



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

June 26, 2017

Ms. Carrie M. Tackema  
Regulatory Manager  
Nufarm Americas, Inc.  
4020 Aerial Center Parkway  
Suite 101  
Morrisville, NC 27560

Subject: Notification per PRN 98-10 – Correct a typographical error  
Product Name: Nufarm Imazapic 2SL IVM Herbicide  
EPA Registration Number: 71368-118  
Application Date: May 15, 2017  
Decision Number: 529690

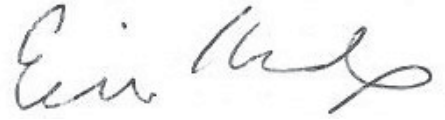
Dear Ms. Tackema:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 for the above referenced product. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls within the scope of PRN 98-10.

The label submitted with the application has been stamped "Notification" and will be placed in our records. Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

If you have any questions, you may contact Eleanor Thornton at 703-305-6799 or via email at [Thornton.eleanor@epa.gov](mailto:Thornton.eleanor@epa.gov).

Sincerely,

A handwritten signature in dark ink, appearing to read "Erik Kraft", with a stylized flourish at the end.

Erik Kraft, Product Manager 24  
Fungicide and Herbicide Branch  
Registration Division (7505P)  
Office of Pesticide Programs

Enclosure

# NUFARM IMAZAPIC 2SL

## IVM Herbicide

FOR WEED CONTROL, NATIVE GRASS ESTABLISHMENT AND TURF GROWTH  
SUPPRESSION ON PASTURES, RANGELAND AND NONCROP AREAS AND  
CONIFER PLANTATION SITE PREPARATION

**ACTIVE INGREDIENT:****% BY WEIGHT**

Ammonium salt of imazapic ( $\pm$ )-2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1 *H*-

imidazol-2-yl]-5-methyl-3-pyridinecarboxylic acid\* ..... 23.6%

**OTHER INGREDIENTS:** ..... 76.4%

**TOTAL:** .....100.0%

\*Equivalent to 22.2%( $\pm$ )-2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1 *H*-imidazol-2-yl]-5-methyl-3-pyridinecarboxylic acid

1 Gallon contains 2.0 Pounds of Active Ingredient as the Free Acid

### KEEP OUT OF REACH OF CHILDREN CAUTION / PRECAUCION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.  
(If you do not understand the label, find someone to explain it to you in detail.)

SEE INSIDE BOOKLET FOR FIRST AID AND ADDITIONAL PRECAUTIONARY STATEMENTS

For Chemical Spill, Leak, Fire, or Exposure, Call CHEMTREC (800) 424-9300  
For Medical Emergencies Only, Call (877) 325-1840

### NOTIFICATION

71368-118

The applicant has certified that no  
changes, other than those reported to  
the Agency have been made to the  
labeling. The Agency acknowledges  
this notification by letter dated:

06/26/2017

EPA REG. NO. 71368-118  
EPA EST. NO.

NET CONTENTS:

~~071368-00118.20160107.MASTER~~

MANUFACTURED FOR  
NUFARM INC.  
11901 S. AUSTIN AVENUE  
ALSIP, IL 60803



[Nufarm: Grow a better tomorrow]  
[Grow a better tomorrow]

**PRECAUTIONARY STATEMENT  
HAZARDS TO HUMANS AND DOMESTIC ANIMALS  
CAUTION / PRECAUCION**

Avoid breathing spray mist. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

**Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

**USER SAFETY RECOMMENDATIONS**

**Users Should:**

- Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Users should remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**FIRST AID**

<b>IF INHALED</b>	<ul style="list-style-type: none"><li>• Move person to fresh air.</li><li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li><li>• Call a poison control center or doctor for further treatment advice.</li></ul>
<b>IF ON SKIN OR CLOTHING</b>	<ul style="list-style-type: none"><li>• Take off contaminated clothing.</li><li>• Rinse skin immediately with plenty of water for 15 to 20 minutes.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
<b>IF IN EYES</b>	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.</li><li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>

**HOT LINE NUMBER**

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.  
You may also contact 1-877-325-1840 for emergency medical treatment information.

**ENVIRONMENTAL HAZARDS**

For terrestrial use only. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark.

Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate.

This chemical demonstrates the properties and characteristics associated with chemicals detected in ground water. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

This product may contaminate water through drift of spray in wind. This product has a high potential for runoff for several months or more after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. A level, well maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential for contamination of water from rainfall runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

**IMPORTANT**

This product may be applied to non-irrigation ditches and low lying areas where water has drained, but may be isolated in pockets due to uneven or unlevel conditions. Do not treat the inside of irrigation ditches. Do not rinse equipment on or near desirable trees or ornamental plants, or on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots. Do not use on residential lawns.

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Read the entire label before using this product. Use strictly in accordance with label precautionary statements and directions.

This labeling must be in the possession of the user at the time of pesticide application.

### RESTRICTIONS

**Do not** apply this product in a way that will contact workers or other persons, either directly or through drift.

**Do not** use this product on food or feed crops except as directed by this label or supplemental labeling.

**Do not** cut treated area for hay within seven days after treatment.

**Do not** use organophosphate insecticides on newly seeded areas treated with this product unless severe injury or loss of stand can be tolerated.

**Do not** use this product other than in accordance with the instructions set forth on this label. **Do not** apply this product through any type of irrigation system.

**Do not** apply more than ~~0.063 lb ai/A imazapic (4.0 fl. oz./A) per application or per year~~ a total of 12.0 fl oz/A (0.2 lb ai/A imazapic) per year.

### PRECAUTIONS

Observe all cautions and limitations on this label and on the labels of products used in combination with this product.

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.

When making new plantings of prairiegrass or wildflowers, carryover from persistent herbicides such as sulfonyl-urea, imidazolinone, triazine, substituted urea, dinitroaniline, and other herbicides applied the previous year may result in compounded injury or death of desirable vegetation when treated with this product.

The use of this product not consistent with this label may result in injury to desired vegetation. Keep containers closed to avoid spills and contamination.

When making applications around desirable trees and ornamental plants, small areas should be tested to determine the tolerance of a particular species to soil and/or foliar applications of this product. See "TOLERANCE OF TREES AND BRUSH" section of this label.

## AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard (WPS), 40 CFR Part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statement of this label about personal protective equipment (PPE) and restricted-entry interval (REI). The requirements in this box only apply to users of this product that are covered by the WPS.

Do not enter or allow worker entry into treated areas during the REI of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water is: coveralls, chemical-resistant gloves made of any waterproof material, and shoes plus socks.

## NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are not within the scope of the WPS for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural crops on farms, forests, nurseries, or greenhouses.

Noncrop weed control is not within the scope of the Worker Protection Standard. See the definition on this label of noncrop sites.

Do not enter treated areas without protective clothing until sprays have dried.

## GENERAL INFORMATION

This product is an aqueous solution to be mixed with water and an adjuvant and applied as a spray solution to provide weed control and/or turf height suppression on pastures, rangeland (see "GUIDELINES FOR RANGELAND USE" section), Federal Conservation Reserve Program (CRP) land and noncropland areas including noncropland areas that may be grazed or cut for hay. Examples of noncropland areas include, but are not limited to railroad, utility, pipeline and highway rights-of-way, railroad crossings, utility plant sites, petroleum tank farms, pumping installations, non-agricultural fence rows, storage areas, non-irrigation ditch banks, prairie sites, airports, industrial turf, golf courses, recreational and non-residential turf and other similar areas. This product may be used for the release of bermudagrass, bahiagrass, smooth brome grass, wheatgrass, "wildtype" common Kentucky bluegrass, native prairiegrass, wildflowers, crown vetch, other grasses and certain legumes. This product can also be used for weed control during

the establishment of native prairiegrasses and other grasses (see "REVEGETATION WITH PRAIRIEGRASSES AND OTHER FORAGE GRASSES" section). This product may also be used for conifer plantation site preparation.

This product is readily absorbed through leaves, stems, and roots and is translocated rapidly throughout the plant, with accumulation in the meristematic regions. Treated plants stop growing soon after spray application. Chlorosis appears first in the newest leaves, and necrosis spreads from this point. In perennials, the herbicide is translocated into, and kills, underground storage organs which prevents regrowth. Chlorosis and tissue necrosis may not be apparent in some plant species for several weeks after application. Complete kill of plants may not occur for several weeks after application. Adequate soil moisture is important for optimum product activity. When adequate soil moisture is present, this product will provide residual control of susceptible germinating weeds. Activity on established weeds will depend on the weed species and rooting depth. This product is rainfast one hour after application.

This product will control annual and perennial grasses and broadleaf weeds and vine species. This product will provide residual control of labeled weeds which germinate in the treated area. Certain brush species and ornamentals may be injured by direct application of this product to their foliage. This product may be applied either preemergence or postemergence to the weeds. However, postemergence application is the method of choice in most situations, particularly for perennial species. For maximum activity, weeds should be growing vigorously at the time of postemergence applications and the spray solution should include an adjuvant (see "SPRAY ADJUVANTS FOR POSTEMERGENCE APPLICATIONS" section). These solutions may be applied as a broadcast or as a spot treatment using backpack, or ground equipment.

This product may be applied in the dormant or growing season for weed control. Tolerance of desirable grass species to this product may be reduced when grasses are stressed due to insect damage, disease, environmental conditions, shade, poorly drained soils or other causes. Depending on the turf type being treated, some yellowing of turf may occur with applications during the growing season. Depending on weather conditions, yellowing will usually disappear in 2 to 4 weeks.

This product should not be applied to newly seeded or sprigged grass strands, unless otherwise stated in this label (see "REVEGETATION WITH PRAIRIEGRASSES AND OTHER FORAGE GRASSES" section).

### SPRAY DRIFT MANAGEMENT

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

Spray drift from applying this product may result in damage to sensitive plants adjacent to the treatment area. Only apply this product when the potential for drift to these and other adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for the threatened or endangered species, non-target crops) is minimal. Do not apply when the following conditions exist that increase the likelihood of spray drift from intended targets; high or gusty winds, high temperatures, low humidity, temperature inversions.

To minimize spray drift, the applicator should be familiar with and take into account the following drift reduction advisory information. Additional information may be available from state enforcement agencies or the Cooperative Extension on the application of this product.

**Information on Droplet Size:** The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversions).

#### Controlling Droplet Size:

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of Nozzles** - Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle Orientation** - Orienting nozzles so that the spray is released parallel to the air stream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type** - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift. **Application Height:** Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

**Swath Adjustment:** When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the application equipment upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

**Wind:** Drift potential is lowest between wind speeds of 3-10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. Application should be avoided below 3 mph due to variable wind direction and high inversion potential. Note: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

**Temperature and Humidity:** When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

**Temperature Inversions:** Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of the smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

**Wind Erosion:** Avoid treating powdery dry or light sandy soils when conditions are favorable for wind erosion. Under these conditions, the soil surfaces should first be settled by rainfall or irrigation.

**Aerial Applications:** Use 2 or more gallons of water per acre. The actual minimum spray volume per acre is determined by the spray equipment used. Use adequate spray volume to provide accurate and uniform distribution of spray particles over the treated area and to avoid spray drift.

**Managing Spray Drift from Aerial Applications:** Applicators must follow these requirements to avoid off-target drift movement:

1. Boom length – the distance of the outermost nozzles on the boom must not exceed  $\frac{3}{4}$  the length of the wingspan or rotor;
2. Nozzle orientation – nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees; and
3. Application height – without compromising aircraft safety, applications should be made at a height of 10 feet or less above the crop canopy or tallest plants. Applications must follow the most restrictive use cautions to avoid drift hazards, including those found in this labeling, as well as, applicable state and local regulations and ordinances.

**Ground Application (Broadcast):** Use 5 or more gallons of water per acre. The actual minimum spray volume per acre is determined by the spray equipment used. Use adequate spray volume to provide accurate and uniform distribution of spray particles over the treated area and to avoid spray drift.

### MIXING INSTRUCTIONS

Fill the spray tank one-half to three-quarters full with clean water. Use a calibrated measuring device to measure the required amount of product. Add this product to the spray tank while agitating. Fill the remainder of the tank with water.

For postemergence applications, add a surfactant to the spray tank (see “SPRAY ADJUVANTS FOR POSTEMERGENCE APPLICATIONS” section of this label for specific directions). Maintain agitation while spraying to ensure a uniform spray mixture. An antifoaming agent may be added to the tank if needed.

When tank-mixing this product with other herbicides, add wettable powders, dispersible granules or other dry formulations first, then ECs, then this product, and then an adjuvant.

### SPRAYING INSTRUCTIONS

Do not apply during windy or gusty conditions unless applications are being made with a drift control agent and/or an enclosed or shielded spray system. Do not apply if rainfall is threatening. Rainfall within 1 hour after product application may reduce weed control.

