FOR DIFFICULT-TO-CONTROL WEEDS AND BRUSH - ANNUAL MARSHELDER - EARLY SEASON

General Information

Product Information
DuraCor herbicide controls broadleaf weeds and certain woody plants on rangeland, permanent grass pastures (including annual and perennial grasses grown for hay*), Conservation Reserve Program (CRP) acres, and wildlife management areas including seasonally dry flood plains, deltas, marshes, prairie potholes, or vernal pools in these sites.

* Hay from grass treated with DuraCor within the preceding 18 months can only be used on the farm or ranch where the product is applied unless allowed by supplemental labeling.

Resistance Management Guidelines

- Development of plant populations resistant to this herbicide mode of action is usually not a problem on rangeland, permanent grass pastures, or CRP since these sites receive infrequent pesticide applications.

- Similar looking biotypes of a given weed species occurring in a treated area may vary in their susceptibility to a herbicide. Application of a herbicide below its specified rate may allow more tolerant weeds to survive and a shift to more tolerant biotypes within the treated area.

- Where identified, spreading of resistant weeds to other fields may be prevented by cleaning harvesting and tillage equipment before moving to other areas and by planting weed-free seed.

- Scout before after herbicide application to monitor weed populations for early signs of resistance development. Indicators of possible herbicide resistance include: (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of noncontrolled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species. If resistance is suspected,
prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method such as mowing.

- Use tank mixtures with herbicides from a different group if such use is permitted. Where information on resistance in target weed species is available, use the less resistance-prone partner at a rate that will control the target weed(s) equally as well as the more resistance-prone partner. Consult your local extension service or certified crop advisor if you are unsure as to which active ingredient is currently less prone to resistance.

- If a weed pest population continues to progress after treatment with this product, discontinue use of this product, and switch to another management strategy or herbicide with a different mode of action, if available.

- Contact your extension specialist, certified crop consultant, or Dow AgroSciences representative for the latest resistance management information.

Use Precautions

- Applications made during periods of intense rainfall, to soils saturated with water, surfaces paved with materials such as asphalt or concrete, or soils through which rainfall will not readily penetrate may result in runoff and movement of this product. Injury to crops may result if treated soil and/or runoff water containing this product is washed or moved onto land used to produce crops. Exposure to this product may injure or kill susceptible crops and other plants, such as grapes, soybeans, tobacco, sensitive ornamentals.

- Seeding grasses:

- Preemergence: Tall fescue, orchardgrass, timothy, and annual ryegrass can be reseeded after a minimum of 15 days following an application of 12 fl oz per acre of DuraCor. Sorghum-sudangrass, teff, crabgrass, and pearl millet can be seeded a minimum of 30 days following an application of 12 fl oz per acre of DuraCor. When using higher rates or on other grass species wait a minimum of 45 days after an application of DuraCor.

- Postemergence: During the season of establishment, this product should be applied only after perennial grasses are well established (have developed a good secondary root system and show good vigor). Most perennial grasses are tolerant to
this product at this stage of development. This product may suppress certain established grasses, such as smooth bromegrass (Bromus inermis), especially when plants are stressed by adverse environmental conditions. Plants should recover from this transient suppression with the onset of environmental conditions favorable to grass growth and upon release from weed competition. Tall fescue, orchardgrass, timothy, and annual ryegrass are tolerant of 12 fl oz per acre of DuraCor once plants have developed 3 collared leaves.

- Field Bioassay Instructions: In fields previously treated with this product, plant short test rows of the intended rotational crop across the original direction of application in a manner to sample variability in field conditions such as soil texture, soil organic matter, soil pH, rainfall pattern or drainage. The field bioassay can be initiated starting a minimum of one year after herbicide application and following harvest of the treated crop. Observe the test crop for symptoms of herbicidal activity, such as poor stand (effect on seed germination), chlorosis (yellowing), and necrosis (dead leaves or shoots), or stunting (reduced growth). If herbicidal symptoms do not occur, the test crop can be grown. If there is apparent herbicidal activity, do not plant the field to the intended rotational crop; plant only to wheat, forage grasses, native grasses or grasses grown for hay.

Pasture and Rangeland Restrictions

- Do not use grasses treated with DuraCor in the preceding 18 months for hay intended for export outside the United States.

- Hay from areas treated with DuraCor in the preceding 18 months can NOT be distributed or made available for sale off the farm or ranch where harvested unless allowed by supplemental labeling.

- Hay from areas treated with this product in the preceding 18 months can NOT be used for silage, haylage, baylage, and green chop unless allowed by supplemental labeling.

- Do not move hay and silage made from grass treated with DuraCor within the preceding 18 months off farm unless allowed by supplemental labeling.

- Do not use hay from areas treated with DuraCor within the preceding 18 months or manure from animals feeding on hay treated with DuraCor in compost.
- Do not use grasses treated with DuraCor in the preceding 18 months for seed production.

