the same treatment area, naturally-occurring resistant biotypes may survive a correctly applied herbicide treatment, propagate, and become dominant in that area. Adequate control of these resistant weed biotypes cannot be expected. If weed control is unsatisfactory, it may be necessary to retreat the problem area using a product affecting a different biological site of action.

To better manage herbicide resistance through delaying the proliferation and possible dominance of herbicide resistant weed biotypes, it may be necessary to change cultural practices such as retreatment, tank-mix partners and/or sequential herbicide applications that affect a different site of action. Weed escapes that are allowed to go to seed and movement of plant material between treatment areas on equipment will promote the spread of resistant biotypes.

It is advisable to keep accurate records of pesticides applied to individual fields to help obtain information on the spread and dispersal of resistant biotypes. Consult your agricultural dealer, consultant, applicator, and/or appropriate state agricultural extension service representative to determine appropriate actions for treating

specific resistant weed biotypes in your area.

#### INTEGRATED PEST MANAGEMENT

This product may be used as part of an Integrated Pest Management (IPM) program that can include biological, cultural, and genetic practices aimed at preventing economic pest damage. IPM principles and practices include field scouting or other detection methods, correct target pest identification, population monitoring, and treating when target pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants, or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop systems in your area.

#### APPLICATION INFORMATION

##### PRODUCT MEASUREMENT

Pastora Herbicide is measured using the Pastora Herbicide volumetric measuring cylinder. The degree of accuracy of this cylinder varies by +/- 7.5%. For more precise measurement, use scales calibrated in ounces.

## APPLICATION METHOD

### Ground Broadcast Application

When applying a broadcast application by ground, maintain a 50-foot buffer between the point of direct application and the closest downwind edge of non-target aquatic and terrestrial areas. Apply only using nozzles which will deliver medium or larger (VMD > 175 microns) droplets as defined by ASABE S572.1 standard. Do not release spray at a height greater than 4 feet above the ground or crop canopy. Do not apply when wind speed is greater than 10 mph. Do not apply during a temperature inversion.

To obtain optimum spray distribution and thorough coverage, use flat-fan or low-volume flood nozzles.

For flat-fan nozzles, use at least 10 GPA for broadcast applications.

For flood nozzles on 30" spacings, use at least 10 gallons per acre (GPA), flood nozzles no larger than TK10 (or equivalent), and a pressure of at least 30 pounds per square inch (psi).

For 40" nozzle spacings, use at least 13 GPA; for 60" spacings, use at least 20 GPA. It is essential to overlap the nozzles 100% for all spacings.

With Raindrop RA nozzles, use at least 30 GPA and ensure that nozzle spray patterns overlap 100%.

Use 50-mesh screens or larger.

### Ground Spot Application

Spot applications may be made using equipment such as back pack, ATV, or hand sprayers. Thorough coverage of foliage and stems is necessary to optimize results. Use an adjustable conejet nozzle with an orifice size of X6 to X12 or equivalent. The application volume required will vary with the height and density of the weeds or brush and the application equipment used.

### Aerial Application

When applying by air, maintain a 100-foot buffer between the point of direct application and the closest downwind edge of non-target aquatic and terrestrial areas. Apply only using nozzles which will deliver medium or larger (VMD > 175 microns) droplets as defined by ASABE S572 standard. Do not release spray at a height greater than 10 feet above the ground or crop canopy unless a greater height is required for aircraft safety. Do not apply when wind speed is greater than 10 mph. Do not apply during a temperature inversion.

Use nozzle types and arrangements that provide optimum spray distribution and

maximum coverage.

Use a minimum of 2 GPA.

When applying Pastora Herbicide by air in areas adjacent to sensitive crops, use solid stream nozzles oriented straight back. Adjust the swath to avoid spray drift damage to sensitive crops downwind and/or use ground equipment to treat the border edge of fields. See the Spray Drift Management section of this label. Aerial application is not permitted in New York state.

#### Chemigation

Do not apply through any type of irrigation system.

#### SPRAY EQUIPMENT

For specific application equipment, refer to the manufacturer's recommendations for additional information on GPA, pressure, speed, nozzle types and arrangements, nozzle heights above the target canopy, etc.

Be sure to calibrate air or ground equipment properly before application. Select a spray volume and delivery system that will ensure thorough coverage and a uniform spray pattern with minimum drift. Use higher spray volumes to obtain better coverage when the crop canopy is dense. Avoid swath overlapping, and shut off spray booms while starting, turning, slowing, or stopping to avoid crop injury.