**Ground Applications:** Uniformly apply with properly calibrated ground equipment in 2 or more gallons of water per acre. Application equipment, specially designed to make low volume application should be used when making applications using less than 10 gallons of water per acre. Use a spray pressure of 20 to 40 psi.

To achieve acceptable control of the target vegetation, good spray coverage of the weed foliage (postemergence) or soil surface (preemergence) is required. To achieve good spray coverage, the sprayer must be calibrated to deliver the required spray volume and pressure and adjust the spray boom height to ensure proper coverage of weed foliage or soil surface (according to the manufacturer's directions). Avoid overlaps when spraying.

**Spot Treatments:** To prepare the spray solution, thoroughly mix in water 0.25 to 1.5% (0.3 to 1.9 oz/gallon water) of this product plus an adjuvant (see “SPRAY ADJUVANTS FOR POSTEMERGENCE APPLICATIONS” section). A methylated seed oil at 1% v/v is the directed spray adjuvant except when treating seedling prairiegrasses and wildflowers. When making spot applications, spray coverage should be sufficient to moisten the leaves of the target vegetation, but not to the point of run-off. See section on desired species and do not exceed the directed rate per acre directions for this product. Also see “WEEDS CONTROLLED” and “SPECIAL WEED CONTROL” sections for specific rate and/or tank-mix directions.

**Aerial Application:** All precautions should be taken to minimize or eliminate spray drift. Fixed wing aircraft and helicopters can be used to apply this product, however, when making applications by fixed wing aircraft maintain appropriate buffer zones to prevent spray drift out of the target area. Aerial equipment designed to minimize spray drift such as a helicopter equipped with a MICROFOIL™ boom, a drift control agent may be added at the specified label rate. To avoid drift, applications should not be made during inversion conditions, when winds are gusty, or under any other conditions that promote spray drift.

Uniformly apply the specified amount of this product, using enough water volume to provide adequate coverage of target area or foliage. Include an adjuvant in the spray solution (see “SPRAY ADJUVANTS FOR POSTEMERGENCE APPLICATIONS” section). A foam reducing agent may be added at the specified rate, if needed. Aerial application to target species growing under the canopy of trees and brush may not receive sufficient spray coverage for effective control. For weed species with a specified fall application timing (see “TOLERANCE OF TREES AND BRUSH TO THIS PRODUCT” section).



**IMPORTANT:** Thoroughly clean application equipment, including landing gear, immediately after use of this product. Prolonged exposure of this product to uncoated steel (except stainless steel) surfaces may result in corrosion and failure of the exposed part. The maintenance of an organic coating (paint) may prevent corrosion.

Avoid overlaps when spraying.

#### **SPRAY ADJUVANTS FOR POSTEMERGENCE APPLICATIONS**

Postemergence applications of this product require a spray adjuvant. See "SPECIAL WEED CONTROL" section. Due to variations in surfactant contents, certain surfactants containing high amounts of alcohols, paraffin based petroleum oils, and other compounds which can increase phytotoxicity to desirable vegetation, guidance is to choose a low phytotoxic surfactant.

**Methylated Seed Oils or Vegetable Oil Concentrate:** Instead of a surfactant, a methylated vegetable-based seed oil concentrate containing 5 to 20% surfactant and the remainder methylated vegetable oil is the preferred adjuvant to use with this product and may be used at the rate of 1.5 to 2 pints per acre. Methylated seed oils provide their greatest effects at 30 GPA or less. At spray volumes above 50 GPA, their advantage appears negated. When using spray volumes greater than 30 gallons per acre methylated seed oil or vegetable based seed oil concentrates should be mixed at a rate of 1% of the total spray volume or alternatively use a nonionic surfactant as described below. Research indicates those oils may aid in deposition and uptake of this product for hard-to-control perennials, waxy leaf species or when plants are under moisture or temperature stress. **DO NOT** use a methylated seed oil or vegetable oil concentrate when making applications to newly emerged seedling prairiegrasses or wildflowers as injury may occur.

**Nonionic Surfactants (NIS):** Use a NIS at 0.25% v/v (i.e. 1 quart/100 gallons) or higher in the spray solution. For best results, a NIS containing 60% surfactant in the formulated product and having a hydrophilic to lipophilic balance ratio (HLB) between 12 and 17 should be used. Do not use alcohols, fatty acids, oils, ethylene glycol, or diethylene glycol to meet these requirements. In Bermudagrass pastures and hay meadows best results will be achieved if a NIS is used with this product.

**Silicone-Based Surfactants:** Use caution if a silicone-based surfactant is used. Although a silicone-based surfactant may allow greater spreading on the leaf surface when compared to a conventional NIS, it may dry too quickly and limit the herbicide's uptake into the plant, or at higher spray volumes it may result in greater spray "run-off" from the plant. Review the specific rate instructions on the manufacturer's label.

**Fertilizer/Surfactant Blends:** Use of a nitrogen-based fertilizer at a rate of 2.0 to 3.0 pints per acre such as 28% N, 32% N, 10-34-0, or ammonium sulfate in combination with the specified rates of NIS or MSO will aid in the burndown control. Injury to desired plant species and newly emerged seedling prairiegrass and wild flowers may also be increased with the use of a fertilizer in combination with this product. Weed control will likely be poor if applied in combination with a fertilizer without a NIS or MSO. No additional spray adjuvant is required if the fertilizer is the spray carrier.

#### **TANK MIXES**

For added control of late season annual grasses and certain broadleaf weeds in noncrop areas, tank-mix this product with Pendulum® herbicide. This product can be mixed with other herbicides for additional control in noncrop areas including Razor®, Polaris®, Diuron, Tahoe®4E, Vanquish®, Spyder®, Patriot®, Trooper® 22K, or other labeled products. The compatibility of any other herbicides not listed with this product should be tested in a jar test. Mixing this product with 2,4-D or other phenoxy-type herbicides could lead to reduced control of perennial grass weeds.

**DO NOT** tank-mix with organophosphate insecticides or use in the same year when using this product on newly planted areas. Tank mix instructions for this product on Bermudagrass pastures is found in the "Directions for Use in Bermudagrass Pastures and Hay Meadows" section of this label. When tank-mixing, always consult manufacturer's labeling for rates and weeds controlled. Always follow the more restrictive label when using with a tank-mix partner.

#### **FOR WEED CONTROL IN PASTURE AND RANGELAND**

To control weeds in pasture and rangeland, a broadcast treatment of this product at 2.0 to 12.0 ounces per acre should be applied. For spot treatments, use at 0.25% to 1% solution with 1.0% methylated seed oil. Specific use directions are found below. **Do not** apply more than ~~0.063 lb ai/A imazapic (4.0 fl. oz./A) per application or per year~~ a total of 12.0 fl oz/A (0.2 lb ai/A imazapic) per year.

**Rangeland Use Instructions:** Apply to rangeland for the control of undesirable (non-native, invasive, and noxious) plant species in order to (1) aid in the establishment of desirable rangeland plant species; (2) aid in establishment of desirable rangeland vegetation after a fire; (3) aid in the reduction of vegetation that would fuel a wild-fire; (4) aid in the release of existing desirable rangeland vegetation from the competitive pressure of undesirable plant species; and (5) aid in habitat improvement for wildlife.

Protection of threatened and endangered plants is important when applying to rangeland. Therefore, federal agencies must follow NEPA regulations to ensure protection of threatened or endangered plants, state agencies must work with the Fish and Wildlife Service or the Service's designated state conservation agency to ensure protection of threatened or endangered plants, and other organizations or individuals must operate under Habitat Conservation Plan if threatened or endangered plants are known to be present on the land to be treated.

See the appropriate sections of this label for specific use directions for the vegetation management objective desired.

Do not apply to rangeland until specific weeds appear. A single application may be used to control annual weed such as Cheatgrass, Downy Brome and Medusahead Rye as long as it is used in conjunction with available IPM practices. For rangeland applications to control Cheatgrass, Medusahead, annual mustards, etc., apply preemergence or early postemergence prior to



planting. For best results for Cheatgrass control, make a late summer or fall application of this product before Cheatgrass emerges and prior to planting desirable species. Use this product in the same manner as a site preparation before planting Sagebrush seedlings. If making an application in the spring when planting a tolerant grass species, use a rate of 2.0 to 4.0 ounces per acre. Rates above 4.0 ounces per acre may result in thinning or loss of stand, especially in seedling sideoats, blue grama or buffalograss. Perennial weeds like Leafy Spurge, Dalmation Toadflax, and Russian Knapweed can be controlled in most cases with a single broadcast application. Spot treatments may be necessary to control any weeds not controlled by the broadcast application. Long term weed control in rangeland is best achieved when this product is used in conjunction with land management practices that promote growth and sustainability of desired plant species.

#### DIRECTIONS FOR USE IN BERMUDAGRASS PASTURES AND HAY MEADOWS

For control of winter and summer annual and perennial grasses in Bermudagrass pastures and hay meadows, use a postemergence application of this product at 4.0 to 12.0 ounces per acre. **Do not** apply more than **0.063 lb ai/A imazapic (4.0 fl. oz./A) per application or per year total of 12.0 fl oz/A (0.2 lb ai/A imazapic) per year.**

Specific rate and timing instructions are provided below. Use of this product is acceptable on common and coastal varieties of Bermudagrass including, but not restricted to Tifton 44, 78, and 85, Alicia and Russell. It is possible that Bermudagrass growth may be suppressed for 30 to 45 days depending on growth conditions after application. Be aware that Jiggs Bermudagrass is more sensitive to this product than other Bermudagrass types. If these growth responses are not acceptable, do not use on Bermudagrass.

Complete spray coverage is necessary to achieve the desired level of weed control. Be sure to use a sprayer that is calibrated to deliver the recommended spray volume and pressure at the spray boom height to ensure complete coverage. Decreased weed control could result if boomless or flood type nozzles are used.

**Use Restrictions:** (1) Do not apply to drought stressed Bermudagrass; (2) Do not apply during transitions from dormancy to full green-up; (3) Do not apply to newly aerated fields for 30 days after aerations; (4) Do not use for the establishment of sprigged or seeded Bermudagrass; (5) Do not use on World Feeder varieties of Bermudagrass.

**Spring Applications and Bermudagrass Tolerance:** Bermudagrass growth can be suppressed if this product is applied before the Bermudagrass has reached 100% green-up. If applied when the Bermudagrass is in the transition from winter dormancy to 100% green-up, green-up and growth will be delayed. **Do not** apply more than **0.063 lb ai/A imazapic (4.0 fl. oz./A) per application or per year total of 12.0 fl oz/A (0.2 lb ai/A imazapic) per year.**

Carefully inspect the new Bermudagrass growth in the field to be sure all stolons have begun to grow. Application of this product to a field that appears green, but where some to many stolons have not begun to grow, will still cause significant reductions in Bermudagrass growth and development. It is important to delay application until 100% green-up has been achieved.

**General Rate Instructions:** Make a postemergent application at 4.0 to 6.0 ounces per acre to control most annual and some perennial weeds in Bermudagrass pastures and hay meadows. Use the lower rate against target weeds that are small and the higher rate against target weeds that are older, larger or have been cut multiple times. Rate instructions are specified in the table below.

**Postemergence Control of Summer Annual and Perennial Grass Weeds:** When Bermudagrass has reached complete green-up and target weeds are at the growth stage desired, apply according to the rates and growth stages in the table below. Bermudagrass green-up and subsequent growth will be delayed if this product is applied too early during the transition between dormancy and full green-up. Some Bermudagrass yellowing and stolon internode shortening may occur with specified rates of this product. Bermudagrass recovery will be shortened if applied with a nitrogen fertilizer (32-0-0 or 28-0-0) used as the spray carrier.

After complete Bermudagrass green-up, apply postemergence at 4.0 to 6.0 ounces per acre for control of summer annual grasses (2 to 4 leaf stage). Use higher rates of 6.0 to 8.0 ounces per acre when target weeds are at or above the boot stage. A surfactant should always be used, except when the spray carrier is liquid fertilizer. Some preemergence control of some annual grasses will be obtained when applied postemergence to target weeds. **Do not** apply more than **0.063 lb ai/A imazapic (4.0 fl. oz./A) per application or per year total of 12.0 fl oz/A (0.2 lb ai/A imazapic) per year.**

Summer perennial grasses are controlled when applied after complete Bermudagrass green-up at the rate of 6.0 to 12.0 ounces per acre. If higher rates are necessary to control target weeds, make a fall application before a killing frost occurs. If a fall application is planned and the Bermudagrass is cut for hay, be sure the target weeds have adequate regrowth before making an application. A surfactant should always be used with, except when the spray carrier is liquid fertilizer.