Restrictions for All Uses

- Do not reformulate or repackage this product into other end-use products.

- Do not treat frozen soil where runoff could damage sensitive plants.

- Use 2 or more gallons of spray solution per acre.

- Do not make more than two applications per year.

- Do not apply within 30 days of previous application.

- If grass is to be cut for hay, Agricultural Use Requirements for the Worker Protection Standard are applicable.

- Maximum Application Rate: Do not broadcast-apply more than 20 fl oz of DuraCor (0.104 lbs aminopyralid and 0.0104 lbs florpyrauxifen-benzyl) per acre per year. The total amount of DuraCor applied broadcast as a re-treatment and/or spot treatment per year must not exceed 20 fl oz (0.104 lbs aminopyralid and 0.0104 lbs florpyrauxifen-benzyl) per acre. Spot treatments may be applied at an equivalent broadcast rate of up to 40 fl oz of DuraCor (0.208 lbs aminopyralid and 0.0209 lbs florpyrauxifen-benzyl) per acre per annual growing season; however, not more than 50% of an acre may be treated at that rate.

- Grazing and Haying Restrictions: Cutting hay too soon after spraying weeds can compromise the weed control. After application wait 14 days prior to cutting grass hay to allow for maximum herbicide activity.

- Do not apply this product on lawns, turf, ornamental plantings, urban walkways, driveways, tennis courts, golf courses, athletic fields, commercial sod operations, or other high-maintenance, fine turfgrass areas, or similar areas.
- Transfer of Animals Feeding on DuraCor Treated Forage: Do not transfer animals grazing or feeding on hay to areas where sensitive broadleaf crops occur without first allowing 3 days of grazing on an untreated pasture. Otherwise, urine and manure may contain enough aminopyralid and florpyrauxifen-benzyl to cause injury to sensitive broadleaf plants.

- Restrictions in Hay or Manure Use

- Do not use aminopyralid-treated or florpyrauxifen-benzyl-treated plant residues, including hay or straw from areas treated within the preceding 18 months, in compost, mulch, or mushroom spawn.

- Do not use manure from animals that have grazed forage or eaten hay harvested from treated areas within the previous 3 days, in compost, mulch, or mushroom spawn.

- Do not spread manure from animals that have grazed or consumed forage or hay from treated areas within the previous 3 days on land used for growing broadleaf crops.

- Manure from animals that have grazed forage or eaten hay harvested from treated areas within the previous 3 days may only be used on pasture grasses, grass grown for seed, wheat, and corn.

- Do not plant a broadleaf crop (including soybeans, sunflower, tobacco, vegetables, field beans, peanuts, and potatoes) in fields treated in the previous year with manure from animals that have grazed forage or eaten hay harvested from aminopyralid-treated or florpyrauxifen-benzyl-treated areas until an adequately sensitive field bioassay is conducted to determine that the aminopyralid and florpyrauxifen-benzyl residue in the soil is at level that is not injurious to the crop to be planted.

- To promote herbicide decomposition, plant residues must be evenly incorporated in the surface soil or burned. Breakdown of aminopyralid and florpyrauxifen-benzyl in plant residues or manure is more rapid under warm, moist soil conditions and may be accelerated by supplemental irrigation.

- Grazing Poisonous Plants: Herbicide application may increase palatability of certain poisonous plants. Do not allow livestock to graze treated areas until
poisonous plants are dry and no longer palatable to livestock.

- Seeding Legumes: Do not plant forage legumes until a soil bioassay has been conducted to determine if aminopyralid and florpyrauxifenbenzyl residues remaining in the soil will adversely affect the legume establishment.

- Crop Rotation: Cereals and corn can be planted one year after treatment. Most broadleaf crops are more sensitive and can require at least 2 years depending on the crop and environmental conditions. Do not plant a broadleaf crop until an adequately sensitive field bioassay shows that the level of aminopyralid and florpyrauxifenbenzyl present in the soil will not adversely affect that broadleaf crop.

- DuraCor is highly active against many broadleaf plant species. Do not use this product on areas where loss of desirable broadleaf forage plants, including legumes, cannot be tolerated.

- Susceptible Plants: Do not apply under circumstances where spray drift may occur to food, forage, or other plantings that might be damaged or crops thereof rendered unfit for sale, use, or consumption. Susceptible crops include, but are not limited to, cotton, okra, flowers, fruit trees, grapes (in growing stage), fruit trees (foliage), soybeans (vegetative stage), ornamentals, sunflowers, tomatoes, beans, and other vegetables, or tobacco. Small amounts of spray drift that may not be visible may injure susceptible broadleaf plants. Read the Spray Drift Management section of this label for information about minimizing the potential for spray drift.

