# IMPOSE® HERBICIDE

IMAZAPIC GROUP 2 HERBICIDE

For use on Conservation Reserve Program (CRP) land, paved surfaces, pasture and rangeland, and peanuts

| ACTIVE INGREDIENT:                                   | % BY WT      |
|--|--------------|
| Ammonium salt of imazapic (+/2-[4,5-dihyc            |              |
| methyl-4-(1-methylethyl)-5-oxo-1 H imidazol-2        |              |
| 5-methyl-3-pyridinecarboxylicacid*)                  | 23.39        |
| OTHER INGREDIENTS:                                   | <u>76.79</u> |
| TOTAL:   | 100.09       |
| *Equivalent to 21.9%(+/-)-2-[4,5-dihydro-4-materials |              |
| (1-methylethyl)-5-oxo-1 H-imidazol-2-yl]-5-me        | ethyl-3-     |
| pyridinecarboxylicacid                               |              |

1 gallon contains 2.0 pounds of active ingredient as the free acid

Letter(s) in lot number correspond(s) to superscript in EPA Est. No.

# KEEP OUT OF REACH OF CHILDREN CAUTION

For additional Precautionary Statements, Directions for Use and Storage and Disposal, see inside of this booklet.



Net Contents

1 gallon



|                            | FIRST AID  |  |  |  |
|----------------------------|--|--|--|--|
| IF IN EYES:                | Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.   |  |  |  |
| IF INHALED:                | Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.  |  |  |  |
| IF ON SKIN OR<br>CLOTHING: | Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.   |  |  |  |
| IF<br>SWALLOWED:           | <ul> <li>Call a poison control center or doctor immediately for treatment advice.</li> <li>Have person sip a glass of water if able to swallow.</li> <li>Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>Do not give anything by mouth to an unconscious person.</li> </ul> |  |  |  |

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1-877-250-9291 for emergency medical treatment information.

# PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

# AZARDS TO HUMANS AND DOMESTIC ANIMA

CAUTION

Causes moderate eye irritation. Avoid breathing spray mist. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.

# 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

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

# 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.
- $\bullet \quad \text{Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.}\\$
- Wash outside of gloves then remove after handling this product. As soon as possible, wash thoroughly
  and change into clean clothing.

#### **ENVIRONMENTAL HAZARDS**

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.

NON-TARGET ORGANISM ADVISORY STATEMENT: This product is toxic to plants and may adversely impact the forage and habitat of non-target organisms, including pollinators, in areas adjacent to the treated site. Protect the forage and habitat of non-target organisms by following label directions intended to minimize spray drift.

GROUNDWATER ADVISORY STATEMENT: This chemical has properties and characteristics associated with chemicals detected in groundwater. This chemical may leach into groundwater if used in areas where soils are permeable, particularly where the water table is shallow.

SURFACE WATER ADVISORY STATEMENT: This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having high potential for reaching surface water via runoff for several months or more after application. 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 loading of imazapic from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall or irrigation is expected to occur within 48 hours.

# **DIRECTIONS FOR USE**

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

#### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 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 statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (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
- · Shoes plus socks

#### NON-AGRICUI TURAL USF REQUIREMENTS

The requirements in this box apply to uses of this product that are not within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants 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.

#### RESISTANCE MANAGEMENT

For resistance management, Impose is a Group 2 herbicide. Any weed population may contain or develop plants naturally resistant to Impose and other Group 2 herbicides. Weed species with acquired resistance to Group 2 herbicides may eventually dominate the weed population if Group 2 herbicides are used repeatedly in the same field or in successive years as the primary method of control for targeted species. This may result in partial or total loss of control of those species by Impose or other Group 2 herbicides. Suspected herbicide-resistant weeds may be identified by these indicators:

- Failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds;
- A spreading patch of non-controlled plants of a particular weed species; and
- · Surviving plants mixed with controlled individuals of the same species.

To delay herbicide resistance:

- Avoid the consecutive use of Impose or other target site of action Group 2 herbicides that might have a similar target site of action, on the same weed species.
- Use tank mixtures or premixes with herbicides from different target site of action Groups as long as
  the involved products are all registered for the same use, have different sites of action and are both
  effective at the tank mix or prepack rate on the weed(s) of concern.
- Base herbicide use on a comprehensive Integrated Pest Management (IPM) program.
- Scout fields prior to application to identify the weed species present and their growth state to determine if the intended application will be effective.
- Scout fields after application to verify that the treatment was effective.
- Contact your local extension specialist, certified crop advisors and/or manufacturer for herbicide resistance management and/or integrated weed management recommendations for specific crops and resistant weed biotypes.

Report any incidence of non-performance of this product against a particular weed species to you ADAMA retailer, representative or call 1-866-406-6262. If resistance is suspected, treat weed escapes with an herbicide having a different mechanism of action and/or use non-chemical means to remove escapes, as practical, with the goal of preventing further seed production.

#### SPRAY DRIFT

#### AFRIAL APPLICATIONS

- Do not release spray at a height greater than 10 ft above the ground or vegetative canopy, unless a greater application height is necessary for pilot safety.
- For applications prior to the emergence of target weeds, applicators are required to use a coarse or coarser droplet size (ASABE S572.1).
- For all other applications, applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- Applicators must use ½ swath displacement upwind at the downwind edge of the application site.
- Do not apply when wind speeds exceed 15 miles per hour at the application site. If the windspeed is greater
  than 10 mph, the boom length must be 65% of less of the wingspan for fixed wing aircraft and 75% or less
  of the rotor diameter for helicopters. Otherwise, the boom length must be 75% or less of the wingspan for
  fixed-wing aircraft and 90% or less of the rotor diameter for helicopters.
- · Do not apply during temperature inversions.

# GROUND BOOM APPLICATIONS

- User must apply with the release height recommended by the manufacturer, but no more than 3 feet above the ground or existing terrestrial vegetation unless making a turf, pasture, or rangeland application, in which case applicators may apply with a nozzle height no more than 4 feet above the ground.
- For applications prior to the emergence of target weeds, applicators are required to sue a coarse or coarser droplet size (ASABE 5572.1).
- For all other applications, applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- · Do not apply during temperature inversions.

## **BOOMLESS GROUND APPLICATIONS**

- Applicators are required to use a medium or coarser droplet size (ASABE S572.1) for all applications.
- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- Do not apply during temperature inversions.

## SPRAY DRIFT ADVISORIES

- THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT.
- BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.
- IMPORTANCE OF DROPLET SIZE:

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

# Controlling Droplet Size – Ground Boom

- Volume Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use
  the highest practical spray volume for the application. If a greater spray volume is needed, consider
  using a nozzle with a higher flow rate.
- Pressure Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle Use a spray nozzle that is designed for the intended application. Consider using nozzle
  designed to reduce drift.

# Controlling Droplet Size - Aircraft

 Adjust Nozzles – Follow nozzle manufacturers recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

**Boom Height – Ground Boom:** For ground equipment, the boom should remain level with the application site and have minimal balance.

Release Height - Aircraft: Higher release heights increase the potential for spray drift.

**Shielded Sprayers:** Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

**Temperature and Humidity:** When making applications in hot and dry conditions, use larger droplets to reduce the effects of evaporation.

**Temperature Inversions:** Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of 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. Avoid applications during temperature inversions.

**Wind:** Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.

• Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

**Boom-less Ground Applications:** Setting nozzles at the lowest effective height will help to reduce the potential for spray drift.

Handheld Technology Applications: Take precautions to minimize spray drift.

## **PEANUTS**

# PRODUCT INFORMATION

Impose herbicide is an early postemergent herbicide for use in peanuts grown only in the states of Alabama, Arizona, Arkansas, Florida, Georgia, Mississippi, New Mexico, North Carolina, Oklahoma, South Carolina, Texas, and Virainia.

# MODE OF ACTION

Impose herbicide is readily absorbed through leaves, stems, and roots, and is then translocated rapidly throughout the plant, and accumulates in the meristematic regions. Treated plants stop growing soon afterwards. Chlorosis appears first in the newest leaves, and tissue death spreads from these points. It may require several days for susceptible weeds to die. Treated plants are killed because the herbicide inhibits the activity of the enzyme acetohydroxy acid synthase (AHAS or ALS). This is important because some naturally occurring weed biotypes of labeled weeds may not be controlled by Impose herbicide or other herbicides with the same AHAS or ALS inhibiting mode of action. Herbicides with this mode of action include the sulfonylureas (e.g. Accent®, Bosis®, Classic®, Concert®, Exceed®, Permit®, Pinnacle®, herbicides, etc.), at sulfonamides (e.g. Broadstrike® herbicide, etc.) and the pyrimidyl benzoates (e.g. Staple® herbicide, etc.). If resistant weed biotypes are present in the field, tank-mix Impose herbicide and other herbicides with the same mode of action or apply sequentially with a registered herbicide with a different mode of action.

#### CULTURAL CONSIDERATIONS

Soil moisture: Soil moisture is critical for optimum Impose herbicide weed control. With adequate soil moisture, Impose herbicide will provide residual control of susceptible germinating weeds. Control of established weeds is dependent on the weed species and depth of the root system. Apply a minimum of 0.75 inches/acre of irrigation to activate Impose herbicide if sufficient rainfall does not fall within 5 days of application.

Cultivation: Cultivation at a minimum of 14 days after application of Impose herbicide can improve weed control if adequate soil moisture was not provided by rainfall or irrigation. Cultivation before 14 days after application of Impose herbicide is too early to receive the full benefit of the Impose herbicide application. Use shallow cultivation so that there is not too much movement of treated soil and weed seeds buried deep are not brought to the surface.

#### REPLANTING

If a field treated with Impose herbicide needs to be replanted, only peanuts can be replanted in the field. Do not make an additional application of Impose herbicide or Pursuit® herbicide to the soil where replanting will occur. Till the soil to a depth of 2 inches.

## APPLICATION INSTRUCTIONS

Ground Application: Make a broadcast application of Impose herbicide in a minimum of 5 aallons of water per acre using ground application equipment. The actual minimum spray volume per acre is determined by the spray equipment used. Adequate spray coverage is important for maximum weed control. A complete and even distribution of spray is important. Avoid overlaps when spraying. Use a spray pressure of 20 to 40 psi. Reduced weed control can result if boomless or flood type nozzles are used. Chemigation Application: Do not apply Impose herbicide through any type of irrigation system.

DO NOT apply Impose herbicide by helicopter, airplane, or any other aerial application equipment.

# MIXING INSTRUCTIONS

Mixing with Water: Fill the spray tank at least one-half full of clean water. With the pump and agitator running, add the specified amount of Impose herbicide using a calibrated measuring device. Fill the tank with the remaining water adding the nonionic surfactant, silicone-based adjuvant, or crop oil concentrate near the end of the filling process. Add an antifoaming product if it is needed. Maintain agitation while spraying. Mixing with Other Herbicide(s): Impose herbicide can be tank-mixed with other herbicide(s) if the use is not prohibited by the label of the other herbicide(s). Read each label carefully and follow all label instructions regarding use rates, application methods, timing, restrictions, precautions, and weeds controlled. The most restrictive label precautions must be followed. Do not tank-mix Impose herbicide with any product that does not permit tank-mixing. Do not exceed label rates. Fill the spray tank at least one-half full of clean water. With the pump and agitator running, add the specified amount of Impose herbicide using a calibrated measuring device. Add the tank-mix herbicide, fill the tank with the remaining water adding the nonionic surfactant, silicone-based adjuvant or crop oil concentrate near the end of the filling process. Add an antifoaming product if it is needed. Maintain agitation while spraying. When mixing Impose herbicide with other tank-mix partners, always follow the following mixing sequence; add wettable powders, dispersible granules, or other dry formulations first, emulsifiable concentrates next, then Impose herbicides next, and spray adjuvants next.

Ensure mixing equipment is thoroughly cleaned before applying other products or spraying crops sensitive to Impose herbicide.

#### SPRAYING CONSIDERATIONS

Do not apply Impose herbicide if wind, temperature inversion, or other weather conditions exist that could result in off target movement to adjacent areas and/or sensitive crops. Leafy vegetables and cotton, among other crops, are sensitive to Impose herbicide.

Do not apply if rainfall is threatening; rainfall within three hours after application of Impose herbicide can reduce weed control.