#### Rates for Postemergent Summer Annual Grass Control<sup>1</sup>

Common Name	Species	Weed Height (inches) <sup>2</sup>	Rate per Acre (fluid ounces)
Large Crabgrass	<i>Digitaria sanguinalis</i>	4	4
		>4	6
Southern Crabgrass	<i>Digitaria ciliaris</i>	4	4
		>4	6
Smooth Crabgrass	<i>Digitaria ischaemum</i>	4	4

		>4	6
Giant Foxtail	<i>Setaria faberi</i>		6
Green Foxtail	<i>Setaria viridis</i>	4	4
		>4	6
Yellow Foxtail	<i>Setaria glauca</i>	4	4
		>4	6
Texas Panicum	<i>Panicum texanum</i>		6
Fall Panicum	<i>Panicum dichotomiflorum</i>		6
Broadleaf Signalgrass	<i>Bracharia platyphylla</i>	4	4
		>4	6
Annual Jewgrass	<i>Microstegium vimineum</i>	4	4
		>4	6
Barnyardgrass	<i>Echinochloa crus-galli</i>	4	4
		>4	6
Sandbur	<i>Cenchrus</i> spp.	4	4
		>4	6

<sup>1</sup> Be sure Bermudagrass has completely greened up as an application could delay green-up and subsequent growth if application is made too early before full green-up. If delayed green-up will be an issue, do not apply this product.

<sup>2</sup> Use the higher rate when the summer annual grasses are older, larger or have been subjected to multiple cuttings.

#### Rates for Postemergent Summer Perennial Grass Control<sup>1</sup>

Common Name	Species	Weed Height (inches) <sup>2</sup>	Rate per Acre (fluid ounces)
Johnsongrass	<i>Sorghum halepense</i>	18 – 24	8
		> 24	12
Vaseygrass	<i>Paspalum urvillei</i>	4 - 8	6 - 8
Nutsedge	<i>Cyperus</i> spp.	4	4
		>4	6
Bahiagrass	<i>Paspalum notatum</i>	4 - 8	6 - 8
Dallisgrass <sup>3</sup>	<i>Paspalum dilatatum</i>	4 - 8	8 - 12
Smutgrass <sup>3</sup>	<i>Sporobolus indicus</i>	4 - 8	8 - 12

<sup>1</sup> Be sure Bermudagrass has completely greened up as an application could delay green-up and subsequent growth if application is made too early before full green-up. If delayed green-up will be an issue, do not apply this product.

<sup>2</sup> Use the higher rate when the summer annual grasses are older, larger or have been subjected to multiple cuttings.

<sup>3</sup> Suppression

**Postemergent Control of Winter Annual and Perennial Grass Weeds:** When Bermudagrass is dormant, make a postemergent application at a rate of 6.0 to 12.0 ounces per acre. Be sure there is no green tissue at the root crown or on stolons because an application of this product to green tissue may delay Bermudagrass green-up and subsequent growth. In the Deep South where mild winters often occur, Bermudagrass may not go completely dormant. Avoid making an application if delayed green-up will be an issue. Control of larger winter annual and cool season perennial grasses will be improved if this product is applied with 16.0 to 24.0 ounces per acre of Razor® Pro or glyphosate equivalent. A surfactant should always be used, except when the spray carrier is liquid fertilizer. **Do not** apply more than ~~0.063 lb ai/A imazapic (4.0 fl. oz./A) per application or per year~~ total of 12.0 fl oz/A (0.2 lb ai/A imazapic) per year.

#### Rates for Postemergent Winter Annual and Cool Season Perennial Grass Control

Common Name	Species	Weed Height (inches) <sup>2</sup>	Rate per Acre (fluid ounces)
Annual Ryegrass <sup>1</sup>	<i>Lolium multiflorum</i>	6	6
		>6	10
Tall Fescue	<i>Festuca arundinacea</i>		12
Wild Oats	<i>Avena fatua</i>	6	6
		>6	10
Little Barley	<i>Hordeum pusillum</i>	6	4
		>6	6

<sup>1</sup> Because AHAS and ALS resistant annual Ryegrass occurs throughout the southeast, tank-mix 16.0 to 24.0 ounces per acre of Razor® Pro or glyphosate equivalent when making applications to control annual Ryegrass.

**Spray Adjuvants:** To promote the growth and recovery of Bermudagrass, add 10.0 to 20.0 gallons per acre of liquid fertilizer (32-0-0 or 28-0-0) as the spray carrier with this product. Do not add additional spray adjuvant when liquid fertilizer is used as the spray carrier. For additional spray adjuvant directions, go to the "Spray Adjuvants for Postemergence Applications" part of this label. Do not use crop oil concentrates (COC) as a spray adjuvant.

**Tank Mixtures:** This product may be tank-mixed with a number of broadleaf herbicides for broadleaf weed control. This product may be tank-mixed with Weedmaster®, Trooper® P+D, Relegate®, Brazen®, Patriot®, Weedestroy® AM-40, Weedar® 64, LV6 and glyphosate equivalent. Applications with tank-mixes of 2,4-D that exceed one pound active ingredient per acre and applications with tank-mixes of triclopyr amine, such as Vegetation Manager Tahoe 3A, that exceed 1 1/2 pounds active ingredient per acre may reduce efficacy on target grass weed species.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involve in the tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

#### FOR USE ON FEDERAL CONSERVATION RESERVE PROGRAM (CRP) LAND

Use this product at rates up to 12.0 ounces per acre per year for control of weeds on Federal Conservation Reserve Program (CRP) land. Specific instructions for each intended use can be found elsewhere in this label. Minimum plant-back intervals vary with the rates used. See the minimum plant-back intervals provided below. **Do not** apply more than ~~0.063 lb ai/A imazapic (4.0 fl. oz./A) per application or per year~~ total of 12.0 fl oz/A (0.2 lb ai/A imazapic) per year.

**Rotational Crop Restrictions:** The following rotational crops maybe planted after applying this product. Planting rotational crops earlier than the specified interval may result in crop injury.

Use Rate (ounces per acre)	Minimum Plant Back Interval (Months After Application)				
≤4	12	12	18	26	40
5 – 8	12	14	22	30	44
9 – 12	12	18	24	36	48
<b>Rotational Crops</b>	Bahiagrass CLEARFIELD® Corn hybrids Rye Wheat	Snapbeans Southern Peas Soybeans Tobacco	Barley Cotton <sup>1</sup> Grain Sorghum Oats	Field Corn <sup>2</sup> All crops not otherwise listed or included for use on this label <sup>2</sup>	Canola <sup>2</sup> Potatoes <sup>2</sup> Red Table Beets <sup>2</sup> Sugar Beets <sup>2</sup>

<sup>1</sup> For Arizona, New Mexico, Oklahoma, and Texas only: In these states, cotton may be planted 18 to 24 months after application unless drought conditions develop in the year of application. If less than 15 inches of rainfall or irrigation are received from the time application and November 1 of the same year, do not rotate to cotton at 18 to 24 months after application. If such drought conditions develop, wait to plant cotton until 26, 30, and 40 months application at the rates provided in the above table.

<sup>2</sup> A field bioassay of the intended rotational crop must be completed for these selected crops and for all other crops not otherwise listed or included on this label after the minimum plant back interval has elapsed. The field bioassay consists of planting a test strip across the previously treated field and grown to maturity. Be sure the test strip is planted in low areas as well as high spots and on different soil types and soil pH levels across the field. The intended rotational crop may be planted the following year if there is no crop injury in the test strip.

It is impossible to eliminate all risks associated with the use of this product; therefore, plant-back crop injury is always possible even when label rates and use directions are followed. If crop injury is a concern after using this product, then a field bioassay with the desired crop is recommended prior to planting.

#### FOR FOLIAR AND SEEDHEAD SUPPRESSION OF BAHIAGRASS, COOL SEASON GRASSES, AND SUPPRESSION OF SOME ANNUAL WEEDS

**Bahiagrass:** In unimproved areas, apply at 2.0 to 6.0 ounces per acre to suppress growth and seedhead development in Bahiagrass. For best results, apply after green-up. Use the lower rate of 2.0 ounces per acre in North and South Carolina because higher rates may result in turf thinning. Temporary turf discoloration may occur depending on the rate used as well as other factors such as surfactant type and environmental conditions. Severe injury may occur if applied to turf under any type of stress. If applied before mowing, remember that new growth will be suppressed so adjust the mower height to leave adequate existing foliage. If applied after mowing, adjust the mower to leave existing foliage or wait for re-growth before making the application. Do not use a methylated seed oil adjuvant with this product. **Do not** apply more than ~~0.063 lb ai/A imazapic (4.0 fl. oz./A) per application or per year~~ total of 12.0 fl oz/A (0.2 lb ai/A imazapic) per year.

Use Rate (ounces)	PHYTOTOXICITY	LENGTH OF SUPPRESSION
2	None to Low	Partial to Season Long
3 - 6	Low to Moderate	Season Long

Use 8.0 ounces for control of winter annual weeds. Make the application when weeds are actively growing but while the Bahiagrass is still dormant. A subsequent application at 3.0 to 4.0 ounces per acre maybe made in the spring after Bahiagrass green-up for the

suppression of seedheads and foliage.

**Cool Season Grasses: KY 31 Tall Fescue and “Wildtype” Common Kentucky Bluegrass:** For foliar and seedhead suppression of these cool season grasses, apply at 2.0 to 4.0 ounces per acre. Do not use a methylated seed oil adjuvant with this product on these grasses. Use of an adjuvant with the lower rate will enhance performance; however use of a surfactant with the higher rate (4.0 ounces) could cause excessive injury or mortality of Tall Fescue. Application to turf types of Tall Fescue and Kentucky Bluegrass could result in severe injury or stand loss. **Do not** apply more than ~~0.063 lb ai/A imazapic (4.0 fl. oz./A) per application or per year~~ a total of 12.0 fl oz/A (0.2 lb ai/A imazapic) per year.

**Wheatgrass:** Apply this product for foliar and seedhead suppression of crested Wheatgrass and intermediate Wheatgrass. Use 6.0 to 10.0 ounces per acre for crested Wheatgrass and 6.0 to 12.0 ounces per acre for intermediate Wheatgrass. Although other Wheatgrass species may be suppressed, it is best to determine effectiveness by first applying this product to a limited area. Use of 2,4-D or products containing 2,4-D in a tank-mix with this product may decrease the desired effectiveness. The potential of turf injury may be reduced when this product is tank-mixed with Tahoe®4E, Trooper® 22K, Clean Slate® and Vanquish®. Severe injury may occur if this product is applied to turf under stress.

#### FOR THE CONTROL OF UNDESIRABLE WEEDS IN BERMUDAGRASS NOT BEING GROWN FOR FORAGE OR HAY

This product will control summer and winter annual weeds as well as some perennial weeds in Bermudagrass turf found along roadsides, utility rights-of-way, rail-road crossings, at airports, and in non-irrigation ditches. Tolerance to this product varies with different Bermudagrass types. Therefore, some foliar, stolon and seed-head suppression may occur depending on turf type, application timing and herbicide rate. When applying to Bermudagrass turf it is important to (1) make application only after full Bermudagrass green-up otherwise a delay in green-up may occur; (2) add a surfactant; (3) do not apply to Bermudagrass under stress; (4) allow time for Bermudagrass foliage re-growth after mowing before making an application because some internode suppression (from simultaneously mow/spray operations) may prevent Bermudagrass from quickly recovering from mowing.

**Do not** apply more than ~~a total of 12.0 fl oz/A (0.2 lb ai/A imazapic) per year. 0.063 lb ai/A imazapic (4.0 fl. oz./A) per application or per year.~~

**Common Bermudagrass:** Common Bermudagrass is very tolerant to this product. The weed control spectrum may be improved with tank-mixes of this product with Razor® Pro, or glyphosate; however these tank-mixes may also increase turf phytotoxicity by causing stolon internode shortening and seedhead suppression for the first 8 weeks after application.

**Established Coastal Bermudagrass:** The use of 2.0 to 12.0 ounces per acre of this product on Coastal Bermudagrass will control labeled weeds and provide foliar and seedhead suppression. Do not use on World Feeder varieties of Bermudagrass. Activity of this product increases as the rate increases. Beware that applying a tank-mix combination of this product and Razor® Pro, or glyphosate on Coastal Bermudagrass may result in death or excessive injury.

**Turf Type Bermudagrass:** Tolerance to this product varies in turf type Bermudagrass varieties. At rates of 2.0 to 6.0 ounces per acre, this product will provide some annual weed control and foliar and seedhead suppression. Application of this product at rates above 6.0 ounces per acre could result in excessive injury or death.