- Trees adjacent to or in a treated area can occasionally be affected by root uptake of DuraCor through movement into the soil. Do not apply DuraCor within the root zone of desirable trees unless such injury can be tolerated. Use special caution near roses and leguminous trees such as locusts, redbud, mimosa, and caragana.

- Chemigation: Do not apply this product through any type of irrigation system.

- Do not contaminate water intended for irrigation or domestic purposes. Do not treat inside banks or bottoms of irrigation ditches, either dry or containing water, or other channels that carry water that may be used for irrigation or domestic purposes.
Application Methods
Apply the specified rate of DuraCor as a coarse to coarser low-pressure spray. Do not apply this product with mist blower systems that deliver very fine spray droplets. Use of mist blower equipment can reduce weed control and increase spray drift potential. Spray volume should be sufficient to uniformly cover foliage. Increase spray volume to ensure thorough and uniform coverage when target vegetation is tall and/or dense. To enhance foliage wetting and coverage, an approved non-ionic agricultural surfactant may be added to the spray mixture as specified by the surfactant label.

Ground Broadcast Application: Higher spray volumes (greater than 10 gallons per acre) generally provide better coverage and better control, particularly in dense and/or tall foliage.

Aerial Broadcast Application: Do not apply less than 2 gallons per acre total spray volume. Five gallons per acre or greater will generally provide better coverage and better control, particularly in dense and/or tall foliage.

High-Volume Foliar Application: High volume foliar treatments may be applied at rates equivalent to a maximum of 20 fl oz per acre per annual growing season. Use sufficient spray volume to thoroughly and uniformly wet foliage and stems.

Low-Volume Foliar: To control susceptible woody plants, use DuraCor alone or in tank mixes with other herbicides in water. The spray concentration of DuraCor tank mixes and total spray volume per acre should be adjusted according to the size and density of target woody plants and type of spray equipment used. With low-volume application, use sufficient spray volume to obtain uniform coverage of target plants including the surfaces of all foliage, stems, and root collars. For best results, an adjuvant should be added to all spray mixtures. Match equipment and delivery rate of spray nozzles to height and density of woody plants. When treating tall, dense brush, use of spray tips that deliver up to 2 gallons per minute at 40 to 60 psi may be required. Backpack or other types of specialized spray equipment with spray tips that deliver less than 1 gallon of spray per minute may be appropriate for short, low to moderate density brush.
Spot Application: Spot treatments may be applied at rates equivalent to broadcast-applied rate of up to a maximum of 40 fl oz per acre on 50% of the treated field. Spray volume should be sufficient to thoroughly and uniformly wet weed foliage. Repeat treatments may be made, but the total amount of DuraCor applied must not exceed 20 fl oz per acre per year. See the Use Precautions and Use Restrictions sections above on Maximum Application Rate.

Mixing Instructions

Mixing with Water
To prepare the spray, add half the required amount of water in the spray tank. Then, with agitation, add dry products and mix until fully dispersed. Then add the specified amount of DuraCor and other registered liquid flowable (CS, SC, SE, and OD) tank mix herbicides. Finally, with continued agitation, add remaining products, additives such as surfactants or drift control and deposition aids, and remaining water.

Addition of Surfactants or Adjuvants on All Labeled Use Sites: The addition of a high quality methylated seed oil at 1% v/v or non-ionic surfactant (of at least 80% active ingredient) at 0.25 to 0.5% v/v is allowed to enhance herbicide activity under adverse environmental conditions (such as high temperature, low relative humidity, drought conditions, dusty plant surfaces) or when weeds are heavily pubescent or more mature.

DuraCor – Tank Mixes
DO NOT TANK MIX ANY PESTICIDE PRODUCT WITH THIS PRODUCT without first referring to the following website for the specific product: www.DuraCorTankmix.com. This website contains a list of active ingredients that are currently prohibited from use in tank mixture with this product.

Continuous agitation is required for tank mixes. Sparger pipe agitators generally provide the best agitation in spray tanks.

DuraCor at rates of up to 20 fl oz per acre may be mixed with labeled rates of other labeled herbicides to broaden the spectrum of weeds and brush controlled or to improve control of certain weeds. See Table 4.

Tank Mixing Restrictions
Only use products in tank mixture with this product that: 1) are registered for the intended use site, application method and timing; 2) are not prohibited for tank mixing by the label of the tank mix product; and 3) do not contain one of the prohibited active ingredients listed on the [www.DuraCorTankmix.com](http://www.DuraCorTankmix.com) website.

Applicators and other handlers (mixers) must access the website within one week prior to application in order to comply with the most up-to-date information on tank mix partners.

Do not exceed specified application rates for respective products or maximum allowable application rates for any active ingredient in the tank mix.

Read carefully and follow all applicable use directions, precautions, and limitations on the respective product labels. It is the pesticide user’s responsibility to ensure that all products in the mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Always perform a jar test to ensure the compatibility of products to be used in tank mixture.