## LIST OF WEEDS CONTROLLED OR SUPPRESSED

An early postemergence application of Impose herbicide at a use rate of 4.0 ounces per acre plus an approved spray adjuvant will control or suppress the broadleaf weeds, grasses, and sedges listed below.

| BROADLEAF WEEDS<br>CONTROLLED  | SCIENTIFIC NAME  | MAXIMUM HEIGHT AT<br>APPLICATION (inches) |  |
|--|--|---|--|
| Anoda, Spurred Anoda cristata  |  | 2   |  |
| Burgherkin   | Cucumis anguria  | 2   |  |
| Carpetweed   | Mollugo verticillata   | 2   |  |
| Citronmelon  | Citrullus Ianatus var. citroides   | 2   |  |
| Cocklebur, Common  | Xanthium strumarium  | 6   |  |
| Crownbeard, Golden   | Verbesina encelioides  | 2   |  |
| Indigo, Hairy  | Indigofera hirsuta   | 2   |  |
| Morningglory, Cypressvine Entireleaf Ivyleaf Pitted Smallflower Tall Pigweed, Amaranth, Palmer | Ipomoea quamoclit Ipomoea hederacea var. integriuscula Ipomoea hederacea Ipomoea lacunosa Jacquemontia tamnifolia Ipomoea purpurea  Amaranthus palmeri | 3<br>3<br>3<br>3<br>3<br>3                |  |
| Redroot<br>Smooth<br>Spiny   | Amaranthus retroflexus<br>Amaranthus hybridus<br>Amaranthus spinosus   | 4<br>4<br>4                               |  |
| Poinsettia, Wild   | Euphorbia heterophylla   | 2   |  |
| Pusley, Florida  | Richardia scabra   | 2   |  |
| Radish, Wild   | Raphanus raphanistrum  | 4   |  |
| Redweed  | Melochia corchorifolia   | 4   |  |
| Senna, Coffee  | Cassia occidentalis  | 3   |  |
| Sicklepod  | Cassia obtusifolia   | 3   |  |
| Sida, Prickly  | Sida spinosa   | 2   |  |

| BROADLEAF WEEDS<br>CONTROLLED | SCIENTIFIC NAME         | MAXIMUM HEIGHT AT<br>APPLICATION (inches) |
|-------------------------------|-------------------------|---|
| Spurge spp.                   | Euphorbia spp.          | 2   |
| Starbur, Bristly              | Acanthospermum hispidum | 2   |
| Velvetleaf                    | Abutilon theophrasti    | 2   |

| BROADLEAF WEEDS SCIENTIFIC NAME SUPPRESSED |                         | MAXIMUM HEIGHT AT<br>APPLICATION (inches) |
|--|-------------------------|---|
| Beggarweed, Florida*                       | Desmodium tortosum      | 2   |
| Lambsquarter, Common                       | Chenopodium album       | 2   |
| Ragweed, Common                            | Ambrosia artemisiifolia | 2   |

<sup>\*</sup>Control of difficult-to-control weeds (e.g. Florida beggarweed), or weeds treated under dry conditions can be improved by cultivation at least 14 days after application of Impose herbicide.

| GRASS WEEDS<br>CONTROLLED * | SCIENTIFIC NAME          | MAXIMUM HEIGHT AT APPLICATION (inches) |
|-----------------------------|--------------------------|--|
| Crabgrass,                  |                          |  |
| Large                       | Digitaria sanguinalis    | 4                                      |
| Smooth                      | Digitaria ischaemum      | 4                                      |
| Crowfootgrass               | Dactyloctenium aegyptmum | 2                                      |
| Johnsongrass,               |                          |  |
| Rhizome**                   | Sorghum halepense        | 8-10                                   |
| Seedling                    | Sorghum halepense        | 4                                      |
| Panicum,                    |                          |  |
| Fall                        | Panicum dichotomiflorum  | 4                                      |
| Texas                       | Panicum texanum          | 2                                      |
| Sandbur spp.                | Cenchrus spp.            | 4                                      |
| Signalgrass, Broadleaf      | Brachiaria platyphylla   | 4                                      |

| GRASS WEEDS<br>SUPPRESSED * | SCIENTIFIC NAME | MAXIMUM HEIGHT AT<br>APPLICATION (inches) |
|-----------------------------|-----------------|---|
| Goosegrass                  | Eleusine indica | 2   |

<sup>\*</sup>Impose herbicide is active on many grass weeds, but a soil-active grass herbicide such as Prowl® or Sonolan™ must be applied according to label directions before Impose herbicide use. In order for Impose herbicide to control grass weeds that have escaped from the application of a soil applied grass herbicide, the grass weeds must be present at the time of application of Impose herbicide.

<sup>\*\*</sup>For control of rhizome johnsongrass, weeds must be at least 8 to 10 inches tall at application. Smaller weeds do not generally have enough leaf surface area to take up enough Impose herbicide for complete control.

| SEDGES CONTROLLED | SCIENTIFIC NAME   | MAXIMUM HEIGHT AT APPLICATION (inches) |
|-------------------|-------------------|--|
| Nutsedge,         |                   |  |
| Purple            | Cyperus rotundus  | 4                                      |
| Yellow            | Cyperus esulentus | 4                                      |

#### SPRAY ADJUVANTS

In West Texas, New Mexico, and Oklahoma, use only a crop oil concentrate or methylated seed oil concentrate or blends of these with a silicone-based based surfactant at 1 quart per acre. Do not use a nonionic surfactant. To insure uniform spray coverage, continuously agitate the sprayer during the spraying process.

In areas outside West Texas, New Mexico and Oklahoma, a nonionic surfactant containing at least 80% active ingredient can be used at a rate of 1 quart surfactant for each 100 gallons of spray solution. If a crop oil concentrate is used, apply at 1 quart per acre. To insure uniform spray coverage, continuously agitate the sprayer during the spraying process.

#### TANK MIXING

Impose herbicide can be tank mixed with other herbicides if the practice is not prohibited by the label of the tank mix partner.

When an adjuvant is to be used with this product, Makhteshim Agan of North America, Inc. suggests the use of a Chemical Producers and Distributors Association certified adjuvant.

# **Tank Mixing Precautions**

- Read and carefully follow all applicable use directions, precautions, and limitations on the respective
  product labels. In interpreting the labels of tank mixed products, the most restrictive label limitations
  must apply.
- Do not exceed specified application rates.
- Gramoxone Max™ or Classic® herbicides in tank-mixes with Impose herbicide could result in increased injury to peanuts.
   Basagran® herbicide in tank-mixes with Impose herbicide could result in reduced control of broadleaf
- weeds.

  Reduced weed control may result if Impose herbicide is tank-mixed with fungicides or postemergence
- Reduced weed control may result if Impose herbicide is tank-mixed with fungicides or postemergence grass control herbicides.
- To avoid development of herbicide resistance, or unknown peanut response, do not apply Impose herbicide in combination with or following Pursuit® or Strongarm® herbicides.

#### ROTATIONAL CROPS

The following rotational crops can be planted after application of Impose herbicide in peanuts:

| Time interval after Impose Application | Crop  |
|--|---|
| Any interval                           | Peanuts   |
| Four months                            | Bahiagrass, Rye, Wheat  |
| Nine months                            | Field Corn, Snapbeans, Southern Peas, Soybeans, Tobacco                             |
| Eighteen months                        | Barley, Cotton <sup>1</sup> , Grain Sorghum, Oats, Onions <sup>2</sup> , Sweet Corn |
| Twenty-six months                      | All crops not otherwise listed  |
| Forty months                           | Canola, Potatoes, Red Table Beets, Sugar Beets                                      |

Rotation crops following peanuts treated with Impose herbicide according to label directions should grow normally and not be injured. However, injury to rotational crops can occur since all risk cannot be eliminated due to environmental factors, soil types, moisture conditions and other factors. There is increased risk of rotational crop injury if products containing chlorimuron-ethyl (such as Classic® herbicide) or imazethapyr (such as Pursuit® herbicide) are applied in the same year as labeled rates of Impose herbicide. Follow the label directions for these products.

<sup>1</sup> For Arizona, Arkansas, New Mexico, Oklahoma, and Texas only: Cotton can be planted 18 months after Impose herbicide application in the states of Arizona, Arkansas, New Mexico, Oklahoma, and Texas unless drought conditions develop the year of Impose herbicide applications. Do not rotate to cotton at 18 months after Impose herbicide application if less than 15 inches of rainfall or irrigation is received from the time of Impose herbicide application through November 1 of the same year. If drought conditions develop the year of Impose herbicide application, cotton can be planted 26 months after Impose herbicide application.

<sup>2</sup> For Florida and Georgia only.

# Precautions and Restrictions to follow when applications of Impose herbicide are made on peanuts:

- Some vine yellowing or reduction in vine growth may occur after application of Impose herbicide.
- Under adverse conditions (including but not limited to high pH > 7.5, low nutrient availability, saline
  conditions, and /or hardpans), Impose application may induce an adverse crop response.
- When adverse application conditions exist such as dry weather or larger weeds, use a crop oil
  concentrate at one quart per acre and fertilizer (spray grade ammonium sulfate at 2.5 lbs. per acre or
  liquid fertilizer at a rate of 1-2 quarts per acre).
- In order to prevent injury to sensitive crops, drain spray equipment used for Impose applications and thoroughly clean with water before applying other products or spraying other crops.
- $\bullet \;\;$  Keep containers closed to avoid spills and contamination.
- Do not graze or feed treated peanut hay to livestock.
- Do not apply more than 0.063 lb. a.i./A imazapic (4.0 fluid oz/A of Impose herbicide) per application
  or per use season.
- Preharvest Interval: Do not harvest prior to 90 days after application.

#### PRODUCT INFORMATION

# NONCROP AND CONSERVATION RESERVE PROGRAM (CRP) USES

For weed control and/or turf height suppression, mix Impose herbicide with water and an adjuvant and spray it on specified noncropland areas including those that may be grazed or cut for hay, on Federal Conservation Reserve Program (CRP) land, rangeland (see **Instructions for Rangeland Use** elsewhere in the label), and postures.

# Impose can be applied to the following noncropland use sites:

- rights-of-way (railroad, utility, pipeline and highway)
- · railroad crossings
- utility plant sites
- · petroleum tank farms
- · pumping installations
- non-agricultural fence rows
- storage areas
- · non-irrigation ditch banks
- · prairie sites
- airports
- turf areas (on industrial, golf courses, recreation and non-residential sites)

Impose herbicide can be used for weed control in order to release certain legumes, wildflowers, crown vetch, native prairiegrass, wheatgrass, "wildtype" common Kentucky bluegrass, smooth bromegrass, bahiagrass, bermudagrass and other grasses.

For weed control during the establishment of native prairiegrass and other grasses, use Impose herbicide as described in the **Revegetation with Prairiegrasses and other Forage Grasses** part of the label.

Impose herbicide kills plants because the herbicide inhibits the activity of the enzyme acetohydroxy acid synthase (AHAS or ALS). Plant leaves, stems and roots readily absorb Impose herbicide and translocate it throughout the plant where it accumulates in the meristematic tissue. Treated plants stop growing soon afterwards. Chlorosis appears first in the newest leaves, and tissue death spreads from these points. It may require several days to several weeks for susceptible weeds to die. Knowing about the activity on the AHAS or ALS enzyme is important because some naturally accurring weed biotypes of labeled weeds may not be controlled by Impose herbicide or other herbicides with the same inhibiting mode of action. If resistant weed biotypes are present in the field, tank-mix Impose herbicide and other herbicides with the same mode of action or apply sequentially with a registered herbicide with a different mode of action.

Soil moisture is critical for optimum Impose herbicide weed control. With adequate soil moisture, Impose herbicide will provide residual control of susceptible germinating weeds. Control of established weeds is dependent on the weed species and depth of the root system. Impose herbicide is rainfast within one hour after application.

Impose herbicide can be applied preemergence or postemergence to control annual and perennial grasses, broadleaf weeds and vine species and provide control of labeled weeds which germinate in the treated area. Direct application of Impose herbicide to the foliage of certain brush species and ornamentals could lead to injury. The best weed control is achieved when Impose herbicide is applied as a postemergence application, especially on perennial species. Since Impose herbicide must be taken up by the plant and translocated to the meristematic tissue before it becomes effective, weeds must be actively growing at the

time of postemergence applications. Include an adjuvant in all spray solutions (see **Spray Adjuvants for Postemergence Applications** section of this label). Applications can be made as broadcast treatments with ground spray equipment or as spot treatments with backpack sprayers.

Even though Impose herbicide can be applied in the dormant or growing season, the weeds need to be actively growing for maximum control.

Impose herbicide can cause injury to desirable grass species if the application is made to grasses that are under stress due to disease, insect damage and/or other causes. Some yellowing of desirable grasses may occur after an application of Impose herbicide made during the growing season. This is dependent upon weather conditions and is usually short lived (2 to 4 weeks). Do not treat newly seeded or sprigged grass stands with Impose herbicide unless approved on this label (see **Revegetation with Prairiegrass and other Forage Grasses** section of this label) or authorized by Makhteshim Agan of North America, Inc. in a supplemental label.

## Important Precautions:

- Do not apply Impose herbicide to residential lawns.
- 2. Desirable trees and ornamental plants can be injured if rinsate from spray equipment used to apply Impose herbicide is allowed to wash or move into contact with plant roots.
- 3. Do not apply Impose herbicide to the inside of irrigation ditches.
- Impose herbicide can be applied to non-irrigation ditches and low lying areas as long as the water has drained.

# Precautions and Restrictions to follow when making applications of Impose herbicide for weed control, native grass establishment, and turf growth, suppression on pastures, rangeland, and noncrop areas:

- Do not use Impose herbicide on food or feed crops except as specified on this or supplemental labeling provided by Makhteshim Agan of North America, Inc.
- Do not cut treated area for hay within seven days after application.
- Do not use organophosphate insecticides on newly seeded areas treated with Impose herbicide unless severe injury or loss of stand can be tolerated.
- Do not apply this product through any type of irrigation system.
- Do not exceed 12 ounces (0.19 lb imazapic acid equivalent (ae)) of Impose herbicide per acre per year.
- Do not exceed 12 ounces of Impose (0.19 lb ae) per acre per application.
- Do not exceed 2 applications per year when using reduced rates.
- Minimum Retreatment Interval: 7 days.
- When tank mixing with other products, read and carefully follow all applicable use directions, precautions, restrictions, and limitations on the respective product labels. In interpreting the labels of tank mixed products, the most restrictive label limitations must apply.
- When making new plantings of prairiegrass or wildflowers, carryover from persistent herbicides such
  as sulfonyl-urea, imidazolinone, triazine, substituted urea, dinitroanaline, and other herbicides applied
  the previous year may result in compounded injury or death of desirable vegetation when treated with
  Impose herbicide.
- When making applications around desirable trees or ornamental plants, test small areas to determine
  the tolerance of a particular species to soil and/or foliar applications of Impose herbicide. See section
  entitled Tolerance of Trees and Brush to Impose Herbicide.