#### SEE ABOVE SECTIONS FOR RATES AND TIMINGS FOR SPECIFIC BERMUDAGRASS TYPES WITH REGARD TO WEED CONTROL AND TURF TOLERANCE.

**Do not** apply more than ~~a total of 12.0 fl oz/A (0.2 lb ai/A imazapic) per year. 0.063 lb ai/A imazapic (4.0 fl. oz./A) per application or per year.~~

**Winter Annual Weed Control:** Make application prior to winter weed germination or while winter weeds are actively growing. Use this product at 4.0 to 12.0 ounces per acre. A delay in Bermudagrass green-up may occur if applied too early in the spring.

**Summer Annual Weeds:** For best results, make application preemergence or early postemergence before weeds have reached a height of 6 inches. Use this product at 4.0 to 12.0 ounces per acre. Control of larger weeds may be possible depending on growing conditions, species susceptibility, adjuvant selection and tank-mix partner.

**Perennial Weeds:** Use at 8.0 to 12.0 ounces per acre postemergence after weeds are large enough for herbicide uptake. For control of a specific weed species, see the “Special Weed Control” section of this label. Increased control of perennial weeds may be achieved by tank-mixing this product with Razor® Pro.

**Bahiagrass Control:** Make a postemergence application at 8.0 to 12.0 ounces per acre. For control of a specific weed species, see the “Special Weed Control” section of the label. Increased control of perennial weeds may be achieved by tank-mixing this product with Razor® Pro at 12.0 to 16.0 ounces per acre.

#### FOR THE CONTROL OF UNDESIRABLE WEEDS IN UNIMPROVED CENTIPEDE GRASS

To control annual broadleaf and grass weeds in unimproved Centipede Grass, apply this product at 4.0 to 8.0 ounces per acre with a surfactant. Make the application after the Centipede Grass has reached full green-up and do not apply to grass that is under stress. Be sure to allow time for Centipede Grass foliage re-growth after mowing before making an application because some internode suppression (from simultaneously mow/spray operations) may prevent the Centipede Grass from quickly recovering from mowing. **Do not** apply more than a total of 12.0 fl oz/A (0.2 lb ai/A imazapic) per year~~0.063 lb ai/A imazapic (4.0 fl. oz./A) per application or per year.~~

#### FOR CONTROL OF UNDESIRABLE WEEDS IN SMOOTH BROMEGRASS, "WILDTYPE" COMMON KENTUCKY BLUEGRASS AND WHEATGRASSES

**Smooth Bromegrass and "Wildtype" Common Kentucky Bluegrass:** For control of labeled grass and broadleaf weeds (see "Weeds Controlled" and "Special Weed Control" sections of this label below) as well as growth suppression, apply at 4.0 to 8.0 ounces per acre in the spring after these grasses have reached 100% green-up. A delay in green-up may occur if application is made before full green-up. Higher rates of 8.0 to 12.0 ounces per acre may be applied in the spring, however excessive growth suppression may result. A fall application at 8.0 to 12.0 ounces per acre may be made to control perennial weeds (see "Special Weed Control" section of this label below). Treatment of Smooth Bromegrass may result in foliar height and seedhead suppression.

**Wheatgrass:** For control of labeled grass and broadleaf weeds apply at 4.0 to 12.0 ounces per acre. Foliar height and seedheads may be suppressed when Wheatgrass is treated with this product. **Do not** apply more than a total of 12.0 fl oz/A (0.2 lb ai/A imazapic) per year~~0.063 lb ai/A imazapic (4.0 fl. oz./A) per application or per year.~~

#### FOR CONTROL OF UNDESIRABLE WEEDS IN CROWN VETCH

**Newly Seeded Crown Vetch:** To aid in stand establishment and reduce weed competition, apply at 4.0 ounces per acre to newly seeded beds. **Do not** apply more than a total of 12.0 fl oz/A (0.2 lb ai/A imazapic) per year~~0.063 lb ai/A imazapic (4.0 fl. oz./A) per application or per year.~~

**Established Crown Vetch in Noncropland Areas:** For control of labeled grass and broadleaf weeds (see the "Weeds Controlled" and "Special Weed Control" sections of this label below for specific rates), apply at 8.0 to 12.0 ounces per acre to established crown vetch beds. Depending on time of application, some internode shortening and minor tip chlorosis may occur after application of this product.

To avoid potential injury, apply during winter dormancy or in the early spring. If applied after May, this product may cause increased injury or defoliation of crown vetch. Injury will be increased if a surfactant such as a crop oil concentrate or d-Limonene based product is used. If applied during the fall when crown vetch is actively growing, this product may cause severe injury or stand loss.

#### FOR USE IN REVEGETATION WITH PRAIRIEGRASSES AND OTHER FORAGE GRASSES

This product controls many annual and perennial grass and broadleaf weeds when applied at 2.0 to 12.0 ounces per acre in newly established and existing stands of prairie grasses (see below for details and tolerant species) grown in such areas as pasture, rangeland (see "Instructions For Rangeland Use" section of this label), Federal Conservation Reserve Program (CRP) land and noncropland areas such as roadsides, industrial sites, prairie restoration sites, drainage ditch bank and other similar locations. Note that some local ecotypes or varieties of prairie grasses may be suppressed by this product. Poor stands may also result from other factors such as poor soil, cool temperatures, poor seedling vigor, excessive moisture, dry weather after emergence and others. Herbicide residue, poor soils and other stress factors can also lead to poor seedling vigor, increased injury and possible mortality. Nufarm cannot be held responsible for such unforeseen factors. If tolerance is not known, be sure to try this product on a small area first. This product reduces weed competition and allows grass seedlings to become established. Perennial noxious weeds in established grass stands may also be controlled with use of this product if the application is made postemergence as a foliar treatment.

##### Important Considerations:

1. Always add an adjuvant.
2. Use of a methylated seed oil only when applying on established grass stands.
3. A nonionic surfactant should be used on newly emerged seedling grasses.
4. Use of a liquid fertilizer as a carrier will reduce grass tolerance and should not be used on newly emerged seedling grasses.

**Do not** apply more than a total of 12.0 fl oz/A (0.2 lb ai/A imazapic) per year~~0.063 lb ai/A imazapic (4.0 fl. oz./A) per application or per year.~~

**Stand Establishment:** Since newly emerged grasses can be sensitive to this product and/or the adjuvant used, best results in establishing mixed grass stands are attained when the application is made at planting before grass seedlings emerge. If grasses have started to emerge, the application should be delayed until the grasses have reached the five-leaf stage. Use only a nonionic surfactant or silicone-based surfactant with this product on seedling grasses. Do not use a methylated seed oil at this timing as some injury could result. Annual weeds are controlled applying this product either preemergence or early postemergence (See the "Weeds Controlled" section of this label for maximum height of weeds for control). Rates and timing are discussed in the section



below. Some stand thinning may result from a postemergence application, because seedling grasses have varying tolerance to spray adjuvants. If the seedling grasses have reached the five-leaf stage, they are generally more tolerant to different spray adjuvants. Herbicide-carry-over can be a problem if grasses are planted into a field that was row cropped the previous year (see "Directions for Use" section of this label).

**Rates and Control:** This product will provide control and/or suppression of many annual grass and broadleaf weeds. Apply 2.0 to 6.0 ounces per acre for annual weed control in fields cropped the previous year and/or fields where grass/forb mixtures are planted. In dry climates of the northernmost U.S. and for late season plantings into cleansed beds, use lower rates. Use as low as 2.0 ounces per acre when soil pH is greater than 7, there is a low CEC, or in a coarse texture soil with low clay or organic matter content. Higher rates should be used when there is high organic matter, high rainfall, heavy weed infestation and heavy plant residue and a long growing season (southern portions of Illinois, Indiana, Missouri, and Ohio, etc.). When controlling giant ragweed, or providing control/suppression of perennial weeds, use at 8.0 to 12.0 ounces per acre. These high rates may, however, result in stunting or stand thinning. The length and amount of suppression will be related to soil type, environmental conditions, weed pressure and chemical residue. Additional details are provided below for specific grass timings and tolerances. **Do not** apply more than a total of 12.0 fl oz/A (0.2 lb ai/A imazapic) per year~~0.063 lb ai/A imazapic (4.0 fl. oz./A) per application or per year.~~

**Established Stands:** Application as an early postemergence treatment to annual grasses and broadleaf weeds will provide the best results. See the "Special Weed Control" section of this label for instructions for control of perennial weeds. Some foliar and/or seedhead height suppression may result in established grass stands when the high rates are used. This is especially likely when there is few weeds, little rainfall, light soils and short growing seasons. Lower rates should be reserved for use on light weed infestations or when desirable wildflowers and legumes are mixed in the grass stands (the "Wildflower Establishment and Maintenance" section of this label provides rate tolerance information). Higher rates will broaden and lengthen the spectrum of weeds controlled. **Do not** apply more than a total of 12.0 fl oz/A (0.2 lb ai/A imazapic) per year~~0.063 lb ai/A imazapic (4.0 fl. oz./A) per application or per year.~~

**Buffalograss:** In newly sprigged Buffalograss, apply at 2.0 to 4.0 ounces per acre for control or suppression of labeled weeds and to aid in stand establishment. Make the application immediately after planting to new growth or seedlings. Severe injury or death may occur when applied to new growth and small seedlings. It is best to wait to apply this product to newly emerged Buffalograss until the grass has at least five true leaves. It is also important to use only a nonionic or silicone-based surfactant and not to use a methylated seed oil. In established stands, apply at 2.0 to 8.0 ounces per acre. The higher rates may result in some turf discoloration and stunting. An application to dormant Buffalograss will control winter annual weeds. Note, some Buffalograss types may show different tolerance to this product. Turf type Buffalograss, for instance, may show a different tolerance to this product than the wild type Buffalograss. Some turf types may tolerate low rates applied at seeding. The seed dealer will provide details.

**Do not** apply more than a total of 12.0 fl oz/A (0.2 lb ai/A imazapic) per year~~0.063 lb ai/A imazapic (4.0 fl. oz./A) per application or per year.~~

**Sideoats and Blue Grama:** Do not apply to monoculture stands of sideoats and blue grama if stand thinning or stand loss can not be tolerated. Once new seedlings of Sideoats and Blue Grama have emerged and reached the five-leaf stage, an application at 2.0 to 4.0 ounces per acre plus an adjuvant will aid in stand establishment. Stand thinning may occur if applied at 4.0 ounces per acre with methylated seed oil as the adjuvant. Satisfactory weed control in early summer plantings of Sideoats and Blue Grama may result when lower rates of this product are used, especially in the states of Wisconsin, Michigan, Minnesota, South Dakota, North Dakota, Kansas, Oklahoma, Texas, and Nebraska, and other states where growing degree days are short. Although Sideoats and Blue Grama have shown tolerance to this product at 2.0 to 4.0 ounces per acre when applied preemergence at planting, some stand thinning may occur. In established stands of Sideoats and Blue Grama, apply this product at 4.0 to 10.0 ounces per acre. This product may be applied up to 12.0 ounces per acre, however depending on soil type, variety, environmental conditions, surfactant choice, etc., this may result in foliar and/or seedhead suppression, or in the injury of the sideoats or Blue Grama.

**Do not** apply more than a total of 12.0 fl oz/A (0.2 lb ai/A imazapic) per year~~0.063 lb ai/A imazapic (4.0 fl. oz./A) per application or per year.~~

**Switchgrass (*Panicum virgatum*):** Do not use this product for the establishment of pure Switchgrass stands as severe injury or death may result. It may, however, be applied at 2.0 to 4.0 ounces per acre if Switchgrass is planted in a mixed stand with tolerant species. Even then, some stand thinning or loss of stand may result. If reclaiming a mature Switchgrass stand from certain perennial weeds like Tall Fescue, Leafy Spurge and Johnsongrass, etc., use at rates of 10.0 to 12.0 ounces per acre. Beware, however, that severe stunting and injury will occur. **DO NOT** apply to Switchgrass if severe injury cannot be tolerated.

**Do not** apply more than a total of 12.0 fl oz/A (0.2 lb ai/A imazapic) per year~~0.063 lb ai/A imazapic (4.0 fl. oz./A) per application or per year.~~

**Eastern Gamagrass:** Apply at 2.0 to 6.0 ounces per acre at planting prior to Eastern Gamagrass emergence only if some stand thinning or loss can be tolerated. Stand thinning and stunting will most likely result. Stand mortality could result if there are adverse conditions, poor soils or added stress to the Eastern Gamagrass. On established Eastern Gamagrass, apply this product at 2.0 to 8.0 ounces per acre while the Eastern Gamagrass is dormant. Injury in the form of stunting will occur as the rate is increased. If applied during or after green-up, foliar and/or seedhead suppression and possible mortality of weak plants may result.