Do not make applications using equipment and/or spray volumes or under weather conditions that might cause spray to drift onto nontarget sites. For additional information on spray drift, refer to the Spray Drift Management section of the label.

Continuous agitation is required to keep Pastora Herbicide in suspension.

#### Before Spraying PASTORA HERBICIDE

Spray equipment must be clean before Pastora Herbicide is sprayed. Follow the cleanup procedures specified on the labels of previously applied products. If no directions are provided, follow the six steps outlined in After Spraying Pastora Herbicide section of this label.

## At the End of the Day

When multiple loads of Pastora Herbicide are applied, it is recommended that at the end of each day of spraying, the interior of the tank be rinsed with fresh water and then partially filled, and the boom and hoses flushed. This will prevent the buildup of dried pesticide deposits that can accumulate in the application equipment.

## After Spraying PASTORA HERBICIDE and Before Spraying Crops Other Than Bermudagrass

To avoid subsequent injury to desirable crops, thoroughly clean all mixing and spray equipment immediately following applications of Pastora Herbicide as follows:

1. Drain tank; thoroughly rinse spray tanks, boom, and hoses with clean water. Loosen and physically remove any visible deposits.
2. Fill the tank with clean water and 1 gallon of household ammonia\* (contains 3% active) for every 100 gallons of water. Flush the hoses, boom, and nozzles with the cleaning solution. Then add more water to completely fill the tank. Circulate the cleaning solution through the tank and hoses for at least 15 min. Flush the hoses, boom, and nozzles again with the cleaning solution, and then drain the tank.
3. Remove the nozzles and screens and clean separately in a bucket containing cleaning agent and water.
4. Repeat step 2.
5. Rinse the tank, boom, and hoses with clean water.
6. If only Ammonia is used as a cleaner, the rinsate solution may be applied back to the crop(s) listed on this label. Do not exceed the maximum labeled use rate. If other cleaners are used, consult the cleaner label for rinsate disposal instructions. If no instructions are given, dispose of the rinsate on site or at an approved waste disposal facility.

\* Equivalent amounts of an alternate-strength ammonia solution or a cleaner which dissolves and removes sulfonylurea herbicide residues can be used in the cleanout procedure. Carefully read and follow the individual cleaner instructions.

## Notes:

1. Attention: Do not use chlorine bleach with ammonia, as dangerous gases will form. Do not clean equipment in an enclosed area.
2. Steam-cleaning aerial spray tanks is recommended prior to performing the above cleanout procedure to facilitate the removal of any caked deposits.
3. When Pastora Herbicide is tank mixed with other pesticides, all required cleanout procedures should be examined and the most rigorous procedure should be

followed.

4. In addition to this cleanout procedure, all precleanout guidelines on subsequently applied products should be followed as per the individual labels.

5. Where routine spraying practices include shared equipment frequently being switched between applications of Pastora Herbicide and applications of other pesticides to Pastora Herbicide-sensitive crops during the same spray season, it is recommended that a sprayer be dedicated to Pastora Herbicide to further reduce the chance of crop injury.

## Limitations, Restrictions, and Exceptions

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#### DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its label. Always read this FIFRA 2(ee) bulletin and the entire label on the product container before using this product.

Bayer CropScience will not be responsible for losses or damages resulting from the use of these products in any manner not specifically instructed by Bayer CropScience. User assumes all risks associated with non-labeled use.

Bayer CropScience Pastora Herbicide at 1.0 to 1.5 ounces per acre may be used for suppression of KR bluestem. Applications made to weeds that are under environmental stress (such as drought) may result in unsatisfactory results.

A repeat application 4 to 8 weeks after the first application is the best approach for an improved level of suppression. Do not apply more than 2.5 ounces of Pastora Herbicide per acre per year.

The addition of a nonionic surfactant (NIS) at 0.25% to 0.5% v/v (1 to 2 quarts per 100 gallons of spray) or crop oil concentrate (COC) at 1% v/v (1 gallon per 100 gallons of spray) to Pastora Herbicide is required.

#### Method

[Broadcast/Foliar Air](#)

[Broadcast/Foliar Ground](#)

Restricted Entry Interval

4 hours

Timings

[N.A.](#)