#### APPLICATION INSTRUCTIONS

**Ground Application:** Make a broadcast application of Impose herbicide in a minimum of 2 gallons of spray per acre using ground application equipment. Calibrate the sprayer to deliver the specified spray volume and pressure at the spray boom height to ensure proper coverage of foliage and/or soil surface. The actual minimum spray volume per acre is determined by the spray equipment used. Adequate spray coverage of weed foliage postemergence or soil surface preemergence is important for maximum weed control. A complete and even distribution of spray is necessary. Avoid overlaps when spraying. When applications are made using less than 10 gallons of spray mixture per acre, use special application equipment designed to make low volume applications. Use a spray pressure of 20 to 40 psi.

Aerial Application: Use 2 or more gallons of spray mix 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. Refer to the section entitled Spray Drift Management for additional precautions and restrictions. When making aerial applications, be especially careful to eliminate spray drift. Fixed wing aircraft and helicopters can be used to apply Impose herbicide. Ensure appropriate buffer zones are maintained when using fixed wing aircraft. Spot Treatment Application: In preparing the spray solution, mix thoroughly in water 0.25 to 1.5% (0.3 to 1.9 oz./gal. solution) (0.005 - 0.03 lb ae/gal solution) Impose herbicide plus an adjuvant (see Spray Adjuvants for Postemergence Applications section of this label). Use a methylated seed oil at 1% v/v as the spray adjuvant except when treating seedling prairiegrasses and wildflowers. When making spot applications, spray coverage must be sufficient to moisten the leaves but not to the point of runoff. Make sure the mixing container is opaque to sunlight or otherwise treated to shield for UV light. Impose herbicide breaks down when mixed with water and exposed to sunlight. Mixtures of Impose herbicide must be used within two days of being prepared to prevent breakdown of the active ingredient and maintain maximum effectiveness. See section on desired species and do not exceed the specified application rate per acre. Also see the sections entitled Weeds Controlled and Special Weed Control.

All Applications: Do not apply during windy or dusty conditions unless applications are being made with a drift control agent and/or an enclosed shielded spray system. Do not apply if rainfall is threatening. Rainfall within 1 hour of an Impose herbicide application may reduce weed control. Uniformly apply specified rate and include a spray adjuvant (see Spray Adjuvants for Postemergence Applications section of this label). A foam reducing agent can be added at the specified rate if needed. Aerial applications to target species growing under the canopy of trees and brush may not receive sufficient coverage for effective control. For fall applications, delaying aerial application until trees and brush have dropped their leaves can improve coverage. See Special Weed Control and Tolerance of Trees and Brush to Impose Herbicide sections of this label for additional details. Avoid overlapping sprays.

Immediately and thoroughly clean all spray equipment, as prolonged exposure of this product to uncoated steel (except stainless steel) surfaces can cause corrosion and failure of the exposed part.

# MIXING INSTRUCTIONS

Mixing with Water: Fill the spray tank at least one-half full of clean water. With the pump and agitator running, add the specified amount of Impose herbicide using a calibrated measuring device. Fill the tank with the remaining water adding the surfactant near the end of the filling process. Add an antifoaming product if it is needed. Maintain agitation while spraying.

Mixing with Other Herbicide(s): Impose herbicide can be tank-mixed with other herbicide(s) if the use is not prohibited by the label of the other herbicide(s). Read each label carefully and follow all label instructions regarding use rates, application methods, timing, restrictions, precautions, and weeds

controlled. The most restrictive label is the one that must be followed. Do not tank-mix Impose herbicide with any product that does not permit tank-mixing. Do not exceed label rates. Fill the spray tank at least one-half full of clean water. With the pump and agitator running, add the specified amount of Impose herbicide using a calibrated measuring device. Add the tank-mix herbicide, fill the tank with the remaining water adding the nonionic surfactant, organosilicate adjuvant or crop oil concentrate near the end of the filling process. Add an antifoaming product if it is needed. Maintain agitation while spraying. When mixing Impose herbicide with other tank-mix partners, always follow the following mixing sequence: add wettable powders, dispersible granules, or other dry formulations first, emulsifiable concentrates next, then Impose herbicide next, and spray adjuvants next.

## SPRAY ADJUVANTS FOR POSTEMERGENCE APPLICATIONS

To achieve control of weeds when Impose herbicide is applied postemergence, a spray adjuvant must be added. Adjuvants vary in their contents and by selecting the correct adjuvant phytotoxicity to desirable vegetation can be reduced or eliminated. Use low phytotoxic adjuvants. Adjuvants containing high amounts of alcohols, paraffin based petroleum oils and other compounds which can increase phytotoxicity must be avoided.

Methylated Seed Oils or Vegetable Oil Concentrate: The preferred spray adjuvant for use with Impose herbicide is a methylated vegetable-based seed oil (MSO). For MSO, use a rate of 1½ to 2 pints per acre. Best results are achieved when MSOs are applied with Impose herbicide in total spray volumes of 30 gallons per acre or less. The advantage of using the MSO decreases as the spray volume increases to higher volumes. If spray volumes above 30 gallons per acre are used, mix the MSO with Impose herbicide at a rate of 1% of the total spray volume. As an alternative, a non-ionic surfactant, as described below could be used when Impose herbicide is applied at spray volumes above 30 gallons per acre. MSOs have been shown to aid in the deposition and uptake of Impose herbicide in hard-to-control perennials, in weeds with waxy leaf surfaces and in weeds under stressed conditions.

Do not use a MSO on newly emerged seedling prairiegrass or wildflowers as injury could 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, use an NIS containing 60% surfactant in the formulated product and having a hydrophilic to lipophilic balance ratio (HLB) between 12 and 17. 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 Impose herbicide. 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 nitragen-based fertilizer in combination with the specified rate of a NIS or MSO has been shown to improve the uptake of Impose herbicide in plants with waxy leaf surfaces. A rate of 2 to 5 pints per acre of fertilizers 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 with Impose herbicide. In jury to desired plant species and newly emerged seedling prairiegrass and wildflowers may also be increased with the use of a fertilizer in combination with Impose herbicide. Weed control will likely be poor if Impose herbicide is applied in combination with a fertilizer without a NIS or MSO. No additional spray adjuvant is required if the fertilizer is the spray carrier for Impose herbicide.

#### TANK MIXES

For added control of late season annual grasses and certain broadleaf weeds in noncrop areas, tank-mix Impose herbicide with Pendulum® herbicide. Impose herbicide can be mixed with other herbicides for additional control in noncrop areas including Accord™, Roundup™ Pro, glyphosate, Arsenal® or Vegetation Manager® Imazapyr 25L herbicide, Sahara® DG or Mohave™ 70 EG herbicide, diuron, Campaign™, Finale™, Garlon™ 3A or Vegetation Manager Triclapyr 35L, MSMA, Vanquish™, Oust™ (or SFM 75), Escort™ (or Metsulfuron Methyl DF), Tordon™ (or Picloram 22K), or other labeled products. To test for the compatibility of any other herbicides could lead to reduced control of perennial arass weeds.

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

## FOR WEED CONTROL IN PASTURE AND RANGELAND

To control weeds in pasture and rangeland, apply a broadcast treatment of Impose herbicide at 2 to 12 ounces per acre (0.03 – 0.19 lb ae). For spot treatments, use Impose herbicide at 0.25% to 1% solution with 1.0% methylated seed oil. Specific use directions are found below.

Rangeland Use Instructions: Apply Impose herbicide 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 wildfire; (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 Impose herbicide 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 Impose herbicide to rangeland until specific weeds appear. A single application of Impose herbicide can be used to control annual weeds 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 Impose herbicide preemergence or early postemergence prior to planting. For best results for cheatgrass control, make a late summer or fall application of Impose herbicide before cheatgrass emerges and prior to planting desirable species. Impose herbicide can be used in this same manner as a site preparation before planting sagebrush seedlings. If making an application of Impose herbicide in the spring when planting a tolerant grass species, use a rate of 2 to 4 ounces per acre (0.03 - 0.06 lb ae). Rates above 4 ounces (0.06 lb ae) per acre may result in thinning or loss of stand, especially in seedling sideoats, blue grama or buffalograss. Perennial weeds like leafy spurge. Dalmation togdflax, and Russian knapweed can be controlled in most cases with a single broadcast application of Impose herbicide. Spot treatments with Impose herbicide may be necessary to control any weeds not controlled by the broadcast application. Long term weed control in rangeland is best achieved when Impose herbicide 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 Impose herbicide at 4 to 12 ounces (0.06 – 0.19 lb ae) per acre. Specific rate and timing instructions are provided below. Use of Impose herbicide 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 Impose herbicide than other bermudagrass types. If these growth responses are not acceptable, do not use Impose herbicide 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 specified 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 Impose herbicide is applied before the bermudagrass has reached 100% green-up. If Impose herbicide is applied when the bermudagrass is in the transition from winter dormancy to 100% green-up, green-up and growth will be delayed. Carefully inspect the new bermudagrass growth in the field to be sure all stolons have begun to grow. Application of Impose herbicide to a field that appears green, but where some to many stolons have not begun to grow, will still cause significant reductions in bermudgrass growth and development. It is important to delay application of Impose herbicide until 100% green-up has been achieved.

General Rate instructions: Make a postemergent application of Impose herbicide at 4-6 ounces (0.06 – 0.09 lb ae) 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. Specific rate instructions are given 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 Impose herbicide according to the rates and growth stages in the table below. Bermudagrass green-up and subsequent growth will be delayed if Impose herbicide is applied too early during the transition between dormancy and full green-up. Some bermudagrass yellowing and stolon internode shortening can occur with specified rates of Impose herbicide. Bermudagrass recovery will be shortened if Impose herbicide is applied with a nitrogen fertilizer (32-0-0 or 28-0-0) used as the spray carrier.

After complete bermudagrass green-up, apply Impose herbicide postemergence at 4 to 6 ounces  $(0.06-0.09 \, \text{lb ae})$  per acre for control of summer annual grasses (2 to 4 leaf stage). Use higher rates of 6 to 8 ounces  $(0.09-0.13 \, \text{lb ae})$  per acre when target weeds are at or above the boot stage. Always use a surfactant with Impose herbicide except when the spray carrier is liquid fertilizer. Some preemergence control of some annual grasses will be obtained when Impose herbicide is applied postemergence to target weeds.

Summer perennial grasses are controlled when impose herbicide is applied after complete bermudagrass green-up at the rate of 6 to 12 ounces (0.09 – 0.19 lb ae) per acre. If higher rates are necessary to control target weeds, make a fall application of Impose herbicide 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 of Impose herbicide. Always use a-surfactant with Impose herbicide except when the spray carrier is liquid fertilizer.

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

| Common Name           | Species                 | Weed Height (inches) <sup>2</sup> | Rate per Acre<br>(fluid ounces)  |
|-----------------------|-------------------------|-----------------------------------|----------------------------------|
| Large crabgrass       | Digitaria sanguinalis   | <4<br>>4                          | 4 (0.06 lb ae)<br>6 (0.09 lb ae) |
| Southern crabgrass    | Digitaria ciliaris      | ≤4<br>>4                          | 4 (0.06 lb ae)<br>6 (0.09 lb ae) |
| Smooth crabgrass      | Digitaria ischaemum     | ≤4<br>>4                          | 4 (0.06 lb ae)<br>6 (0.09 lb ae) |
| Giant foxtail         | Setaria faberi          |                                   | 6 (0.09 lb ae)                   |
| Green foxtail         | Setaria viridis         | ≤4<br>>4                          | 4 (0.06 lb ae)<br>6 (0.09 lb ae) |
| Yellow foxtail        | Setaria glauca          | ≤4<br>>4                          | 4 (0.06 lb ae)<br>6 (0.09 lb ae) |
| Texas panicum         | Panicum taxanum         |                                   | 6 (0.09 lb ae)                   |
| Fall panicum          | Panicum dichotomiflorum |                                   | 6 (0.09 lb ae)                   |
| Broadleaf signalgrass | Bracharia platyphylla   | ≤4<br>>4                          | 4 (0.06 lb ae)<br>6 (0.09 lb ae) |
| Annual jewgrass       | Microstegium vimineum   | ≤4<br>>4                          | 4 (0.06 lb ae)<br>6 (0.09 lb ae) |
| Barnyardgrass         | Echinchloa crus-galli   | ≤4<br>>4                          | 4 (0.06 lb ae)<br>6 (0.09 lb ae) |
| Sandbur               | Cenchrus spp.           | ≤4<br>>4                          | 4 (0.06 lb ae)<br>6 (0.09 lb ae) |

<sup>&</sup>lt;sup>1</sup>Be sure bermudagrass has completely greened up as an application of Impose herbicide 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 Impose herbicide.