Do not apply more than a total of 12.0 fl oz/A (0.2 lb ai/A imazapic) per year~~0.063 lb ai/A imazapic (4.0 fl. oz./A) per application or per year.~~

**Big Bluestem, Little Bluestem and Indiangrass:** To control labeled weeds in these grasses at planting, or any time thereafter (including emerged seedlings and dormant or actively growing perennial stands), apply this product at the rate of 2.0 to 12.0 ounces per acre. See "Weeds Controlled" section of this label for the desired rate. Lower rates should be used in Wisconsin, Michigan, Minnesota, South Dakota, North Dakota, Kansas, Oklahoma, Texas, and Nebraska and higher rates should be used in areas of where there is more rainfall and a longer growing season.

Do not apply more than a total of 12.0 fl oz/A (0.2 lb ai/A imazapic) per year~~0.063 lb ai/A imazapic (4.0 fl. oz./A) per application or per year.~~

**Tall Fescue Control:** Tall Fescue can be controlled in established stands of, or in seed bed preparations for, Big Bluestem, Little Bluestem and Indiangrass when this product is applied at 12.0 ounces per acre in combination with methylated seed oil at 2.0 pints per acre. Control may be aided with the addition of nitrogen fertilizer (see "Spray Adjuvants for Postemergence Applications" section of this label). Best results will be obtained if the Tall Fescue is actively growing. Application to Tall Fescue after it has reached the boot stage or summer dormancy will result in poor control. Tank-mix combinations with could result in improved control of existing Tall Fescue as well as new germinating seedlings. Best results will result from a fall application at 6.0 to 12.0 ounces per acre plus 24.0 to 64.0 ounces per acre of Razor® Pro. To control older, more mature Fescue stands in the spring, use at the higher end of the 6.0 to 12.0 ounces per acre rate range plus a tank-mix with Razor® Pro at 32.0 to 64.0 ounces per acre. If planting forbs, use the lower end of the 6.0 to 12.0 ounces per acre rate range of this product plus a tank-mix with a glyphosate product. If used at 8.0 ounces per acre with a glyphosate product in the fall, only 4.0 ounces per acre of this product should be applied in the spring at planting for annual weed and seedling Fescue control. Where permitted, burning the Fescue stand the following spring prior to green-up should help provide a better seedbed for planting and aid in control of seedling Tall Fescue. Several summer mowings of the Fescue will weaken the root system and make the Fescue more susceptible to herbicides. At least 10 inches of Fescue regrowth is necessary following the last mowing before applying either this product or glyphosate products. Both require adequate foliage present for uptake and maximum control.

Do not apply more than a total of 12.0 fl oz/A (0.2 lb ai/A imazapic) per year~~0.063 lb ai/A imazapic (4.0 fl. oz./A) per application or per year.~~

#### TOLERANT GRASS SPECIES<sup>1</sup>

Prairiegrasses		Rate (Ounces/acre) <sup>2</sup>	
Common Name	Species	New Seedling	Established
Big Bluestem	<i>Andropogon gerardii</i>	2 - 12	2 - 12
Little Bluestem	<i>Schizachyrium scoparium</i>	2 - 12	2 - 12
Indiangrass	<i>Sorghastrum nutans</i>	2 - 12	2 - 12
Bushy Bluestem	<i>Andropogon glomeratus</i>	-*	2 - 12
King Ranch Bluestem	<i>Bothriochloa ischaemum</i>	-	2 - 12
Silver Beard Bluestem	<i>Bothriochloa saccharoides</i>	-	2 - 12
Broomsedge	<i>Andropogon virginicus</i>	-	2 - 12
Fingergrass, Rhodes Grass	<i>Chloris</i> spp.	-	2 - 12
Needlegrass	<i>Stipa</i> spp.	-	2 - 12
Needleand-thread	<i>Stipa comata</i>	-	2 - 12
Kearny (Plains) Threeawn	<i>Aristida longespica</i>	-	2 - 12
Prairie Threeawn	<i>Aristida oligantha</i>	-	2 - 12
Prairie Sandreed	<i>Calamovilfa longifolia</i>	-	2 - 12
Smooth Bromegrass	<i>Bromus inermis</i>	-	2 - 12
Kentucky Bluegrass	<i>Poa pratensis</i>	-	2 - 12 <sup>4</sup>
Sandberg's Bluegrass	<i>Poa sandbergii</i>	-	2 - 12
Wheatgrass	<i>Agropyron</i> spp.	-	2 - 12
Bottlebrush Squirreltail	<i>Sitanion hystrix</i>	-	2 - 12
Russian Wild Ryegrass	<i>Elymus junceus</i>	2 - 6 <sup>2</sup>	2 - 12
Sideoats Grama	<i>Bouteloua curtipendula</i>	2 - 8 <sup>3</sup>	2 - 8
Blue Grama	<i>Bouteloua gracilis</i>	2 - 8 <sup>3</sup>	2 - 8
Buffalograss	<i>Buchloe dactyloides</i>	2 - 4	2 - 8
Eastern Gamagrass	<i>Tripsacum dactyloides</i>	2 - 6 <sup>3</sup>	2 - 8

<sup>1</sup> See individual grass sections for application timing.

<sup>2</sup> High rates may result in stunting and growth suppression



<sup>3</sup> Preemergence applications to newly seeded Sideoats, Blue Grama and Eastern Gamagrass may result in thinning or loss of stand.

<sup>4</sup> Some Bluegrass varieties are sensitive to this product. Drought can delay recovery and may result in overgrazing of treated area.

\* Tolerance unknown.

**Tolerance of Established Grasses to 8.0 to 12.0 ounces applied in the Fall**

Grass Species <sup>1</sup>	Tolerant	Suppression <sup>2</sup>	Not Tolerant	Tolerance Unknown
Bermudagrass	X			
Bluegrass Kentucky		X		
Bluegrass, Sandberg's	X			
Bluestem, Big	X			
Bluestem, Bushy	X			
Bluestem, King Ranch	X			
Bluestem, Little	X			
Bluestem, Silver Beard	X			
Bromegrass, Meadow		X	X	
Bromegrass, Smooth		X		
Broomsedge	X			
Buffalograss	X	X		
Cheatgrass			X	
Creeping Foxtail, Garrison				X
Downy Brome			X	
Fescue, Idaho	X			
Fescue, Tall			X	
Gamagrass, Eastern		X		
Grama, Blue	X	X		
Grama, Sideoats	X	X		
Indiangrass	X			
Medusahead			X	
Needleand-thread	X			
Needlegrass, Green	X			
Orchardgrass		X		
Prairie Cordgrass		X		
Prairie Dropseed				X
Prairie Sandreed	X			
Prairie Threeawn	X			
Quackgrass		X		
Redtop		X	X	
Reed Canarygrass		X	X	
Rhodes Grass/Fingergrass	X			
Ryegrass, Annual or Italian			X	
Ryegrass, Perennial		X	X	
Squirreltail, Bottlebrush	X			
Switchgrass		X	X	
Timothy			X	
Wheatgrass, Bluebunch	X	X		
Wheatgrass, Crested	X	X		
Wheatgrass, Intermediate	X	X		
Wheatgrass, Pubescent	X	X		
Wheatgrass, Siberian	X			
Wheatgrass, Slender	X	X		
Wheatgrass, Streambank	X	X		

Wheatgrass, Western	X	X		
Wild Ryegrass, Basin	X			
Wild Ryegrass, Canada		X		
Wild Ryegrass, Russian	X			
Wild Ryegrass, Virginia		X		

<sup>1</sup> Species with an X in more than one column means tolerance will vary depending on variety, use rate, and environmental conditions.

<sup>2</sup> Suppression may be expressed as reduction in number of seedheads, seedhead height suppression or foliage height reduction, however, full recovery of the grass can be expected.

### WILDFLOWER ESTABLISHMENT AND MAINTENANCE

Tolerance among wildflowers to this product varies considerably because there are so many different genotypes, ecotypes and varieties and susceptibilities depending on soil types and environmental conditions. Do not use unless some stand thinning or mortality of wildflowers can be tolerated. The least amount of injury to tolerant species from a preemergence application will result from the low rate of 2.0 ounces per acre. Because the use of this product is applied postemergence result can be found in injury or death of some wild-flower genotypes, it should only be used as a last resort when the wildflower stand is threatened by weed competition. Certain spray adjuvants used with this product may also increase injury and stand loss in wildflowers. Most legumes listed in the tolerance table are tolerant 4.0 ounces per acre, however some stand thinning can occur. The instructions given in the tables below are for mixed grass/wildflower stands. Use on a monoculture stand could result in poor control and plant injury. A small area of the monoculture stand should be tested for injury before applying to a larger area of a monoculture stand.

**For Prairiegrass/Wildflower Mixtures:** If wildflower injury (stand thinning, height suppression, etc.) can be tolerated, apply at the rate specified to achieve the weed control desired. Do not exceed the tolerance rate given in the table below. Preemergence applications can reduce or eliminate wild-flower injury. To minimize injury to tolerant species apply at 2.0 to 4.0 ounces per acre. In low rainfall areas and areas where conditions are cool and dry, use the 2.0 ounce per acre rate. If a postemergence application is to be made to established prairiegrass/wildflower mixtures, the lowest rates allowed to achieve the weed control desired should be used (see "Weeds Controlled" section of this label). Postemergence application can result in stand thinning or death due to the great variation in seed sources, varieties, and genotypes of wildflowers. Test a small area to determine tolerance before making a full application to a large area. The rates listed below are for those species in which acceptable tolerance has been confirmed on the varieties/genotypes being treated. Increased wildflower injury may result from an application in conjunction with an organophosphate insecticide. **Do not** apply more than a total of 12.0 fl oz/A (0.2 lb ai/A imazapic) per year ~~0.063 lb ai/A imazapic (4.0 fl. oz./A) per application or per year.~~

**Seedling Wildflower and Legume Tolerance (4ounce per acre)<sup>1</sup> in Mixed Grass/Forb Stands**

Common Name	Species	Preemergence	Postemergence
Alfalfa	<i>Medicago sativa</i>	No	YES
Aster, New England	<i>Aster novae angliae</i>	No	YES
Aster, Prairie	<i>Aster tanacetifolia</i>	No	YES
Baby Blue Eyes	<i>Nemophila menziesii</i>	No	YES
Beggar ticks	<i>Bidens frondosa</i>	No	YES
Bird's eyes	<i>Gila tricolor</i>	No	YES
Bishop's Flower	<i>Anuni majus</i>	No	YES
Blackeyed Susan	<i>Rudbeckia hirta</i>	YES	YES
Blanketflower	<i>Gaillardia aristata</i>	No	YES
Bundleflower, Illinois	<i>Desmanthus illinoensis</i>	YES	YES
Catchfly	<i>Silene armeria</i>	No	YES
Chicory	<i>Cichorium intybus</i>	YES	YES
Clover, Crimson	<i>Trifolium incarnatum</i>	YES	YES
Clover, White	<i>Trifolium repens</i>	No	YES
Coneflower, Purple	<i>Echinacea purpurea</i>	YES	YES
Coneflower, Upright Prairie	<i>Ratibida columnifera</i>	YES	YES
Coreopsis, Dwarf Red Plains	<i>Coreopsis tinctoria</i> var. <i>Gay Feather</i>	YES	YES
Coreopsis, Lance Leaved	<i>Coreopsis lanceolata</i>	YES	YES
Coreopsis, Plains	<i>Coreopsis, tinctoria</i>	YES	YES
Cornflower	<i>Centaurea cyanus</i>	No	YES
Cosmos, Garden	<i>Cosmos bipinnatus</i>	YES	YES

Cosmos, Yellow	<i>Cosmos sulphureus</i>	YES	YES
Daisy, Ox-eye	<i>Chrysanthemum leucanthemum</i>	YES	YES
Daisy, Shasta	<i>Chrysanthemum maximum</i>	YES	YES
Five Spot	<i>Nemophila maculata</i>	No	YES
Flax, Blue	<i>Linum perenne</i>	No	YES
Hat, Mexican	<i>Ratibida columnifera</i>	YES	YES
Indian Blanket	<i>Gaillardia pulchella</i>	No	YES
Indigo, Blue False	<i>Baptisia australis</i>	YES	No
Johnny Jump-ups	<i>Viola cornuta</i>	YES	YES
Lemon Mint	<i>Monarda citriodora</i>	No	YES
Lespedeza, Bicolor	<i>Lespedeza</i> spp.	YES	YES
Lespedeza, Korean	<i>Lespedeza stipulacea</i>	No	YES
Lespedeza, Sericea	<i>Lespedeza cuneata</i>	No	YES
Lupine, Perennial	<i>Lupinus perennis</i>	YES	YES
Partridgepea	<i>Cassia fasciculata</i>	YES	YES
Pea, Calico	<i>Pisum viganasinensis</i>	YES	YES
Pea, Flat	<i>Lathyrus sylvestris</i>	YES	YES
Pea, Perennial	<i>Lathyrus latifolius</i>	YES	YES
Phlox, Drummond	<i>Phlox drummondii</i>	YES	No
Poppy, California	<i>Eschscholtzia californica</i>	YES	No
Poppy, Corn	<i>Papaver rhoeas</i>	YES	YES
Poppy, Red Corn	<i>Papaver</i> spp.	YES	YES
Prairieclover, Purple	<i>Dalea purpurea</i>	YES	YES
Prairieclover, White	<i>Dalea candidum</i>	YES	YES
Tick-trefoil, Showy	<i>Desmodium canadense</i>	No	YES
Trefoil, Birdsfoot	<i>Lotus corniculatus</i>	No	YES
Vetch, Crown	<i>Coronilla varia</i>	YES	-
Vetch, Hairy	<i>Vicia villosa</i>	YES	-
Yarrow, Gold	<i>Achillea filipendulina</i>	No	YES

<sup>1</sup> For legumes, at least three true leaves should be present at a postemergence application.