**Tank Mixing Precautions**

For products packaged in water-soluble packaging, do not tank mix with products containing boron or mix in equipment previously used to apply a product mixture containing boron unless the tank and spray equipment have been adequately cleaned. See Sprayer Clean-Out instructions.

**Mixing with Sprayable Liquid Fertilizer Solutions**

DuraCor is usually compatible with liquid fertilizer solutions. It is anticipated that DuraCor will not require a compatibility agent for mixing with fertilizers; however, a compatibility test (jar test) should be made prior to large scale batch mixing. Jar tests are particularly important when a new batch of fertilizer or pesticide is used, when water sources change, or when tank mixture ingredients or concentrations are changed. Compatibility may be determined by mixing the spray components in the desired order and proportions in a clear glass jar before large scale mixing of spray components in the spray tank. A compatibility agent may be used with DuraCor if needed to help obtain and maintain a uniform spray solution during mixing and application. Note: The lower the temperature of the liquid fertilizer, the greater the likelihood of mixing problems. Mixing DuraCor in N-P or N-P-K liquid fertilizer
solutions is more difficult than mixing with straight nitrogen fertilizer and should not be attempted without first conducting a successful compatibility jar test. Agitation in the spray tank must be vigorous to be comparable with jar test agitation. Apply the spray mixture the same day it is prepared while maintaining continuous agitation. Rinse the spray tank thoroughly after use.

Mixing Procedure

1. Apply as soon as mixing is complete, maintaining continuous, vigorous agitation throughout mixing and application without interruption.

2. Application during very cold (near freezing) weather is not advisable. The likelihood of mixing or compatibility problems with liquid fertilizer increases under cold conditions.

3. Do not store the spray mixture.

Note: Foliar-applied liquid fertilizers themselves can cause yellowing of the foliage of forage grasses and other vegetation.

Use Rates and Timing

Do not use DuraCor if loss of legumes species or other broadleaf species cannot be tolerated.

DuraCor may be applied postemergence as a broadcast spray or as a spot application to control weeds listed on this label. When a rate range is given, use a higher rate in the range to control weeds at advanced growth stages or under less-than-favorable growing conditions (e.g., drought stress). For optimum uptake and translocation of the herbicide, avoid mowing, haying, shredding, burning, or soil disturbance in treated areas for at least 14 days following application.

For most species, 2 hours between application and rainfall provides a sufficient amount of time to avoid loss in weed control due to herbicide wash-off of the treated foliage.
DuraCor also provides preemergence control of germinating seeds or emerging seedlings of susceptible weeds and re-growth of certain perennial weeds following application. Weed establishment following DuraCor application will depend upon application rate, season of application, and growing condition.

DuraCor can provide long-term control of weeds. The length of control is dependent upon the application rate, condition and growth stage of target weeds, environmental conditions at and following application, and the density and vigor of competing desirable vegetation. Long-term broadleaf weed control is most effective where forage grasses are allowed to recover from overgrazing, drought, etc., and compete with weeds.

DuraCor can be an important component of integrated vegetation management programs designed to renovate or restore desired plant communities. To maximize and extend the benefits of weed control provided by DuraCor, it is important that vegetation management practices, including grazing management, biological control agents, replanting, fertilization, prescribed fire, reseeding with desirable plants, etc., be used to increase the competitiveness of desired forages. Used as part of an integrated management program, DuraCor can serve as a catalyst for rapid improvement of rangeland, permanent grass pasture, and CRP by alleviating the adverse competitive effect of weeds on the yield and quality of forages and other desirable plant species. Agricultural and natural resources specialists with federal and state government agencies can provide guidance on best management practices and development of integrated vegetation management systems.

**Broadleaf Weeds Controlled**

Early to mid-spring applications. DuraCor can be applied at 12 fl oz of product per acre in early to mid spring when weeds are less than 2 inches tall. Applications in this rate range are most effective when conditions are favorable for plant growth. For longer residual control of susceptible late spring and early summer weed emergence apply up to 20 fl oz of product per acre.

The following weeds will be controlled at 12 to 20 fl oz of product per acre. For best results, apply when weeds are actively growing and conditions are favorable for plant growth. Use a higher rate in the rate range when growing conditions are less than favorable, when weeds are mature, when weed foliage is tall and dense, or when residual control is important. DuraCor also provides preemergence control of germinating seeds or seedlings of susceptible weeds that emerge following
application. Increasing application rate to the high end of the rate range specified will extend the period of residual control.

Limitations, Restrictions, and Exceptions

Directions
Early Season: Annual marshelder is 6 inches tall.

Method
Broadcast/Foliar Air
Broadcast/Foliar Ground

Restricted Entry Interval
48 hours

Timings
Broadcast/Foliar Ground