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

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

| Common Name              | Species            | Weed Height (inches) <sup>2</sup> | Rate per Acre<br>(fluid ounces) |
|--------------------------|--------------------|-----------------------------------|---------------------------------|
| Johnsongrass             | Sorghum halepense  | 18-24                             | 8 (0.13 lb ae)                  |
|                          |                    | >24                               | 12 (0.19 lb ae)                 |
| Vaseygrass               | Paspalum urvillei  | 4-8                               | 6-8 (0.09 – 0.13 lb ae)         |
| Nutsedge                 | Cyperus spp.       | ≤4                                | 4 (0.06 lb ae)                  |
|                          |                    | >4                                | 6 (0.09 lb ae)                  |
| Bahiagrass               | Paspalum notatum   | 4-8                               | 6-8 (0.09 - 0.13 lb ae)         |
| Dallisgrass <sup>3</sup> | Paspalum dilatatum | 4-8                               | 8-12 (0.13 - 0.19 lb ae)        |
| Smutgrass <sup>3</sup>   | Sporobolus indicus | 4-8                               | 8-12 (0.13 – 0.19 lb ae)        |

Be sure bermudagrass has completely greened up as an application of Impose herbicide 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 Impose herbicide.

Postemergent Control of Winter Annual and Perennial Grass Weeds: When bermudagrass is dormant, make a postemergent application of Impose herbicide at a rate of 6 to 12 ounces (0.09 - 0.19 bl ae) per acre. Be sure there is no green tissue at the root crown or on stolons because an application of Impose herbicide 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. Consequently, avoid making an application of Impose herbicide if delayed green-up will be an issue. Control of larger winter annual and cool season perennial grasses will be improved if Impose herbicide is applied with 16 to 24 ounces per acre of Roundup Ultra™ or glyphosate equivalent. Always use a surfactant with Impose herbicide except when the spray carrier is liquid fertilizer.

 ${\bf Impose\ herbicide\ Rates\ for\ Postemergent\ Winter\ Annual\ and\ Cool\ Season\ Perennial\ Grass\ Control\ Perennial\ Perennial\ Control\ Perennial\ Control\ Perennial\ Perennial$ 

| Common Name                  | Species             | Weed Height (inches) | Rate per Acre<br>(fluid ounces) |
|------------------------------|---------------------|----------------------|---------------------------------|
| Annual Ryegrass <sup>1</sup> | Lolium multiflorum  | ≤6                   | 6 (0.09 lb ae)                  |
|                              |                     | >6                   | 10 (0.16 lb ae)                 |
| Tall Fescue                  | Festuca arundinacea |                      | 12 (0.19 lb ae)                 |
| Wild Oats                    | Avena fatua         | ≤6                   | 6 (0.09 lb ae)                  |
|                              |                     | >6                   | 10 (0.16 lb ae)                 |
| Little Barley                | Hordeum pusilium    | ≤6                   | 4 (0.06 lb ae)                  |
| ·                            | · ·                 | >6                   | 6 (0.09 lb ae)                  |

<sup>&</sup>lt;sup>1</sup> Because AHAS and ALS resistant annual ryegrass occurs throughout the southeast, tank mix 16 to 24 ounces per acree of Roundup Ultra or glyphosate equivalent with Impose herbicide when making applications to control annual ryegrass.

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

<sup>&</sup>lt;sup>3</sup> Suppression

**Spray Adjuvants:** To promote the growth and recovery of bermudagrass, add 10 to 20 gallons per acre of liquid fertilizer (32-0-0 or 28-0-0) as the spray carrier with Impose herbicide. 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 with Impose herbicide.

Tank Mixtures: Impose herbicide can be tank mixed with a number of broadleaf herbicides for broadleaf weed control. Impose herbicide can be tank mixed with Weedmaster®, Grazon™, Vegetation Manager Triclopyr 4E (or Remedy™), Redeem™, Metsuffuron Methyl DF (or Ally™), 2-4,D, and Roundup Ultra or 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 Triclopyr 3SL, that exceed I½ pounds active ingredient per acre can reduce efficacy on target grass weed species.

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

Use Impose herbicide at rates up to 12 ounces (0.19 lb ae) 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 of Impose herbicide used. See the minimum plant-back intervals provided below.

**Rotational Crop Restrictions:** The following rotational crops can be planted after applying Impose herbicide. Planting rotational crops earlier than the specified interval may result in crop injury.

| reflictae. Flanting rotational crops earlier than the specified interval may result in crop injury. |  |   |   |   |   |  |
|---|--|---|---|---|---|--|
| Impose Use  | Minimum Pla  | Minimum Plant Back Interval (Months After Impose Herbicide Application) |   |   |   |  |
| Rate (ounce/A)  |  |   |   |   |   |  |
| ≤4 (0.06 lb ae)   | 12   | 12  | 18  | 26  | 40  |  |
| 5-8   | 12   | 14  | 22  | 30  | 44  |  |
| (0.08 - 0.13 lb ae)   |  |   |   |   |   |  |
| 9-12  | 12   | 18  | 24  | 36  | 48  |  |
| (0.14 - 0.19 lb ae)   |  |   |   |   |   |  |
| Rotational Crops  | Bahiagrass<br>CLEARFIELD®<br>corn hybrids<br>Peanuts<br>Rye<br>Wheat | Snapbeans<br>Southern peas<br>Soybeans<br>Tobacco                       | Barley<br>Cotton <sup>1</sup><br>0B0BGrain<br>sorghum<br>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> |  |

¹ For Arizona, New Mexico, Oklahoma, and Texas only: In these states, cotton can be planted 18 to 24 months after Impose herbicide application unless drought conditions develop in the year of application. If less than 15 inches of rainfall or irrigation are received from the time of Impose herbicide 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 after Impose herbicide application at the rates provided in the above table.

<sup>&</sup>lt;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 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 Impose herbicide; 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 Impose herbicide, then a field bioassay with the desired crop prior to planting.

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

**Bahiagrass**: In unimproved areas, apply Impose herbicide at 2 to 6 ounces (0.03 – 0.09 lb ae) per acre to suppress growth and seedhead development in bahiagrass. For best results, apply Impose herbicide after green-up. Use the lower rate of 2 ounces (0.03 lb ae) per acre in North and South Carolina because higher rates may result in turf thinning. Temporary turf discoloration may occur depending on the rate of Impose herbicide used as well as other factors such as surfactant type and environmental conditions. Severe injury may occur if Impose herbicide is 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 Impose herbicide.

| IMPOSE HERBICIDE                 | PHYTOTOXICITY   | LENGTH OF SUPPRESSION  |
|----------------------------------|-----------------|------------------------|
| 2 ounce (0.03 lb ae)             | None to low     | Partial to season long |
| 3 to 6 ounce (0.05 – 0.09 lb ae) | Low to moderate | Season long            |

Use 8 ounces (0.13 lb ae) of Impose herbicide for control of winter annual weeds. Make the application when weeds are actively growing but while the bahiagrass is still dormant. A subsequent application of Impose herbicide at 3 to 4 ounces (0.05 – 0.06 lb ae) per acre can be made in the spring after bahiagrass green-up for the suppression of seedheads and foliage.

Cool Season Grasses: KY31 Tall Fescue and "Wildtype Common" Kentucky Bluegrass: For foliar and seedhead suppression of these cool season grasses, apply Impose herbicide at 2 to 4 ounces (0.03 lb - 0.06 lb ae) per acre. Do not use a methylated seed oil adjuvant with Impose herbicide on these grasses. Use of an adjuvant with the lower rate will enhance performance; however use of a surfactant with the higher rate (4 ounces) could cause excessive injury or mortality of tall fescue. Application of Impose herbicide to turf types of tall fescue and Kentucky bluegrass could result in severe injury or stand loss.

Wheatgrass: Impose herbicide can be applied for foliar and seedhead suppression of crested wheatgrass and intermediate wheatgrass. Use 6 to 10 ounces (0.09 - 0.16 lb ae) per acre for crested wheatgrass and 6 to 12 ounces (0.09 - 0.19 lb ae) per acre for intermediate wheatgrass. Although other wheatgrass species may be suppressed, it is best to determine effectiveness by first applying Impose herbicide to a limited area. Use of 2,4-D or products containing 2,4-D in a tank-mix with Impose herbicide is tank mixed with Garlon (Triclopyr 35L or Triclopyr 4EC), Tordon (Picloram 22K), Transline™, and Vanquish. Severe injury may occur if Impose herbicide is applied to turf under stress.

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

Impose herbicide will control summer and winter annual weeds as well as some perennial weeds in bermudagrass turf found along roadsides, utility rights-of-way, railroad crossings, at airports, in non-irrigation ditches. Tolerance to Impose herbicide varies with different bermudagrass types. Therefore, some foliar, stolon and seedhead suppression may occur depending on turf type, application timing and herbicide rate. When applying Impose herbicide to bermudagrass trif 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.

Winter Annual Weed Control: Make application prior to winter weed germination or while winter weeds are actively growing. Use Impose herbicide at 4 to 12 ounces (0.06 - 0.19 lb ae) per acre. A delay in bermudagrass green-up can occur if Impose herbicide is 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 Impose herbicide at 4 to 12 ounces (0.06-0.19 lb ae) per acre. Control of larger weeds may be possible depending on growing conditions, species susceptibility, adjuvant selection and tank-mix partner.

**Perennial Weeds**: Use Impose herbicide at 8 to 12 ounces (0.13 – 0.19 lb ae) per acre postemergence after weeds are large enough for herbicide uptake. For control of a specific weed species, see the **Special Weed Control** part of this label. Increased control of perennial weeds can achieved by tank mixing Impose herbicide with Accord or Roundup Pro.

**Bahiagrass Control:** Make a postemergence application of Impose herbicide at 8 to 12 ounces (0.13 – 0.19 lb ae) per acre. For control of a specific weed species, see the **Special Weed Control** part of the label. Increased control of perennial weeds can achieved by tank mixing Impose herbicide with Accord or Roundup Pro at 12 to 16 ounces per acre.

# IMPOSE HERBICIDE RATES AND TIMINGS FOR SPECIFIC BERMUDAGRASS TYPES WITH REGARD TO WEED CONTROL AND TURF TOLERANCE.

**Common Bermudagrass**: Common bermudagrass is very tolerant to Impose herbicide. The weed control spectrum can be improved with tank-mixes of Impose herbicide with Roundup Pro, Accord, or glyphosate; however, these tank-mixes may also increase turf phytotoxicity by causing stolen internode shortening and seedhead suppression for the first 8 weeks after application.

**Established Coastal Bermudagrass:** The use of 2 to 12 ounces (0.03 – 0.19 lb ae) per acre of Impose herbicide on coastal bermudagrass will control labeled weeds and provide foliar and seedhead suppression. Do not use Impose herbicide on World Feeder varieties of bermudagrass. Activity of Impose herbicide increases as the rate increases. Beware that applying a tank-mix combination of Impose herbicide and Roundup Pro, Accord, or alyphosate on coastal bermudagrass may result in death or excessive injury.

**Turf Type Bermudagrass**: Tolerance to Impose herbicide varies in turf type bermudagrass varieties. At rates of 2 to 6 ounces  $(0.03 - 0.09 \, \text{lb}$  ae) per acre, Impose herbicide will provide some annual weed control and foliar and seedhead suppression. Application of Impose herbicide at rates above 6 ounces per acre could result in excessive injury or death.

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

To control annual broadleaf and grass weeds in unimproved centipede grass, apply Impose herbicide at 4 to 8 ounces (0.06-0.18) be a) 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.

# 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 Impose at 4 to 8 ounces (0.06 – 0.15 lb ae) 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. Higher rates of 8 to 12 ounces (0.13 – 0.19 lb ae) per acre can be applied in the spring; however, excessive growth suppression can result. A fall application of Impose herbicide at 8 to 12 ounces (0.15 – 0.19 lb ae) per acre can be made to control perennial weeds (see Special Weed Control section of this label below). Treatment of smooth bromegrass with Impose herbicide may result in foliar height and seedhead suppression. Wheatgrass: For control of labeled grass and broadleaf weeds apply Impose herbicide at 4 to 12 ounces (0.06 – 0.19 lb ae) per acre. Foliar height and seedheads may be suppressed when wheatgrass is treated with Impose herbicide.

# FOR CONTROL OF UNDESIRABLE WEEDS IN FORAGE LEGUMES INCLUDING PERENNIAL PEANUTS AND CROWN VETCH

Newly Sprigged And Established Perennial Peanut: Impose herbicide can be applied at 4 ounces (0.06 lb ae) per acre to perennial peanut pastures to weeds that are 4 inches or less in height. Add a non-ionic surfactant of 0.25% v/v to the spray mix.

**Newly Seeded Crown Vetch:** To aid in stand establishment and reduce weed competition, apply Impose herbicide at 4 ounces (0.06 lb ae) per acre to newly seeded beds.

**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 Impose herbicide at 8 to 12 ounces (0.13 – 0.19 lb ae) per acre to established crown vetch beds. Depending on time of application, some internode shortening and minor tip chlorosis may occur after application of Impose herbicide.

To avoid potential injury, apply Impose herbicide during winter dormancy or in the early spring. If applied after May, Impose herbicide 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, Impose herbicide may cause severe injury or stand loss.