**Established Wildflower and Legume Tolerance (maximum rate<sup>1</sup>, ounce per acre) in Mixed Grass/Forb Stands**

Common Name	Species	Preemergence	Postemergence <sup>2</sup>
Flax, Blue	<i>Linum perenne</i>	0	6
Indian Blanket	<i>Gaillardia pulchella</i>	0	6
Blanketflower	<i>Gaillardia aristata</i>	0	8
Chicory	<i>Cichorium intybus</i>	4	6
Daisy, Shasta	<i>Chrysanthemum maximum</i>	4	8
Prairieclover, Purple	<i>Dalea, purpurea</i>	4	12
Coneflower, Upright Prairie	<i>Ratibida columnifera</i>	6	6
Hat, Mexican	<i>Ratibida columnifera</i>	6	6
Poorjoe	<i>Diodia teres</i>	8	-
Lupine, Perennial <sup>4</sup>	<i>Lupinus perennis</i>	8	12
Coneflower, Purple	<i>Echinacea purpurea</i>	8	8
Daisy, Ox-eye <sup>3</sup>	<i>Chrysanthemum leucanthemum</i>	8	8
Leadplant	<i>Amorpha canescens</i>	8	8
Lespedeza, Bicolor	<i>Lespedeza</i>	8	8
Milkweed, Common	<i>Asclepias syriaca</i>	8	-
Pea, Prairie Scurf	<i>Psoralea esculenta</i>	8	8

Yarrow, Gold <sup>3</sup>	<i>Achillea filipendulina</i>	8	8
Blackeyed Susan	<i>Rudbeckia hirta</i>	8	10
Johnny Jump-ups	<i>Viola cornuta</i>	8	12
Sweetclover	<i>Melilotus sp.</i>	12	8
Alfalfa	<i>Medicago sativa.</i>	12	12
Bundleflower, Illinois	<i>Desmanthus illinoensis</i>	12	12
Lespedeza, Sericea	<i>Lespedeza cuneata</i>	12	12
Partridgepea	<i>Cassia fasciculata</i>	12	12
Sensitive vine	<i>Mimosa strigillosa</i>	12	12
Vetch, Crown	<i>Coronilla varia</i>	12	12
Violet, Wild	<i>Viola spp.</i>	12	12

<sup>1</sup> Height suppression or stand reduction may occur at maximum use rate. For legumes, some yellowing and stunting can occur at higher use rates.

<sup>2</sup> Postemergence applications should be made early post on the flowers to reduce injury and increase flower set.

<sup>3</sup> Will not flower.

<sup>4</sup> Most native rangeland lupines are tolerant at 12.0 ounces per acre postemergence.

**Wildflower Establishment 4.0 ounce per acre + Pendulum Herbicide 2.0 pounds active ingredient per acre<sup>1</sup>**

Common Name	Species	Preemergence <sup>2</sup>	Postemergence <sup>3</sup>
Blackeyed Susan	<i>Rudbeckia hirta</i>	YES	YES
Blanketflower	<i>Gaillardia aristata</i>	NO	YES
Bundleflower, Illinois	<i>Desmanthus illinoensis</i>	>50% Thinning	YES
Clover, Crimson	<i>Trifolium incarnatum</i>	>50% Thinning	YES
Coneflower, Clasping	<i>Dracopsis amplexicaulis</i>	YES	YES
Coneflower, Upright Prairie	<i>Ratibida columnifera</i>	NO	OK
Coneflower, Purple	<i>Echinacea purpurea</i>	YES	YES
Coreopsis, Dwarf Red Plains	<i>Coreopsis tinctoria</i> var. <i>Gay Feather</i>	OK Stunting	OK Stunting
Coreopsis, Plains	<i>Coreopsis tinctoria</i>	OK Stunting	YES
Coreopsis, Lance Leaved	<i>Coreopsis lanceolata</i>	>25% Thinning	YES
Cornflower	<i>Centaurea cyanus</i>	NO	OK 20% Thinning
Cosmos, Garden	<i>Cosmos bipinnatus</i>	OK 10% Thinning	OK Stunting
Cosmos, Yellow	<i>Cosmos sulphureus</i>	YES	YES
Daisy, Ox-eye	<i>Chrysanthemum leucanthemum</i>	25% Thinning	YES
Daisy, Shasta	<i>Chrysanthemum maximum</i>	Marginal – OK – 20% Thinning	YES
Lupine, Perennial	<i>Lupinus perennis</i>	YES	50% Tinning
Partridgepea	<i>Cassia fasciculata</i>	25% Thinning	YES
Poppy, California	<i>Eschscholtzia californica</i>	YES	25% Injury, Stunting, Thinning
Yarrow, Gold	<i>Achillea filipendulina</i>	OK Thinning	OK

<sup>1</sup> 2lbs. active ingredient per acre = 2.4 quarts of Pendulum herbicide 3.3 EC or 3.3 lbs. of Pendulum herbicide WDG

<sup>2</sup> Preemergence at planting

<sup>3</sup> Postemergence to seedlings

Yes = No Injury

No = Results in no wildflower germination or unacceptable injury to seedling flowers.

OK = Can be used if thinning and/or stunting can be tolerated or if establishment is threatened by weed competition.

Beware that the response of wildflowers to could vary greatly because of the many species and varieties that exist. Test small areas first to determine tolerance and whether potential injury is acceptable before treating larger areas.

If this product is to be used on a wildflower species that is not listed in the table, a small area should be tested with no more than 12 ounces per acre per year to determine the injury that may result. Evaluate the wildflowers 1 to 2 months later for possible injury. The user assumes all responsibility for any damage or other liability.

## WILDLIFE HABITAT MANAGEMENT

This product may be used to control exotic and other undesirable vegetation for purposes of wildlife habitat management and enhancement within terrestrial noncrop sites including riparian and tree areas. Applications can be made to control undesirable vegetation prior to the establishment of desirable species and to release desirable species that may be present in the soil, but suppressed by competitive vegetation. See specific sections of this label for weed control information.

## SPECIAL WEED CONTROL

Always add an adjuvant to this product (see "Spray Adjuvants for Postemergence Applications" section of this label). Best control of perennial weeds is achieved when mixed with a methylated seed oil. This is especially true when weeds have waxy leaves or with perennials and weeds under stress conditions. Use a methylated seed oil for best results against the weeds listed below because the use of a nonionic or silicone-based surfactant may result in less than accept-able control.

**Johnsongrass and Itchgrass:** When Johnsongrass and Itchgrass have reached the whorl stage and 18 to 24 inches in height, apply at 8.0 to 12.0 ounces per acre. If treating dense stands, or after these grasses have reached the culm elongation stage, control may be improved with the addition of Razor® Pro at the rate of 8.0 to 16.0 ounces per acre. The higher herbicide rates should be used as grass density increases. Sometimes, control of Johnsongrass and Itchgrass at stages taller than described above are possible. **Do not** apply more than a total of 12.0 fl oz/A (0.2 lb ai/A imazapic) per year~~0.063 lb ai/A imazapic (4.0 fl. oz./A) per application or per year.~~

**Dallisgrass, Bahiagrass, Vaseygrass, Paspalum spp., Smutgrass:** Make a postemergence application at 10.0 to 12.0 ounces per acre after grass has reached full green-up for control of Dallisgrass, Bahiagrass and Smutgrass. Activity against Dallisgrass and Smutgrass may range from suppression to control depending upon the growth stage and growing conditions at the time of application. To control Vaseygrass, make a postemergence application at the rate of 4.0 to 6.0 ounces per acre after the grass has reached 100% green-up and is from 3 to 8 inches in height. Efficacy will be improved with the addition of Razor® Pro at the rate of 12.0 to 16.0 ounces per acre. Higher herbicide rates should be used as weed growth and density increases. A preemergence application of this product plus Pendulum® herbicide will provide increased control of these grasses germinating from seed. **Do not** apply more than a total of 12.0 fl oz/A (0.2 lb ai/A imazapic) per year~~0.063 lb ai/A imazapic (4.0 fl. oz./A) per application or per year.~~

**Leafy Spurge:** Maximum control of Leafy Spurge may be obtained when this product is applied in late summer or fall at 8.0 to 12.0 ounces per acre in combination with a methylated seed oil at two pints per acre. Should be applied August through October, but it can vary due to geography and altitude. Yearly applications will improve the residual control of Leafy Spurge. In some areas, cool season grasses may be injured by applications at 12.0 ounces per acre in spring or fall, or 4.0 ounces applied in the fall followed by 8.0 ounces per acre in the spring. Nitrogen fertilizer (see "Spray Adjuvants for Postemergence Applications" section of this label) at 2.0 pints per acre may increase the control of Leafy Spurge, however it may also cause injury to grasses and forbs. Use with a nonionic or silicone-based surfactant will not provide control of Leafy Spurge. The target timing for fall applications for control of Leafy Spurge in North and South Dakota is late August through September. Further south in Nebraska and Iowa the target timing is mid-September through mid-October. Make this application before a killing frost, when there is good soil moisture present and the Leafy Spurge has not lost its milky sap flow. Check for milky sap flow by breaking the Leafy Spurge main stem and if milky sap flows from the break then this product may still be applied. **Do not** apply more than a total of 12.0 fl oz/A (0.2 lb ai/A imazapic) per year~~0.063 lb ai/A imazapic (4.0 fl. oz./A) per application or per year.~~

**Tall Fescue Control:** Apply at 12.0 ounces per acre plus methylated seed oil at 2.0 pints per acre to control Tall Fescue. Control will be aided by the addition of Razor® Pro and/or Nitrogen fertilizer (see "Spray Adjuvants for Postemergence Applications" section of this label). Only apply when Tall Fescue is actively growing because application after Tall Fescue had reached summer dormancy will result in poor control. **Do not** apply more than a total of 12.0 fl oz/A (0.2 lb ai/A imazapic) per year~~0.063 lb ai/A imazapic (4.0 fl. oz./A) per application or per year.~~

Best control of existing Tall Fescue and germinating seedlings is obtained when this product is applied in the fall at 8.0 to 12.0 ounces per acre plus Razor® Pro at 24.0 to 64.0 ounces per acre. To control mature Fescue stands in the spring, use at the higher end of the 6.0 to 12.0 ounces per acre rate range plus a tank-mix with Razor® Pro at 32.0 to 64.0 ounces per acre. If planting forbs, use the lower end of the 6.0 to 12.0 ounces per acre rate range plus a tank-mix with a glyphosate product. If used at 8.0 ounces per acre with a glyphosate product in the fall, only 4.0 ounces per acre of this product should be applied in the spring at planting for annual weed and seedling Fescue control. Where permitted, burning the Fescue stand the following spring prior to green-up should help provide a better seedbed for planting and aid in control of seedling Tall Fescue. Several summer mowings of the Fescue will weaken the root system and make the Fescue more susceptible to herbicides in the fall. At least 10 inches of Fescue regrowth is necessary following the last mowing before applying either this product or glyphosate products. Both require adequate foliage present for uptake and maximum control.