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

Impose herbicide controls many annual and perennial grass and broadleaf weeds when applied at 2 to 12 ounces (0.03 – 0.19 lb ae) per acre in newly established and existing stands of prairiegrasses (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 prairiegrasses may be suppressed by Impose herbicide.

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. Makhteshim Agan of North America, Inc. cannot be held responsible for such unforeseen factors. If tolerance is not known, be sure to try Impose herbicide on a small area first. Impose herbicide reduces weed competition and allows grass seedlings to become established. Perennial noxious weeds in established grass stands may also be controlled with Impose herbicide if the application is made postemergence as a foliar treatment.

# Important Considerations:

- 1. Always add an adjuvant with Impose herbicide.
- 2. On established grass stands, use a methylated seed oil.
- 3. Use a nonionic surfactant on newly emerged seedling grasses.
- Use of a liquid fertilizer as a carrier will reduce grass tolerance and must not be used on newly emerged seedling grasses.

Stand Establishment: Since newly emerged grasses can be sensitive to Impose herbicide 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 of Impose herbicide must be delayed until the grasses have reached the five-leaf stage. Use only a nonionic surfactant or silicone-based surfactant with Impose herbicide on seedling grasses. Do not use a methylated seed oil at this timing as some injury could result. Annual weeds are controlled by Impose herbicide applied 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 of Impose herbicide 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: Impose herbicide will provide control and/or suppression of many annual grass and broadleaf weeds. Apply 2 to 6 ounces (0.03 – 0.09 lb ae) 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 clean seedbeds, use lower rates. Use Impose herbicide as low as 2 ounces (0.03 lb ae) per acre when soil pH is greater than 7, there is a low CEC, or in a course texture soil with low clay or organic matter content. Use higher rates 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, us impose herbicide at 8 to 12 ounces (0.13 – 0.19 lb ae) 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.

Established Stands: Application of Impose herbicide 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 of Impose herbicide are used. This is especially likely when there is few weeds, little rainfall, light soils and short growing seasons. Reserve lower rates for use on light weed infestations or when desirable wildflower and legumes, including crown vetch and perennial peanuts, 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.

**Buffalograss:** In newly sprigged buffalograss, apply Impose herbicide at 2 to 4 ounces (0.03 - 0.06 lb ae) 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 Impose herbicide is applied to new growth and small seedlings. It is best to wait to apply Impose herbicide 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 Impose herbicide at 2 to 8 ounces (0.03 - 0.13 lb ea) per acre. The higher rates may result in some turf discoloration and stunting. An application of Impose herbicide to dormant buffalograss will control winter annual weeds. Note that some buffalograss types may show different tolerance to Impose herbicide. Turf type buffalograss, for instance, may show a different tolerance to Impose herbicide. Turf type buffalograss, for instance, may show a different tolerance to Impose herbicide will provide details.

Sideoats and Blue Grama: Do not apply Impose herbicide 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 of Impose herbicide at 2 to 4 ounces (0.03 - 0.06 lb ae) per acre plus an adjuvant will aid in stand establishment. Stand thinning may occur if Impose herbicide is applied at 4 ounces (0.06 lb ae) 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 Impose herbicide 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 Impose herbicide at 2 to 4 ounces (0.03 - 0.06 lb ae) per acre when applied preemergence at planting, some stand thinning may occur. In established stands of sideoats and blue grama, apply Impose herbicide at 4 to 10 ounces (0.06 - 0.16 lb ae) per acre. Impose herbicide can be applied up to 12 ounces (0.19 lb ae) 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. Switchgrass (Panicum virgatum): Do not use Impose herbicide for the establishment of pure switchgrass stands as severe injury or death can result. It can, however, be applied at 2 to 4 ounces (0.03 - 0.06 lb ae) 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 Impose herbicide at rates of 10 to 12 ounces (0.16 - 0.19 lb ae) per acre. Beware, however, that severe stunting and injury will occur. Do not apply impose herbicide to switchgrass if severe injury cannot be tolerated.

**Eastern Gamagrass**: Apply Impose herbicide at 2 to 6 ounces (0.03-0.09 lb ae) 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 Impose herbicide at 2 to 8 ounces (0.03-0.13 lb ae) per acre while the eastern gamagrass is dormant. Injury in the form of stunting will occur as the rate of Impose herbicide is increased. If applied during or after green-up, Impose herbicide may result in foliar and/or seedhead suppression and possible mortality of weak plants.

Big Bluestem, Little Bluestem and Indiangrass: To control labeled weeds in these grasses at planting, or any time thereafter (including emerged seedings and dormant or actively growing perennial stands), Impose herbicide can be applied at the rate of 2 to 12 ounces (0.03 – 0.19 lb ae) per acre. See Weeds Controlled section of this label for the desired rate. Use lower rates in Wisconsin, Michigan, Minnesota, South Dakota, North Dakota, Kansas, Oklahoma, Texas, and Nebraska. Use higher rates in areas of where there is more rainfall and a longer growing season.

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 Impose herbicide is applied at 12 ounces (0.19 lb ae) per acre in combination with methylated seed oil at 2 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 Impose herbicide could result in improved control of existing tall fescue as well as new germinating seedlings. Best results will result from a fall application of Impose herbicide at 6 to 12 ounces (0.09 – 0.19 lb ae) per acre plus 24 to 64 ounces per acre of Accord or Roundup Pro.

To control older, more mature fescue stands in the spring, use Impose herbicide at the higher end of the 6 to 12 ounces (0.09 – 0.19 lb oe) per acre rate range plus a tank-mix with Accord or Roundup Pro at 32 to 64 ounces per acre. If planting forbs, use the lower end of the 6 to 12 ounces (0.09 – 0.19 lb oe) per acre rate range of Impose herbicide plus a tank-mix with a glyphosate product. If Impose herbicide is used at 8 ounces (0.13 lb ae) per acre with a glyphosate product in the fall, apply only 4 ounces (0.06 lb ae) per acre of Impose herbicide 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 can 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 re-growth is necessary following the last mowing before applying either the Impose herbicide or glyphosate products. Both require adequate foliage present for uptake and maximum control.

#### TOI FRANT GRASS SPECIES<sup>1</sup>

| Prairiegrass              |                           | Impose Herbicide Rate<br>(ounce/acre) <sup>2</sup> |                          |  |
|---------------------------|---------------------------|--|--------------------------|--|
| Common Name               | Species                   | New Seeding  | Established              |  |
| Big Bluestem              | Andropogon gerardii       | 2-12 (0.03 – 0.19 lb ae)                           | 2-12 (0.03 – 0.19 lb ae) |  |
| Little Bluestem           | Schizachyrium scoparium   | 2-12 (0.03 – 0.19 lb ae)                           | 2-12 (0.03 – 0.19 lb ae) |  |
| Indiangrass               | Sorghastrum nutans2-12    | 2-12 (0.03 – 0.19 lb ae)                           | 2-12 (0.03 – 0.19 lb ae) |  |
| Bushy Bluestem            | Andropogon glomeratur     | *  | 2-12 (0.03 – 0.19 lb ae) |  |
| King Ranch Bluestem       | Bothriochloa ischaemum    |  | 2-12 (0.03 – 0.19 lb ae) |  |
| Silver Beard Bluestem     | Bothriochloa saccharoides |  | 2-12 (0.03 – 0.19 lb ae) |  |
| Broomsedge                | Andropogon virginicus     |  | 2-12 (0.03 – 0.19 lb ae) |  |
| Fingergrass, Rhodes grass | Choris spp.               |  | 2-12 (0.03 – 0.19 lb ae) |  |
| Needlegrass               | Stipa spp.                |  | 2-12 (0.03 – 0.19 lb ae) |  |
| Needleandthread           | Stipa comata              |  | 2-12 (0.03 – 0.19 lb ae) |  |
| Kearny (Plains) Threeawn  | Aristida longespica       |  | 2-12 (0.03 – 0.19 lb ae) |  |
| Prairie Threeawn          | Aristida oligantha        |  | 2-12 (0.03 – 0.19 lb ae) |  |
| Prairie Sandreed          | Calamovilfa longifolia    |  | 2-12 (0.03 – 0.19 lb ae) |  |

| Prairiegrass             |                        | Impose Herbicide Rate<br>(ounce/acre)² |                                       |  |
|--------------------------|------------------------|--|---------------------------------------|--|
| Common Name              | Species                | New Seeding                            | Established                           |  |
| Smooth Bromegrass        | Bromus inermis         |  | 2-12 (0.03 – 0.19 lb ae)              |  |
| Kentucky Bluegrass       | Poa pratensis          |  | 2-12 <sup>4</sup> (0.03 – 0.19 lb ae) |  |
| Sandberg's Bluegrass     | Poa sandbergii         |  | 2-12 (0.03 – 0.19 lb ae)              |  |
| Wheatgrasses             | Agropyron spp.         |  | 2-12 (0.03 – 0.19 lb ae)              |  |
| Bottlebrush Squirreltail | Sitanian hystrix       |  | 2-12 (0.03 – 0.19 lb ae)              |  |
| Russian Wild Ryegrass    | Elymus junceus         | 2-6 <sup>2</sup> (0.03 – 0.19 lb ae)   | 2-12 (0.03 – 0.19 lb ae)              |  |
| Sideoats Grama           | Bouteloua curtipendula | 2-8 <sup>3</sup> (0.03 – 0.13 lb ae)   | 2-8 (0.03 – 0.13 lb ae)               |  |
| Blue Grama               | Bouteloua gracilis     | 2-8 <sup>3</sup> (0.03 – 0.13 lb ae)   | 2-8 (0.03 – 0.13 lb ae)               |  |
| Buffalograss             | Buchloe dactyloides    | 2-4 (0.03 – 0.06 lb ae)                | 2-8 (0.03 – 0.13 lb ae)               |  |
| Eastern Gamagrass        | Tripsacum dactyloides  | 2-6 <sup>3</sup> (0.03 – 0.09 lb ae)   | 2-8 (0.03 - 0.13 lb ae)               |  |

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

# Tolerance of Established Grasses to 8 to 12 ounces (0.13 – 0.19 lb ae) of Impose Herbicide applied in the Fall

| Grass Species <sup>1</sup> | Tolerant | Suppressed <sup>2</sup> | Not Tolerant | Tolerance Unknown |
|----------------------------|----------|-------------------------|--------------|-------------------|
| Bermudagrass               | X        |                         |              |                   |
| Bluegrass Kentucky         |          | Х                       |              |                   |
| Bluegrass, Sandberg's      | X        |                         |              |                   |
| Bluestem, big              | X        |                         |              |                   |
| Bluestem, bushy            | X        |                         |              |                   |
| Bluestem, King Ranch       | X        |                         |              |                   |
| Bluestem, little           | X        |                         |              |                   |
| Bluestem, silver beard     | X        |                         |              |                   |
| Bromegrass, meadow         |          | Х                       | Х            |                   |

 $<sup>^{\</sup>rm 2}\mbox{High}$  rates may result in stunting and growth suppression.

 $<sup>^3</sup>$  Impose herbicide preemergence applications to newly seeded sideoats, blue grama and Eastern gamagrass may result in thinning or loss of stand.

<sup>&</sup>lt;sup>4</sup>Some bluegrass varieties are sensitive to Impose herbicide. Drought can delay recovery and may result in overgrazing of treated area.

<sup>\*</sup>Tolerance unknown.

| Grass Species <sup>1</sup>  | Tolerant | Suppressed <sup>2</sup> | Not Tolerant | Tolerance Unknown |
|-----------------------------|----------|-------------------------|--------------|-------------------|
| Bromegrass, smooth          |          | Х                       |              |                   |
| Broomsedge                  | Х        |                         |              |                   |
| Buffalograss                | Х        | Х                       |              |                   |
| Cheatgrass                  |          |                         | Х            |                   |
| Creeping foxtail, Garrison  |          |                         |              | Х                 |
| Downey brome                |          |                         | Х            |                   |
| Fescue, Idaho               | Х        |                         |              |                   |
| Fescue, Tall                |          |                         | Х            |                   |
| Gamagrass, eastern          |          | Х                       |              |                   |
| Grama, blue                 | Х        | Х                       |              |                   |
| Grama, sideoats             | Х        | X                       |              |                   |
| Indiangrass                 | Х        |                         |              |                   |
| Medusahead                  |          |                         | Х            |                   |
| Needleandthread             | Х        |                         |              |                   |
| Needlegrass, green          | Х        |                         |              |                   |
| Orchardgrass                |          | Х                       |              |                   |
| Prairie cordgrass           |          | X                       |              |                   |
| Prairie dropseed            |          |                         |              | Х                 |
| Prairie sandreed            | Х        |                         |              |                   |
| Prairie threeawn            | Х        |                         |              |                   |
| Quackgrass                  |          | X                       |              |                   |
| Redtop                      |          | X                       | Х            |                   |
| Reed canarygrass            |          | X                       | Х            |                   |
| Rhodes grass/Fingergrass    | Х        |                         |              |                   |
| Ryegrass, annual or Italian |          |                         | Х            |                   |
| Ryegrass, perennial         |          | Х                       | Х            |                   |
| Squirreltail, bottlebrush   | Х        |                         |              |                   |
| Switchgrass                 |          | Х                       | Х            |                   |
| Timothy                     |          |                         | Х            |                   |

| Grass Species <sup>1</sup> | Tolerant | Suppressed <sup>2</sup> | Not Tolerant | Tolerance Unknown |
|----------------------------|----------|-------------------------|--------------|-------------------|
| Wheatgrass, bluebunch      | X        | X                       |              |                   |
| Wheatgrass, crested        | Х        | X                       |              |                   |
| Wheatgrass, intermediate   | Х        | X                       |              |                   |
| Wheatgrass, pubescent      | Х        | Х                       |              |                   |
| Wheatgrass, Siberian       | Х        |                         |              |                   |
| Wheatgrass, slender        | X        | X                       |              |                   |
| Wheatgrass, streambank     | Х        | X                       |              |                   |
| Wheatgrass, western        | X        | X                       |              |                   |
| Wild ryegrass, Basin       | Х        |                         |              |                   |
| Wild ryegrass, Canada      |          | X                       |              |                   |
| Wild ryegrass, Russian     | Х        |                         |              |                   |
| Wild ryegrass, Virginia    |          | X                       |              |                   |

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

## WILDFLOWER ESTABLISHMENT AND MAINTENANCE

Tolerance among wildflowers to Impose herbicide varies considerably because there are so many different genotypes, ecotypes and varieties and susceptibilities depending on soil types and environmental conditions. Do not use Impose herbicide unless some stand thinning or mortality of wildflowers can be tolerated. The least amount of injury to tolerant species from a preemergence application of Impose herbicide will result from the low rate of 2 ounces (0.03 lb ae) per acre. Because the use of Impose herbicide applied postemergence can result in injury or death of some wildflower postoppes, use only as a last resort when the wildflower stand is threatened by weed competition. Certain spray adjuvants used with Impose herbicide can also increase injury and stand loss in wildflowers. Most legumes listed in the tolerance table are tolerant to Impose herbicide at 4 ounces (0.06 lb ae) per acre, however some stand thinning can occur. The specifications given in the tables below are for mixed grass/wildflower stands. Use on a monoculture stand could result in poor control and plant injury. Test a small area of the monoculture stand for injury before applying Impose herbicide to a larger area of a monoculture stand.

**For prairiegrass/wildflower mixtures:** If wildflower injury (stand thinning, height suppression, etc.) can be tolerated, apply Impose herbicide at the rate specified to achieve the weed control desired. Do not exceed the tolerance rate given in the table below. Preemergence applications of Impose herbicide can reduce or eliminate wildflower injury. To minimize injury to tolerant species, apply Impose herbicide at 2 to 4 ounces (0.03 – 0.06 lb ae) per acre. In low rainfall areas and areas where conditions are cool and dry, use the 2 ounces (0.03 lb ae) per acre rate of Impose herbicide. If a postemergence application of Impose herbicide is to be made to established prairiegrass/wildflower mixtures, use the lowest rates allowed to achieve the weed control desired (see **Weeds Controlled** section of this label). Postemergence application

 $<sup>^2</sup>$  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.

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 can result from an application of Impose herbicide in conjunction with an organophosphate insecticide.

# Seedling Wildflower and Legume Tolerance to Impose Herbicide (4 ounce (0.06 lb ae) per acre) in Mixed Grass/Forb Stands.

| Common Name                 | Genus Species                        | PRE | POST |
|-----------------------------|--------------------------------------|-----|------|
| Alfalfa                     | Medicago sativa                      | No  | Yes  |
| Aster,New England           | Aster novae angliae                  | No  | Yes  |
| Aster, Prairie              | Aster tanacetifolius                 | No  | Yes  |
| Baby Blue Eyes              | Nemophila menziestii                 | No  | Yes  |
| Beggar ticks                | Bidens frondosa                      | No  | Yes  |
| Bird's eyes                 | Gila tricolor                        | No  | Yes  |
| Bishop's Flower             | Anuni majus                          | No  | Yes  |
| Blackeyed Susan             | Rudbeckia hirta                      | Yes | Yes  |
| Blanketflower               | Gaillardia aristata                  | No  | Yes  |
| Bundleflower, Illinois      | Desmanthus illinoensis               | Yes | Yes  |
| Catchfly                    | Silene armeria                       | No  | Yes  |
| Chicory                     | Cichorium intybus                    | Yes | Yes  |
| Clover, Crimson             | Trifolium incarnatum                 | Yes | Yes  |
| Clover, White               | Trifolium repens                     | No  | Yes  |
| Coneflower, Purple          | Echinacea purpurea                   | Yes | Yes  |
| Coneflower, Upright Prairie | Ratibida columnifera                 | Yes | Yes  |
| Coreopsis,Dwarf Red Plains  | Coreopsis tinctoria var. Gay Feather | Yes | Yes  |
| Coreopsis, Lance Leaved     | Coreopsis lanceolata                 | Yes | Yes  |
| Coreopsis, Plains           | Coreopsis, tinctoria                 | Yes | Yes  |
| Cornflower                  | Centaurea cyanus                     | No  | Yes  |
| Cosmos, Garden              | Cosmos bipinnatus                    | Yes | Yes  |
| Cosmos, Yellow              | Cosmos sulphureus                    | Yes | Yes  |
| Daisy, Ox-eye               | Chrysanthemum leucanthermum          | Yes | Yes  |

| Common Name           | Genus Species            | PRE | POST |
|-----------------------|--------------------------|-----|------|
| Daisy, Shasta         | Chrysanthemum maximum    | Yes | Yes  |
| Five Spot             | Nemophila maculata       | No  | Yes  |
| Flax, Blue            | Linum perenne            | No  | Yes  |
| Hat, Mexican          | Ratibida columnifera     | Yes | Yes  |
| Indian Blanket        | Gaillardia pulchella     | No  | Yes  |
| Indigo, Blue False    | Baptisia ausralis        | Yes | No   |
| Johnny Jump-ups       | Viola cornuta            | Yes | Yes  |
| Lemon Mint            | Monarda citriodora       | No  | Yes  |
| Lespedeza, Bicolor    | Lespedeza                | Yes | Yes  |
| Lespedeza, Korean     | Lespedeza stipulacea     | No  | Yes  |
| Lespedeza, Sericea    | Lespedeza cuneata        | No  | Yes  |
| Lupine, Perennial     | Lupinu perennis          | Yes | Yes  |
| Partridgepea          | Cassia fasciculate       | Yes | Yes  |
| Pea, Calico           | Psum viganasinensis      | Yes | Yes  |
| Pea, Flat             | Lathyrus sylvestris      | Yes | Yes  |
| Pea, Perennial        | Lathyrus latifolius      | Yes | Yes  |
| Phlox, Drummond       | Phlox drummondii         | Yes | No   |
| Poppy, California     | Eschscholzia californica | Yes | No   |
| Poppy, Corn           | Papaver rhoeas           | Yes | Yes  |
| Poppy, Red Corn       | Papaver spp.             | Yes | Yes  |
| Prairieclover, Purple | Dalea purpurea           | Yes | Yes  |
| Prairieclover, White  | Dalea candidum           | Yes | Yes  |
| Tick-trefoil, showy   | Desmodium canadense      | No  | Yes  |
| Trefoil, Birdsfoot    | Lotus corniculatus       | No  | Yes  |
| Vetch, Crown          | Coronilla varia          | Yes |      |
| Vetch, Hairy          | Vicia villosa            | Yes |      |
| Yarrow, Gold          | Achillea filipendulina   | No  | Yes  |

 $<sup>^{\</sup>rm 1}\,{\rm For}$  legumes, at least three true leaves should be present a postemergence application.

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

| Common Name                    | Genus Species               | PRE             | POST <sup>2</sup> |
|--------------------------------|-----------------------------|-----------------|-------------------|
| Flax, Blue                     | Linum perenne               | 0               | 6 (0.09 lb ae)    |
| Indian Blanket                 | Gaillardua pulchella        | 0               | 6 (0.09 lb ae)    |
| Blanketflower                  | Gaillardia aristata         | 0               | 8 (0.13 lb ae)    |
| Chickory                       | Cichorium intybus           | 4 (0.06 lb ae)  | 6 (0.09 lb ae)    |
| Daisy, Shasta                  | Chrysanthemum maximum       | 4 (0.06 lb ae)  | 8 (0.13 lb ae)    |
| Prairieclover, Purple          | Dalea, purpurea             | 4 (0.06 lb ae)  | 12 (0.19 lb ae)   |
| Coneflower, Upright Prairie    | Ratibida columnifera        | 6 (0.09 lb ae)  | 6 (0.09 lb ae)    |
| Hat, Mexican                   | Ratibida columnifera        | 6 (0.09 lb ae)  | 6 (0.09 lb ae)    |
| Poorjoe                        | Diodia teres                | 8 (0.13 lb ae)  |                   |
| Lupine, Perennial <sup>4</sup> | Lupina perennis             | 8 (0.13 lb ae)  | 12 (0.19 lb ae)   |
| Coneflower, Purple             | Echinacea purpurea          | 8 (0.13 lb ae)  | 8 (0.13 lb ae)    |
| Daisy, Ox-eye <sup>3</sup>     | Chrysanthemum leucanthermum | 8 (0.13 lb ae)  | 8 (0.13 lb ae)    |
| Leadplant                      | Amorpha canescens           | 8 (0.13 lb ae)  | 8 (0.13 lb ae)    |
| Lespedeza, Bicolor             | Lespedeza                   | 8 (0.13 lb ae)  | 8 (0.13 lb ae)    |
| Milkweed, Common               | Asclepias syriaca           | 8 (0.13 lb ae)  |                   |
| Pea, Prairie Scurf             | Psoralea esculenta          | 8 (0.13 lb ae)  | 8 (0.13 lb ae)    |
| Yarrow, Gold <sup>3</sup>      | Achillea filipendulina      | 8 (0.13 lb ae)  | 8 (0.13 lb ae)    |
| Blackeyed Susan                | Rudbeckia hirta             | 8 (0.13 lb ae)  | 10 (0.16 lb ae)   |
| Johnny Jump-ups                | Viola cornuta               | 8 (0.13 lb ae)  | 12 (0.19 lb ae)   |
| Sweetclover                    | Melilotus sp.               | 12 (0.19 lb ae) | 8 (0.13 lb ae)    |
| Alfalfa                        | Medicago sativa             | 12 (0.19 lb ae) | 12 (0.19 lb ae)   |
| Bundleflower, Illinois         | Desmanthus illinoensis      | 12 (0.19 lb ae) | 12 (0.19 lb ae)   |
| Lespedeza, Sericea             | Lespedeza cuneata           | 12 (0.19 lb ae) | 12 (0.19 lb ae)   |
| Partridgepea                   | Cassia fasciculate          | 12 (0.19 lb ae) | 12 (0.19 lb ae)   |
| Sensitive vine                 | Minmosa strigillosa         | 12 (0.19 lb ae) | 12 (0.19 lb ae)   |
| Vetch, Crown                   | Coronilla varia             | 12 (0.19 lb ae) | 12 (0.19 lb ae)   |
| Violet, Wild                   | Viola spp.                  | 12 (0.19 lb ae) | 12 (0.19 lb ae)   |

<sup>&</sup>lt;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>&</sup>lt;sup>2</sup>Make early post postemergence application on the flowers to reduce injury and increase flower set.

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

 $<sup>^4\,\</sup>mathrm{Most}$  native rangeland lupines are tolerant to Impose herbicide at 12 ounces (0.19 lb ae) per acre postemergence.

# Wildflower Establishment with Impose Herbicide 4 ounce (0.06 lb ae) per acre + PENDULUM Herbicide 2 pounds active ingredient per acre<sup>1</sup>

| Common name                 | Genus Species                        | PRE <sup>2</sup>             | POST <sup>3</sup>                 |
|-----------------------------|--------------------------------------|------------------------------|-----------------------------------|
| Blackeyed Susan             | Rudbeckia hirta                      | Yes                          | Yes                               |
| Blanketflower               | Gaillardia aristata                  | No                           | Yes                               |
| Bundleflower, Illinois      | Desmanthus illinoensis               | >50% thinning                | Yes                               |
| Clover, Crimson             | Trifolium incarnatum                 | >50% thinning                | Yes                               |
| Coneflower, Clasping        | Dracopsis amplexicaulis              | Yes                          | Yes                               |
| Coneflower, Upright Prairie | Ratibida columnifera                 | No                           | OK                                |
| Coneflower, Purple          | Echinacea purpurea                   | Yes                          | Yes                               |
| Coreopsis, Dwarf Red Plains | Coreopsis tinctoria var. Gay Feather | OK stunting                  | OK stunting                       |
| Coreopsis, Plains           | Coreopsis tinctoria                  | OK stunting                  | Yes                               |
| Coreopsis, Lance Leaved     | Coreopsis lanceolata                 | 25% thinning                 | Yes                               |
| Cornflower                  | Centaurea cyanus                     | No                           | OK 20% thinning                   |
| Cosmos, Garden              | Cosmos bipinnatus                    | OK 10% thinning              | OK stunting                       |
| Cosmos, Yellow              | Cosmos sulphureus                    | Yes                          | Yes                               |
| Daisy, Ox-eye               | Chrysanthemum leucanthermum          | 25% thinning                 | Yes                               |
| Daisy, Shasta               | Chrysanthemum maximum                | Marginal-<br>OK-20% thinning | Yes                               |
| Lupine, Perennial           | Lupinu perennis                      | Yes                          | ≤50% thinning                     |
| Partridgepea                | Cassia fasciculate                   | 25% thinning                 | Yes                               |
| Poppy, California           | Eschscholzia californica             | Yes                          | 25% injury,<br>stunting, thinning |
| Yarrow, Gold                | Achillea filipendulina               | OKthinning                   | OK                                |

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

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

 $\mathsf{OK}$  = can be used in thinning and/or stunting can be tolerated or if establishment is threatened by weed competition.