**Russian Knapweed:** To control Russian Knapweed, a fall application at 12.0 ounces per acre plus 1.0 quart per acre of methylated seed oil should be made during Russian Knapweed senescence. Reduced control will result if the application is made before the initiation of senescence. Although control improves as senescence progresses, Russian Knapweed control may still be obtained if the application is made after full senescence. **Do not** apply more than a total of 12.0 fl oz/A (0.2 lb ai/A imazapic) per year~~0.063 lb ai/A imazapic (4.0 fl. oz./A) per application or per year.~~

**Dalmation Toadflax:** To control Dalmation Toadflax, a fall application at 12.0 ounces per acre plus 1.0 quart per acre of methylated seed oil should be made when the top quarter of the plant is necrotic, usually after a hard frost (late October through November). Reduced control will result if the application is made before this timing. Good control can be achieved as long as some green stem and/or leaf tissue is remaining. Adding ammonium sulfate at 2.0 to 3.0 pints per acre may improve control. **Do not** apply more than a total of 12.0 fl oz/A (0.2 lb ai/A imazapic) per year~~0.063 lb ai/A imazapic (4.0 fl. oz./A) per application or per year.~~

**Resistant Biotypes:** Herbicides that have the ALS/AHAS enzyme inhibiting mode of action such as this product, Spyder® and others may not control some weeds listed on this label if resistant biotypes are present. If ALS/AHAS resistant biotypes occur in the area to be sprayed, tank-mix this product, or make sequential applications, with a registered herbicide with a different mode of action.

#### RESIDUAL BAREGROUND WEED CONTROL

For total vegetation control in sensitive areas and around desirable vegetation, use at 12.0 ounces per acre in a tank-mix combination with labeled rates of Pendulum herbicide, Razor® Pro, Patriot®, diuron, ProClipse® 65 WDG or other labeled products to provide total vegetation control. Use 2.0 pints per acre of methylated seed oil as an adjuvant for maximum control. **Do not** apply more than a total of 12.0 fl oz/A (0.2 lb ai/A imazapic) per year~~0.063 lb ai/A imazapic (4.0 fl. oz./A) per application or per year.~~

To provide total weed control in bareground areas, apply at 12.0 ounces per acre in a tank-mix with Polaris®, Krovar®, Spyder®, Trooper® 22K, Vanquish® or other labeled products to provide total bare-ground weed control. Use 2.0 pints per acre of methylated seed oil as an adjuvant for maximum control. **Do not** apply more than a total of 12.0 fl oz/A (0.2 lb ai/A imazapic) per year~~0.063 lb ai/A imazapic (4.0 fl. oz./A) per application or per year.~~

**Spot Treatments:** For weed control in bareground or total vegetation, this product may be applied to small areas. In each gallon of water, mix at 0.3 to 5.4 ounces with 0.25 to 5% v/v methylated seed oil adjuvant.

**Do not** apply more than a total of 12.0 fl oz/A (0.2 lb ai/A imazapic) per year~~0.063 lb ai/A imazapic (4.0 fl. oz./A) per application or per year.~~

#### USE UNDER PAVED SURFACES

Establish the final grade to the soil and then apply in sufficient water to obtain uniform wetting of the soil surface and shoulder area. The soil should not be moved after the application. Using clean water and constant agitation, mix at the rate of 12.0 ounces per acre. If the soil is not moist before application, weed control can be improved through incorporation of this product. Mechanical incorporation to a depth of two inches with a rototiller or disc is one method. Use of rainfall and/or irrigation (one inch/Acre) is another good method to incorporate this product. Treated soil should not be allowed to wash or move from the treated area.

**Do not** apply more than a total of 12.0 fl oz/A (0.2 lb ai/A imazapic) per year~~0.063 lb ai/A imazapic (4.0 fl. oz./A) per application or per year.~~

#### CONIFER PLANTATION SITE PREPARATION

Apply as a site preparation treatment prior to establishing conifer plantations to provide residual weed control of herbaceous weeds. Apply at 12.0 ounces per acre. ~~Do not apply more than 12.0 ounces per acre per year.~~ Do not use in forests. Only for use on sites that are managed as conifer plantations. **Do not** apply more than a total of 12.0 fl oz/A (0.2 lb ai/A imazapic) per year~~0.063 lb ai/A imazapic (4.0 fl. oz./A) per application or per year.~~

#### TOLERANCE OF TREES AND BRUSH

Apply this product in and around desirable tree and brush species, follow these general instructions:

1. Apply to a limited area to determine tolerance in the area.

Apply at rates up to 12.0 ounces per acre to control weeds in roadsides, prairies, and areas used for wildlife cover, erosion control and wind-breaks and in and around established trees or pasture or rangeland (see "Instructions for Rangeland Use" section of this

label). **Do not** apply more than a total of 12.0 fl oz/A (0.2 lb ai/A imazapic) per year~~0.063 lb ai/A imazapic (4.0 fl. oz./A) per application or per year.~~

2. Severe injury or death may result if applied to tree and brush species that are under stress due to drought, insects or other factors that might make the plant more susceptible to injury.
3. Tip chlorosis and minor necrosis may be seen on some species.
4. Use application methods that decrease foliar contact as injury in the form of defoliation and terminal death may occur.
5. A list of tolerant tree and brush species when this product is applied under the canopy and/or to the foliage are presented below.

#### **RESTRICTIONS**

Do not use this product on nursery, orchard, ornamental plantings, new plantings, seedling trees or fiber farms unless such use is provided in supplemental labeling from Nufarm.

If making a fall application, delay the application until after leaves have begun to senesce or drop to avoid potential foliar injury to tree and brush species. Fall applications can be made to conifer species as they are generally tolerant to this product. Be sure to apply in and around tree and brush species at the specified timing for the target weeds.



**Brush and Tree Species Tolerance at 12 ounces per acre<sup>1</sup>**

Common Name	Species	Tolerance by Application Method <sup>2</sup>	
		Directed Below Foliage	To Foliage
Apple	<i>Malus sylvestris</i>	YES	NR
Ash, Blue	<i>Fraxinus quadrangulata</i>	YES	NR
Ash, Green	<i>Fraxinus pennsylvanica</i>	NO	NO
Azalea	<i>Rhododendron</i> spp.	NO	NO
Basswood	<i>Tilia heterophylla</i>	NO	NO
Boxelder	<i>Acer negundo</i>	YES	Injury <sup>5</sup>
Buckeye, Ohio	<i>Aesculus glabra</i>	YES	NR
Cedar-juniper, Western	<i>Thuja plicata</i>	YES	YES
Cherry, Black <sup>3</sup>	<i>Prunus serotina</i>	NO	NO
Cherry, Choke	<i>Prunus virginiana</i>	NO	NO
Cherry, Sweet <sup>3</sup>	<i>Prunus avium</i>	NO	NR
Cottonwood	<i>Populus deltoides</i>	YES	Injury <sup>5</sup>
Cottonwood, Narrow Leaf	<i>Populus</i> spp.	YES	Injury <sup>5</sup>
Currant species	<i>Ribes</i> spp.	Injury <sup>5</sup>	NO
Dogwood, Flowering	<i>Cornus</i> spp.	YES	YES
Dogwood, Grey	<i>Cornus racemosa</i>	YES	Injury <sup>5</sup>
Dogwood, Red Twig	<i>Cornus</i> spp.	YES	YES
Douglas Fir	<i>Pseudotsuga menziesii</i>	YES	YES <sup>4</sup>
Elm, American	<i>Ulmus Americana</i>	YES	YES
Elm, Siberian	<i>Ulmus pumila</i>	YES	NO
Elm, Slippery	<i>Ulmus rubra</i>	YES	YES
Gooseberry	<i>Ribes</i> spp.	Injury <sup>5</sup>	Injury <sup>5</sup>
Hackberry	<i>Celtis occidentalis</i>	YES	YES
Hawthorn	<i>Crataegus</i> spp.	YES	Injury <sup>5</sup>
Juniper, Chinese	<i>Juniperus chinensis</i>	YES	YES
Juniper, Western	<i>Juniperus osteosperma</i>	YES	YES
Lilac	<i>Syringa</i> spp.	NO	NO
Linden, American	<i>Tilia Americana</i>	NO	NO
Locust, Black	<i>Robinia pseudoacacia</i>	YES	YES
Locust, Honey	<i>Gleditsia triacanthos</i>	YES	YES
Maple, Red	<i>Acer rubrum</i>	YES	YES
Maple, Sugar	<i>Acer saccharum</i>	YES	YES
Mulberry, Red	<i>Morus rubra</i>	YES	NR
Mulberry, White	<i>Morus alba</i>	YES	NR
Oak, Black	<i>Quercus velutina</i>	YES	NR
Oak, Live	<i>Quercus virginiana</i>	YES	YES
Oak, Southern Red	<i>Quercus falcate</i>	YES	NR
Oak, White	<i>Quercus alba</i>	YES	NR
Olive, Russian	<i>Elaeagnus angustifolia</i>	YES	NO
Osage Orange	<i>Maclura pomifera</i>	YES	NR
Peach (var. Elberta) <sup>3</sup>	<i>Prunus persica</i>	YES	NR
Photinia, Red Tip	<i>Photinia fraseri</i>	YES	YES
Pine, Lodgepole	<i>Pinus contorta</i>	YES	Injury <sup>5</sup>
Pine, White <sup>4</sup>	<i>Pinus strobes</i>	YES	YES
Pittosporum, Japanese	<i>Pittosporum tobira</i>	YES	YES
Plum species	<i>Prunus</i> spp.	YES	NO

Poplar, Yellow (Tulip)	<i>Liriodendron tulipifera</i>	YES	NR
Privet, Common	<i>Ligustrum vulgare</i>	YES	YES
Rabbitbrush species	<i>Chrysothamnus</i> spp.	YES	YES
Redbud	<i>Cercis canadensis</i>	YES	YES
Redcedar, Eastern	<i>Juniperus virginiana</i>	YES	YES
Rose, Multiflora	<i>Rosa multiflora</i>	YES <sup>5</sup>	NO
Sage, Big	<i>Artemisia tridentate</i>	YES	YES
Sage, Fringe	<i>Artemisia frigida</i>	YES	YES
Sage, Silver	<i>Artemisia cana</i>	YES	YES
Sagebrush, Big	<i>Artemisia tridentate</i>	YES	YES
Sagebrush, Fringed	<i>Artemisia frigida</i>	YES	YES
Saltcedar	<i>Tamarix</i> spp.	YES	NO
Serviceberry	<i>Amelanchier alnifolia</i>	YES	NR
Snowberry, Western	<i>Symphoricarpos occidentalis</i>	YES	Injury <sup>5</sup>
Spruce species	<i>Picea</i> spp.	YES <sup>4</sup>	YES <sup>4</sup>
Sugarberry	<i>Celtis laevigata</i>	YES	YES
Sycamore	<i>Plantanus occidentalis</i>	YES	NO
Tree of Heaven	<i>Ailanthus altissima</i>	YES	YES
Walnut, American Black	<i>Juglans nigra</i>	YES	NO
Willow	<i>Salix</i> spp.	YES	Injury <sup>5</sup>

<sup>1</sup> Not intended for nursery, orchard, ornamental plantings, new plantings, or seedling trees.

<sup>2</sup> Yes = Tolerant

No = Not tolerant, severe injury or death

NR = Not recommended due to insufficient tolerance data

<sup>3</sup> Not for use on ornamental or fruit bearing trees

<sup>4</sup> Applications made just before or during candling may cause candle injury or death

<sup>5</sup> Possible defoliation and/or death. Some species may exhibit tip chlorosis and minor necrosis. If spray contacts foliage, then defoliation and terminal death may occur. Injury can be reduced or eliminated if applied in fall after color change or leaf drop.