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

If Impose herbicide is to be used on a wildflower species that is not listed in the table below, test a small area with no more than 12 ounces (0.19 lb ae) 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.

<sup>&</sup>lt;sup>2</sup> Preemergence at planting

<sup>&</sup>lt;sup>3</sup> Postemeraence to seedlings

Yes= no injury

#### WILDLIFE HABITAT MANAGEMENT

Impose herbicide can 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 Impose herbicide (see Spray Adjuvants For Postemergence Applications section of this label). Best control of perennial weeds is achieved when Impose herbicide is 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 acceptable control.

**Johnsongrass and Itchgrass:** When Johnsongrass and itchgrass have reached the whorl stage and 18 to 24 inches in height, apply Impose herbicide at 8 to 12 ounces (0.13 – 0.19 lb ae) per acre. If treating dense stands, or after these grasses have reached the culm elongation stage, control with Impose herbicide may be improved with the addition of Accord or Roundup Pro at the rate of 8 to 16 ounces per acre. Use the higher herbicide rates as grass density increases. Sometimes, control of Johnsongrass and itchgrass at stages taller than described above are possible.

Dallisgrass, Bahiagrass, Vaseygrass. Paspalum spp., Smutgrass: Make a postemergence application of Impose herbicide at 10 to 12 ounces (0.16 – 0.19 lb ae) per acre after grass has reached full green-up for control of dallisgrass, bahiagrass and smutgrass. Activity against dallisgrass and smutgrass can 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 of Impose herbicide at the rate of 4 to 6 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 Accord or Roundup Pro at the rate of 12 to 16 ounces per acre. Use higher herbicide rates as weed growth and density increases. A preemergence application of Impose herbicide plus Pendulum herbicide will provide increased control of these grasses germinating from seed.

Leafy Spurge: Maximum control of leafy spurge can be obtained when Impose herbicide is applied in late summer or fall at 8 to 12 ounces (0.13 – 0.19 lb ae) per acre in combination with a methylated seed oil at two pints per acre. The timing is generally 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 of Impose herbicide at 12 ounces (0.19 lb ae) per acre in spring or fall, or 4 ounces (0.06 lb ae) applied in the fall followed by 8 ounces (0.13 lb ae) per acre in the spring. Nitrogen fertilizer (see Spray Adjuvants For Postemergence Applications section of this label) at two pints per acre can increase the control of leafy spurge; however, it may also cause injury to grasses and forbs. Use of Impose herbicide with a nonionic or silicone-based surfactant will not provide control of leafy spurge. The target timing for fall applications of Impose herbicide for control of leafy spurge in North and South Dakota is late August through September. Further south in Nebraska and lowar the target timing is mid-September though 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 Impose herbicide can still be applied.

**Tall Fescue Control:** Apply Impose herbicide at 12 ounces (0.19 lb ae) per acre plus methylated seed oil at 2 pints per acre to control tall fescue. Control will be aided by the addition of Accord, glyphosate, or Roundup Pro and/or Nitragen

fertilizer (see Spray Adjuvants For Postemergence Applications section of this label). Only apply Impose herbicide when tall fescue is actively growing because application after tall fescue had reached summer dormancy will result in poor control.

Best control of existing tall fescue and germinating seedlings is obtained when Impose herbicide is applied in the fall at 8 to 12 ounces (0.13 – 0.19 lb ae) per acre plus Accord or Roundup Pro at 24 to 64 ounces per acre. To control mature fescue stands in the spring, use Impose herbicide at the higher end of the 6 to 12 ounces per acre rate range plus a tank-mix with Accord or Roundup Pro at 32 to 64 ounces per acre. If planting forbs, use the lower end of the 6 to 12 ounces (0.09 – 0.19 lb ae) per acre rate range of Impose herbicide plus a tank-mix with a glyphosate product. If Impose herbicide is used at 8 ounces (0.13 lb ae) per acre with a glyphosate product in the fall, apply only 4 ounces (0.06 lb ae) per acre of Impose herbicide 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 can 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 re-growth is necessary following the last mowing before applying either the Impose herbicide or glyphosate products. Both require adequate foliage present for uptake and maximum control.

**Russian Knapweed:** To control Russian knapweed, make a fall application of Impose herbicide at 12 ounces (0.19 lb ae) per acre plus 1 quart per acre of methylated seed oil 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 can still be obtained with Impose herbicide if the application is made after full senescence.

**Dalmation Toadflax:** To control Dalmation Toadflax, make a fall application of Impose herbicide at 12 ounces (0.19 lb ae) per acre plus 1 quart per acre of methylated seed oil when the top quarter of the plant is necrotic, usually after a hard front (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 to 3 pints per acre may improve control.

Resistant Biotypes: Herbicides that have the ALS/AHAS enzyme inhibiting mode of action such as Impose herbicide, Oust 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 Impose herbicide, 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 Impose herbicide at 12 ounces (0.19 lb ae) per acre in a tank-mix combination with labeled rates of Pendulum herbicide, Roundup Pro, Escort (or Vegetation Manager Metsulfuron Methyl DF), Karmex™, 2,4-D, diuron, Vegetation Manager Prodiamine 65 WDG (or Endurance™) or other labeled products to provide total vegetation control. Use 2 pints per acre of methylated seed oil as an adjuvant for maximum control.

To provide total weed control in bareground areas, apply Impose herbicide at 12 ounces (0.19 lb ae) per acre in a tank-mix with Vegetation Manager Imazapyr 25L (or Arsenal herbicide), Mohave 70 EG (or Sahara DG herbicide), Bromacil 40/40 (or Krovar™), SFM 75 (or Oust), Picloram K (or Tordon), Vanquish, or other labeled products to provide total bareground weed control. Use 2 pints per acre of methylated seed oil as an adjuvant for maximum control.

**Spot treatments:** For weed control in bareground or total vegetation, Impose herbicide can be applied to small areas. In each gallon of water, mix Impose herbicide at 0.3 to 5.4 ounces (0.005 – 0.08 lb ae) with 0.25 to 5% v/v methylated seed oil adjuvant.

#### USE UNDER PAVED SURFACES

Establish the final grade to the soil and then apply Impose herbicide in sufficient water to obtain uniform wetting of the soil surface and shoulder area. Do not move the soil after the application. Using clean water and constant agitation, mix Impose herbicide at the rate of 12 ounces (0.19 lb ae) per acre. If the soil is not moist before application, weed control can be improved through incorporation of Impose herbicide. Mechanical incorporation to a depth of two inches with a rotatiller or disc is one method. Use of rainfall and/or irrigation (one inch/Acre) is another good method to incorporate Impose herbicide. Do not allow treated soil to wash or move from the treated area.

#### TOLERANCE OF TREES AND BRUSH TO IMPOSE HERBICIDE

When Impose herbicide is applied in and around desirable tree and brush species, follow these general instructions:

- Impose herbicide may not be used on nursery, orchard, ornamental plantings, new plantings, seedling trees or fiber farms unless such use is provided in supplemental labeling from Makhteshim Agan of North America. Inc.
- 2. Apply Impose herbicide to a limited area to determine tolerance in the area.
- 3. Apply Impose herbicide at rates up to 12 ounces (0.19 lb ae) per acre to control weeds in roadsides, prairies, and areas used for wildlife cover, erosion control and windbreaks and in and around established trees or pasture or rangeland (see Instructions for Rangeland Use section of this label).
- 4. Severe injury or death may result if Impose herbicide is 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.
- 5. Tip chlorosis and minor necrosis may be seen on some species.
- Use application methods that decrease foliar contact as injury in the form of defoliation and terminal death may occur.
- A list of tolerant tree and brush species to Impose herbicide when it is applied under the canopy and/or to the foliage are presented below.

If making a fall application of Impose herbicide, 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 Impose Herbicide. Be sure to apply Impose herbicide in and around tree and brush species at the specified timing for the target weeds.

# Brush and Tree Species Tolerant to Impose Herbicide at 12 ounces (0.19 lb ae) per acre1

| Common Name   | Species                | Tolerance by Application Method <sup>2</sup> |         |  |
|---------------|------------------------|--|---------|--|
|               |                        | Directed Below Foliage To Foli               |         |  |
| Apple         | Malus sylvestris       | Yes  | NR      |  |
| Ash, Blue     | Fraxinus quadrangulata | Yes  | NR      |  |
| Ash, Green    | Fraxinus pennsylvanica | No   | No      |  |
| Azalea        | Rhododendron spp.      | No   | No      |  |
| Basswood      | Tilia hetrophylla      | No   | No      |  |
| Boxelder      | Acer negundo           | Yes  | Injury⁵ |  |
| Buckeye, Ohio | Aesculus glabra        | Yes  | NR      |  |

| Common Name                | Species               | Tolerance by Applica   | erance by Application Method <sup>2</sup> |  |  |
|----------------------------|-----------------------|------------------------|---|--|--|
|                            |                       | Directed Below Foliage | To Foliage                                |  |  |
| Cedar-juniper, Western     | Thuja plicata         | Yes                    | Yes                                       |  |  |
| Cherry, Black <sup>3</sup> | Prunus serotina       | No                     | No  |  |  |
| Cherry, Choke              | Prunus virginiana     | No                     | No  |  |  |
| Cherry, Sweet <sup>3</sup> | Prunus avium          | No                     | NR  |  |  |
| Cottonwood                 | Populus deltoides     | Yes                    | Injury⁵                                   |  |  |
| Cottonwood, Narrow Leaf    | Populus spp.          | Yes                    | Injury⁵                                   |  |  |
| Currant species            | Ribes spp.            | Injury <sup>5</sup>    | No  |  |  |
| Dogwood, Flowering         | Cornus spp.           | Yes                    | Yes                                       |  |  |
| Dogwood, Grey              | Cornus racemosa       | Yes                    | Injury⁵                                   |  |  |
| Dogwood, Red Twig          | Cornus spp.           | Yes                    | Yes                                       |  |  |
| Douglas Fir                | Pseudotsuga menziesii | Yes                    | Yes <sup>4</sup>                          |  |  |
| Elm, American              | Ulmus Americana       | Yes                    | Yes                                       |  |  |
| Elm, Siberian              | Ulmus pumila          | Yes                    | No  |  |  |
| Elm, Slippery              | Ulmus rubra           | Yes                    | Yes                                       |  |  |
| Gooseberry                 | Ribes spp.            | Injury <sup>5</sup>    | Injury⁵                                   |  |  |
| Hackberry                  | Celtis occidentalis   | Yes                    | Yes                                       |  |  |
| Hawthorn                   | Crataegus spp.        | Yes                    | Injury⁵                                   |  |  |
| Juniper, Chinese           | Juniperus chinensis   | Yes                    | Yes                                       |  |  |
| Juniper, Western           | Juniperus osteosperma | Yes                    | Yes                                       |  |  |
| Lilac                      | Syringa spp.          | No                     | No  |  |  |
| Linden, American           | Tilia americana       | No                     | No  |  |  |
| Locust, Black              | Robinia pseudoacacia  | Yes                    | Yes                                       |  |  |
| Locust, Honey              | Gleditsia triacanthos | Yes                    | Yes                                       |  |  |
| Maple, Red                 | Acer rubrum           | Yes                    | Yes                                       |  |  |
| Maple, Sugar               | Acer saccharum        | Yes                    | Yes                                       |  |  |
| Mulberry, Red              | Morus rubra           | Yes                    | NR  |  |  |
| Mulberry, White            | Morus alba            | Yes                    | NR  |  |  |
| Oak, Black                 | Quercus velutina      | Yes                    | NR  |  |  |

| Common Name                       | Species                        | Tolerance by Applica   | tion Method²        |  |
|-----------------------------------|--------------------------------|------------------------|---------------------|--|
|                                   |                                | Directed Below Foliage | To Foliage          |  |
| Oak, Live                         | Quercus virginiana             | Yes                    | Yes                 |  |
| Oak, Southern Red                 | Quercus falcate                | Yes                    | NR                  |  |
| Oak, White                        | Quercus alba                   | Yes                    | NR                  |  |
| Olive, Russian                    | Elaeagnus angustifolia         | Yes                    | No                  |  |
| Osage Orange                      | Maclura pomifera               | Yes                    | NR                  |  |
| Peach (var. Elberta) <sup>3</sup> | Prunus persica                 | Yes                    | NR                  |  |
| Photinia, Red Tip                 | Photinia fraseri               | Yes                    | Yes                 |  |
| Pine, Lodgepole                   | Pinus Contorta                 | Yes                    | Injury <sup>4</sup> |  |
| Pine, White <sup>4</sup>          | Pinus strobes                  | Yes                    | Yes                 |  |
| Pittosporum, Japanese             | Pittosporum tobira             | Yes                    | Yes                 |  |
| Plum species                      | Prunus spp.                    | Yes                    | No                  |  |
| Poplar, Yellow (Tulip)            | Liriodendron tulipfera         | Yes                    | NR                  |  |
| Privet, Common                    | Ligustrum vulgare              | Yes                    | Yes                 |  |
| Rabbitbrush species               | Chrysothamnus spp.             | Yes                    | Yes                 |  |
| Redbud                            | Cercis canadenis               | Yes                    | Yes                 |  |
| Redcedar, Eastern                 | Juniperus virginiana           | Yes                    | Yes                 |  |
| Rose, Multiflora                  | Rosa multiflora                | Yes <sup>5</sup>       | No                  |  |
| Sage, Big                         | Artemisia tridentate           | Yes                    | Yes                 |  |
| Sage, Fringe                      | Artemisis frigida              | Yes                    | Yes                 |  |
| Sage, Silver                      | Artemisia cana                 | Yes                    | Yes                 |  |
| Sagebrush, Big                    | Artemisia tridentate           | Yes                    | Yes                 |  |
| Sagebrush, Fringed                | Artemisia frigida              | Yes                    | Yes                 |  |
| Saltcedar                         | Tamarix spp.                   | Yes                    | No                  |  |
| Serviceberry                      | Amelanchier alnifolia          | Yes                    | NR                  |  |
| Snowberry, Western                | Symphoricarpos<br>occidentalis | Yes                    | Injury⁵             |  |
| Spruce species                    | Picea app.                     | Yes <sup>4</sup>       | Yes <sup>4</sup>    |  |
| Sugarberry                        | Celtis laevigata               | Yes                    | Yes                 |  |

| Common Name            | Species                | Tolerance by Application Method <sup>2</sup> |         |  |  |
|------------------------|------------------------|--|---------|--|--|
|                        |                        | Directed Below Foliage To Foliage            |         |  |  |
| Sycamore               | Plantanus occidentalis | Yes  | No      |  |  |
| Tree of Heaven         | Ailanthus altissima    | Yes  | Yes     |  |  |
| Walnut, American Black | Juglans nigra          | Yes  | No      |  |  |
| Willow                 | Salix spp.             | Yes  | Injury⁵ |  |  |