**WEEDS CONTROLLED (With 4 to 6 ounces per acre)**  
**(Not for use in California unless directed otherwise in supplemental labeling)**

Common Name	Species	Preemergence <sup>1</sup>	Postemergence <sup>2</sup>	Annual/ Biennial/ Perennial <sup>3</sup>
<b><u>BROADLEAF WEEDS</u></b>				
Bedstraw, Catchweed	<i>Galium aparine</i>	C	4	WA
Beggarweed, Florida	<i>Desmodium tortuosum</i>	C	2	SA
Buffalobur	<i>Solanum rostratum</i>	-	C	SA
Buttercup, Bur	<i>Ranunculus testiculatus</i>	C	C	WA
Cocklebur, Common	<i>Xanthium strumarium</i>	S	6	SA
Lambsquarters, Common	<i>Chenopodium album</i>	C	2	SA
Lambsquarters, Common	<i>Halogeton glomeratus</i>	C	C	SA
Morningglory, Entireleaf	<i>Ipomoea hederacea</i>	S	3	SA
Ivyleaf	<i>Ipomoea hederacea</i>	S	3	SA
Tall	<i>Ipomoea purpurea</i>	S	3	SA
Mustard, Wild	<i>Brassica kaber</i>	C	C	WA
Pigweed	<i>Amaranthus</i> spp.	C	6	SA
Queen Anne's Lace	<i>Daucus carota</i>	-	4	B
Radish, Wild	<i>Raphanus raphanistrum</i>	S	4	WA
Yellow Rocket	<i>Barbarea vulgaris</i>	C	4	WA
Sicklepod	<i>Senna obtusifolia</i>	C	4	SA
Sida, Prickly	<i>Sida spinosa</i>	C	2	SA
Smartweed, Ladysthumb	<i>Polygonum persicaria</i>	C	C	SA
Pennsylvania	<i>Polygonum pensylvanicum</i>	C	C	SA
Swamp	<i>Polygonum coquimbense</i>	C	C	SA
Starbur, Bristly	<i>Acanthospermum hispidum</i>	C	2	SA
Velvetleaf	<i>Abutilon theophrasti</i>	C	6	SA
<b><u>GRASS WEEDS</u></b>				
Brome, Downy	<i>Bromus tectorum</i>	C	2	WA
Cheat	<i>Bromus secalinus</i>	C	2	WA
Crabgrass, Large (Hairy)	<i>Digitaria sanguinalis</i>	C	4	SA
Smooth	<i>Digitaria ischaemum</i>	C	4	SA
Foxtail, Giant	<i>Setaria faberi</i>	C	6	SA
Green	<i>Setaria viridis</i>	C	4	SA
Yellow	<i>Setaria glauca</i>	C	4	SA
Goatgrass, Jointed	<i>Aegilops cylindrical</i>	C	C	WA
Goosegrass	<i>Elusine indica</i>	S	2	SA
Johnsongrass (seedling)	<i>Sorghum halepense</i>	C	12	SA
Medusahead	<i>Taeniatherum caput-medusae</i>	C	2	WA
Panicum, Fall	<i>Panicum dichotomiflorum</i>	S	6	SA
Sandbur	<i>Cenchrus</i> spp.	S	C	A/P
Shattercane	<i>Sorghum bicolor</i>	C	12	SA
Signalgrass, Broadleaf	<i>Brachiaria platyphylla</i>	C	C	SA
Stiltgrass, Japanese	<i>Microstegium vimineum</i>	C	4	A
Vaseygrass	<i>Paspalum urvillei</i>	-	8	P

<b><u>SEDGES</u></b>				
Nutsedge, Yellow	<i>Cyperus esculentus</i>	S	4S	P
Purple	<i>Cyperus rotundus</i>	S	4S	P
Sedge	<i>Juncus</i> spp.	S	4S	A/P

<sup>1</sup> C=control, S=suppression in northern US only

<sup>2</sup> Maximum plant height in inches at time of application

<sup>3</sup> Growth habit: A=Annual, SA=Summer Annual, WA=Winter Annual, B=Biennial, P=Perennial

**WEEDS CONTROLLED (With 8 to 12 ounces per acre)**

<b>Common Name</b>	<b>Species</b>	<b>Preemergence<sup>1</sup></b>	<b>Postemergence<sup>2</sup></b>	<b>Annual/ Biennial/ Perennial<sup>3</sup></b>
<b><u>BROADLEAF WEEDS</u></b>				
Anoda, Spurred	<i>Anoda cristata</i>	C	6	SA
Baby's Breath <sup>5</sup>	<i>Gysophila paniculata</i>	-	C	P
Bedstraw, Catchweed	<i>Galium aparine</i>	C	C	WA
Bedstraw, Marsh	<i>Galium</i> spp.	C	C	WA
Beggarweed, Florida	<i>Desmodium tortuosum</i>	C	6	SA
Bindweed, Field	<i>Convolvulus arvensis</i>	-	C	P
Buffalobur	<i>Solanum rostratum</i>	-	C	SA
Burclover	<i>Medicago</i> spp.	-	4	SA
Chickweed, Common	<i>Stellaria media</i>	C	6	SA
Cocklebur, Common	<i>Xanthium strumarium</i>	C	6	SA
Cornsalad, Common	<i>Valerianella locusta</i>	-	C	WA
Crownbeard, Golden	<i>Verbisina encelioides</i>	C	2	SA
Dandelion	<i>Taraxacum officinale</i>	-	C	P
Dock, Curly	<i>Rumex crispus</i>	C	6	B
Fiddleneck	<i>Amsinckia</i> spp.	-	C	SA
Flax, Spurge	<i>Thymelaea passerine</i>	C	C	A
Fleabane, Annual	<i>Erigeron annuus</i>	-	C	A
Geranium, Carolina	<i>Geranium carolinianum</i>	-	C	WA/B
Geranium, Cranesbill	<i>Geranium maculatum</i>	C	C	WA/B
Ground Cherry	<i>Physalis heterophylla</i>	-	C	P
Hemlock, Poison	<i>Conium maculatum</i>	C	6	B
Henbit	<i>Lamium amplexicaule</i>	C	3	WA/B
Hoary Cress	<i>Cardaria</i> spp.	-	C	P
Houndstongue, Bristly	<i>Cynoglossum officinale</i>	C	C	B
Indigo, Hairy	<i>Indigofera hirsute</i>	C	2	P
Jimsonweed	<i>Datura stramonium</i>	C	6	SA
Knapweed, Russian <sup>6</sup>	<i>Centaurea repens</i>	-	C*	P
Knotweed, Prostrate	<i>Polygonum aviculare</i>	C	C	SA
Kochia*	<i>Kochia scoparia</i>	C	3	SA
Lambsquarters, Common	<i>Chenopodium album</i>	C	3	SA
Morningglory, Cypressvine	<i>Ipomoea quamoclit</i>	C	6	SA
Entireleaf	<i>Ipomoea hederacea</i>	C	6	SA
Ivyleaf	<i>Ipomoea hederacea</i>	C	6	SA
Pitted	<i>Ipomoea lacunose</i>	C	6	SA
Smallflower	<i>Jacquemontia tamnifolia</i>	C	6	SA
Tall	<i>Ipomoea purpurea</i>	C	6	SA

Mustard, Wild	<i>Brassica kaber</i>	C	C	WA
Onion, Wild	<i>Allium canadense</i>	C	C	P
Pepperweed, Perennial	<i>Lepidum latifolium</i>	-	C	P
Pigweed <sup>4</sup>	<i>Amaranthus</i> spp.	C	6	SA
Plantain, Narrowleaf	<i>Plantago lanceolata</i>	C	C	B
Poinsettia, Wild	<i>Euphorbia heterophylla</i>	C	6	SA
Puncture Vine	<i>Tribulus terrestris</i>	-	C	SA
Purslane, Common	<i>Portulaca oleracea</i>	C	4	SA
Pusley, Florida	<i>Richardia scabra</i>	C	4	SA
Queen Anne's Lace	<i>Daucus carota</i>	C	C	B
Ragweed, Common	<i>Ambrosia artemisiifolia</i>	C	3	SA
Giant	<i>Ambrosia trifida</i>	S	6	SA
Western	<i>Ambrosia psilostachya</i>	-	C	A/P
Rocket, Yellow	<i>Barbarea vulgaris</i>	C	C	WA
Senna, Coffee	<i>Cassia occidentalis</i>	C	4	SA
Sicklepod	<i>Senna obtusifolia</i>	C	6	SA
Sida, Prickly	<i>Sida spinosa</i>	C	6	SA
Smartweed, Ladysthumb	<i>Polygonum persicaria</i>	C	C	SA
Pennsylvania	<i>Polygonum pensylvanicum</i>	C	C	SA
Swamp	<i>Polygonum coccineum</i>	C	C	SA
Spurge, Leafy	<i>Euphorbia esula</i>	-	Fall*	P
Spotted	<i>Euphorbia maculata</i>	C	4	SA
Toothed	<i>Euphorbia dentate</i>	C	4	SA
Starbur, Bristly	<i>Acanthospermum hispidum</i>	-	6	SA
Sunflower	<i>Helianthus annuus</i>	-	18	SA
Tansymustard	<i>Descurainia pinnata</i>	C	C	WA
Teasel, Common	<i>Dipsacus fullonum</i>	-	C	B
Thistle, Bull	<i>Cirsium vulgare</i>	S	C	WA/B
Musk	<i>Carduus nutans</i>	-	S	B
Platt	<i>Cirsium canescens</i>	S	C	P
Russian*	<i>Salsola iberica</i>	C	3	A
Toadflax, Dalmatian	<i>Linaria dalmatica</i>	-	C*	P
Velvetleaf	<i>Abutilon theophrasti</i>	C	C	A
Vervain, Blue	<i>Verbena hastata</i>	-	S	WA
Vervain, Prostrate	<i>Verbena bracteata</i>	-	C	P
Whitetop	<i>Cardaria</i> spp.	-	C	P
Willowherb	<i>Epilobium</i> spp.	-	C	P
Woodsorrel, Yellow	<i>Oxalis stricta</i>	C	C	P
<b>GRASS WEEDS</b>				
Bahiagrass	<i>Paspalum notatum</i>	S	C*	P
Barley, Little	<i>Hordeum pusillum</i>	C	4	WA
Barley, Squirreltail	<i>Hordeum jubatum</i>	-	C	P
Barnyardgrass	<i>Echinochloa crus-galli</i>	C	6	SA
Cheat	<i>Bromus secalinus</i>	C	C	WA
Crabgrass	<i>Digitaria</i> spp.	C	6	SA
Crowfootgrass	<i>Dactyloctenium aegyptium</i>	C	C	SA
Dallisgrass	<i>Paspalum dilatatum</i>	S	C*	P

Downy Brome	<i>Bromus tectorum</i>	C	C	WA
Dropseed, Tall	<i>Sporobolus cryptandrus</i>	S	C	A/P
Fescue, Tall	<i>Festuca arundinacea</i>	C	C*	P
Foxtail,				
Giant	<i>Setaria faberi</i>	C	C	SA
Green	<i>Setaria viridis</i>	C	C	SA
Knotroot	<i>Setaria geniculata</i>	S	6	SA
Purple Robust	<i>Setaria viridis</i>	S	S	SA
Yellow	<i>Setaria glauca</i>	C	4	SA
Garlic, Wild	<i>Allium vineale</i>	C	C	P
Goosegrass	<i>Elusine indica</i>	C	3S	SA
Itchgrass	<i>Rottboellia cochinchinensis</i>	-	C*	SA
Johnsongrass,				
Seedling	<i>Sorghum halepense</i>	C	C	SA
Rhizome	<i>Sorghum halepense</i>	-	C*	P
Medusahead	<i>Taeniatherum caput-medusae</i>	C	C	WA
Panicum,				
Fall	<i>Panicum dichotomiflorum</i>	C	C	SA
Texas	<i>Panicum texanum</i>	C	C	SA
Ryegrass, Annual (Italian)	<i>Lolium multiflorum</i>	C	C	WA
Ryegrass, Perennial	<i>Lolium perenne</i>	-	C	P
Sandbur	<i>Cenchrus</i> spp.	S	C	A/P
Shattercane	<i>Sorghum bicolor</i>	C	C	SA
Signalgrass, Broadleaf	<i>Brachiaria platyphylla</i>	C	C	SA
Smutgrass	<i>Sporobolus indicus</i>	-	C	P
Stiltgrass, Japanese	<i>Microstegium vimineum</i>	C	C	A
Stinkgrass, Annual	<i>Eragrostis cilianensis</i>	C	2	SA
Torpedograss	<i>Panicum repens</i>	-	C	P
Vaseygrass	<i>Paspalum urvillei</i>		C	P
Wild Oats	<i>Avena fatua</i>	-	C	WA
<b><u>SEDGES / RUSHES</u></b>				
Nutsedge,				
Yellow	<i>Cyperus esculentus</i>	C	C	P
Purple	<i>Cyperus rotundus</i>	C	C	P
Rush	<i>Juncus</i> spp.	S	4	A/P

<sup>1</sup> C=control, S=suppression in northern US only

<sup>2</sup> Maximum plant height in inches at time of application

<sup>3</sup> Growth habit: A=Annual, SA=Summer Annual, WA=Winter Annual, B=Biennial, P=Perennial

<sup>4</sup> Some species are tolerant and resistant biotypes are possible

<sup>5</sup> For annual control. The addition of 1.0 – 2.0 pints of 2,4-D will aid in burndown

<sup>6</sup> For best control apply in the fall

\*See "Special Weed Control" section of this label

## STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

**PESTICIDE STORAGE: KEEP FROM FREEZING.** Do not store below 20°F. For spills, fire, or leak, contact CHEMTREC (800) 424-9300.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

### CONTAINER DISPOSAL:

**Nonrefillable Containers 5 Gallons or Less:** Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned stay out of smoke.

**Nonrefillable containers larger than 5 gallons:** Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. If recycling or reconditioning is not available, puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned stay out of smoke. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**Or**

**Refillable containers larger than 5 gallons:** Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

**Or**

**Refillable Container:** Refill this container with pesticide only. Do not reuse this container for any other purpose. Close all openings and replace all caps. Contact Nufarm's Customer Service Department at 1-800-345-3330 to arrange for return of the empty refillable container.

## WARRANTY DISCLAIMER

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