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

### WEEDS CONTROLLED

### (With 4 to 6 ounces (0.06 - 0.09 lb ge) per gare Impose herbicide)

| Common Name                                    | Species  | PRE <sup>1</sup> | POST <sup>2</sup> | ANNUAL/BIENNIAL/<br>PERENNIAL <sup>3</sup> |  |  |
|--|--|------------------|-------------------|--|--|--|
| BROADLEAVES                                    | BROADLEAVES  |                  |                   |  |  |  |
| Bedstraw, Catchweed                            | Galium aparine   | С                | 4                 | WA   |  |  |
| Beggarweed, Florida                            | Desmodium totruosum  | С                | 2                 | SA   |  |  |
| Buffalobur                                     | Solanum rostratum  |                  | С                 | SA   |  |  |
| Buttercup, Bur                                 | Ranunculus testiculatus                                    | С                | С                 | WA   |  |  |
| Cocklebur, Common                              | Xanthium strumarium  | S                | 6                 | SA   |  |  |
| Lambsquarters, Common                          | Chenoposium album  | С                | 2                 | SA   |  |  |
| Halogeton                                      | Halogeton glomeratus                                       | С                | С                 | SA   |  |  |
| Morningglory,<br>Entireleaf<br>Ivyleaf<br>Tall | Ipomoea hederacea<br>Ipomoea hederacea<br>Ipomoea purpurea | S<br>S<br>S      | 3<br>3<br>3       | SA<br>SA<br>SA                             |  |  |
| Mustard, Wild                                  | Brassica kaber   | С                | С                 | WA   |  |  |
| Pigweed  | Amaranthus spp.  | С                | 6                 | SA   |  |  |
| Queen Anne's Lace                              | Daucus carota  |                  | 4                 | В  |  |  |

<sup>&</sup>lt;sup>2</sup>Yes = Tolerant

No = Not tolerant, severe injury or death

NR = Not recommended due to insufficient tolerance data

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

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

<sup>&</sup>lt;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.

| Common Name                                       | Species  | PRE <sup>1</sup> | POST <sup>2</sup> | ANNUAL/BIENNIAL/<br>PERENNIAL <sup>3</sup> |
|---|--|------------------|-------------------|--|
| Radish, Wild                                      | Raphanus raphanistrum  | S                | 4                 | WA   |
| Yellow Rocket                                     | Barbarea vulgaris  | С                | 4                 | WA   |
| Sicklepod   | Senna obtusifolia  | С                | 4                 | SA   |
| Sida, Prickly                                     | Sida spinosa   | С                | 2                 | SA   |
| Smartweed,<br>Ladysthumb<br>Pennsylvania<br>Swamp | Polygonum persicaria<br>Polygonum pensylvanicum<br>Polygonum coccineum | CCC              | C<br>C            | SA<br>SA<br>SA                             |
| Starbur, Bristly                                  | Acanthospermum hispidum  | С                | 2                 | SA   |
| Velvetleaf  | Abutilon theophrasti   | С                | 6                 | SA   |
| GRASS WEEDS                                       |  |                  |                   |  |
| Brome, Downy                                      | Bromus tectorum  | С                | 2                 | WA   |
| Cheat   | Bromus secalinus   | С                | 2                 | WA   |
| Crabgrass,<br>Large (Hairy)<br>Smooth             | Digitaria sanguinalis<br>Digitaria ischaemum                           | C                | 4 4               | SA<br>SA                                   |
| Foxtail,<br>Giant<br>Green<br>Yellow              | Setaria faberi<br>Setaria viridis<br>Setaria glauca                    | CCC              | 6<br>4<br>4       | SA<br>SA<br>SA                             |
| Goatgrass, Jointed                                | Aegilops cylindrical   | С                | С                 | WA   |
| Goosegrass  | Elusine indica   | S                | 2                 | SA   |
| Johnsongrass (seedling)                           | Sorghum halepense  | С                | 12                | SA   |
| Medusahead  | Taeniatherum caput-medusae   | С                | 2                 | WA   |
| Panicum, Fall                                     | Panicum dichotomiflorum  | S                | 6                 | SA   |
| Sandbur   | Cenchrus spp.  | S                | С                 | A/P  |
| Shattercane                                       | Sorghum bicolor  | С                | 12                | SA   |
| Signalgrass, Broadleaf                            | Brachiaria platyphylla   | С                | С                 | SA   |
| Stiltgrass, Japanese                              | Microstegiium vimineum   | С                | 4                 | A  |
| Vaseygrass  | Paspalum urvillei  |                  | 8                 | P  |

| Common Name                   | Species                                | PRE <sup>1</sup> | POST <sup>2</sup> | ANNUAL/BIENNIAL/<br>PERENNIAL <sup>3</sup> |
|-------------------------------|--|------------------|-------------------|--|
| SEDGES                        |  |                  |                   |  |
| Nutsedge,<br>Yellow<br>Purple | Cyperus esculentus<br>Cyperus rotundus | S<br>S           | 4S<br>4S          | P<br>P                                     |
| Sedge                         | Juncus spp.                            | S                | 48                | A/P  |

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

## WEEDS CONTROLLED (With 8 to 12 ounces (0.13 – 0.19 lb ae) per acre Impose herbicide)

| Common Name                | Species               | PRE <sup>1</sup> | POST <sup>2</sup> | ANNUAL/BIENNIAL/<br>PERENNIAL <sup>3</sup> |
|----------------------------|-----------------------|------------------|-------------------|--|
| BROADLEAVES                | ·                     |                  |                   |  |
| Anoda, Spurred             | Anoda cristata        | С                | 6                 | SA   |
| Baby's Breath <sup>5</sup> | Gysophila paniculata  |                  | С                 | Р  |
| Bedstraw, Catchweed        | Galium aparine        | С                | С                 | WA   |
| Bedstraw, Marsh            | Galium spp.           | С                | С                 | WA   |
| Beggarweed, Florida        | Desmodium tortuosum   | С                | 6                 | SA   |
| Bindweed, Field            | Convolvulus arvensis  |                  | С                 | Р  |
| Buffalobur                 | Solanum rostratum     |                  | С                 | SA   |
| Burclover                  | Medicago spp.         |                  | 4                 | SA   |
| Chickweed, Common          | Stellaria media       | С                | 6                 | SA   |
| Cocklebur, Common          | Xanthium strumarium   | С                | 6                 | SA   |
| Cornsalad, Common          | Valerianella locusta  |                  | С                 | WA   |
| Crownbeard, Golden         | Verbisina encelioides | С                | 2                 | SA   |
| Dandelion                  | Taraxacum officinale  |                  | С                 | Р  |
| Dock, Curly                | Rumex crispus         | С                | 6                 | В  |
| Fiddleneck                 | Amsinckia spp.        |                  | С                 | SA   |
| Flax, Spurge               | Thymelaea passerine   | С                | С                 | A  |
| Fleabane, Annual           | Erigeron annuus       |                  | С                 | А  |

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

<sup>&</sup>lt;sup>3</sup> Growth habit: A=annual, SA=summer annual, WA=winter annual, B=biennial, P=perennial

| Common Name  | Species   | PRE <sup>1</sup> | POST <sup>2</sup>     | ANNUAL/BIENNIAL/<br>PERENNIAL <sup>3</sup> |
|--|---|------------------|-----------------------|--|
| Geranium, Carolina   | Geranium carolinianum   |                  | С                     | WA/B                                       |
| Geranium, Cranesbill   | Geranium maculatum  | С                | С                     | WA/B                                       |
| Ground Cherry  | Physalis heterophylla   |                  | С                     | Р  |
| Hemlock, Poison  | Conium maculatum  | С                | 6                     | В  |
| Henbit   | Lamium amplexicaule   | С                | 3                     | WA/B                                       |
| Hoary Cress  | Cardaria spp.   |                  | С                     | Р  |
| Houndstongue, Bristly  | Cynoglossum officinale  | С                | С                     | В  |
| Indigo, Hairy  | Indigofera hirsute  | С                | 2                     | Р  |
| Jimsonweed   | Datura stramonium   | С                | 6                     | SA   |
| Knapweed, Russian <sup>6</sup>   | Centaurea repens  |                  | C*                    | Р  |
| Knotweed, Prostrate  | Polygonum aviculare   | С                | С                     | SA   |
| Kochia*  | Kochia scoparia   | С                | 3                     | SA   |
| Lambsquarters, Common  | Chenoodium album  | С                | 3                     | SA   |
| Morningglory,<br>Cypressvine<br>Entireleaf<br>Ivyleaf<br>Pitted<br>Smallflower<br>Tall | Ipomoea quamoclit Ipomoea hederacea Ipomoea hederacea Ipomoea lacunose Jacquemontia tamnifolia Ipomoea purpurea | 00000            | 6<br>6<br>6<br>6<br>6 | SA<br>SA<br>SA<br>SA<br>SA<br>SA           |
| Mustard, Wild  | Brassica kaber  | С                | С                     | WA   |
| Onion, Wild  | Allium canadense  | С                | С                     | Р  |
| Pepperweed, Perennial  | Lepidum latifolium  |                  | С                     | Р  |
| Pigweed <sup>4</sup>   | Amaranthus spp.   | С                | 6                     | SA   |
| Plantain, Narrowleaf   | Plantago lanceolata   | С                | С                     | В  |
| Poinsettia, Wild   | Euphorbia heterophylla  | С                | 6                     | SA   |
| Puncture Vine  | Tribulus terrestris   |                  | С                     | SA   |
| Purslane, Common   | Portulaca oleracea  | С                | 4                     | SA   |
| Pusley, Florida  | Richardia scapra  | С                | 4                     | SA   |
| Queen Anne's Lace  | Daucus carota   | С                | С                     | В  |

| Common Name         | Species                 | PRE <sup>1</sup> | POST <sup>2</sup> | ANNUAL/BIENNIAL/<br>PERENNIAL <sup>3</sup> |
|---------------------|-------------------------|------------------|-------------------|--|
| Ragweed,            |                         |                  |                   |  |
| Common              | Ambrosia artemisiifolia | С                | 3                 | SA   |
| Giant               | Ambrosia trifida        | S                | 6                 | SA   |
| Western             | Ambrosia psilostachya   |                  | С                 | A/P  |
| Rocket, Yellow      | Barbarea vulgaris       | С                | С                 | WA   |
| Senna, Coffee       | Cassia occidentalis     | С                | 4                 | SA   |
| Sicklepod           | Senna obtusifolia       | С                | 6                 | SA   |
| Sida, Prickly       | Sida spinosa            | С                | 6                 | SA   |
| Smartweed,          |                         |                  |                   |  |
| Ladysthumb          | Polygonum persicaria    | С                | С                 | SA   |
| Pennyslvania        | Polygonum pensylvanicum | С                | С                 | SA   |
| Swamp               | Polygonum coccineum     | С                | С                 | SA   |
| Spurge,             |                         |                  |                   |  |
| Leafy               | Euphorbia esula         |                  | Fall*             | P  |
| Spotted             | Euphorbia maculate      | С                | 4                 | SA   |
| Toothed             | Euphorbia dentate       | С                | 4                 | SA   |
| Starbur, Bristly    | Acanthospermum hispidum |                  | 6                 | SA   |
| Sunflower           | Helianthus annuus       |                  | 18                | SA   |
| Tansymustard        | Descurainia pinnata     | С                | С                 | WA   |
| Teasel, Common      | Dipsacus follonum       |                  | С                 | В  |
| Thistle,            |                         |                  |                   |  |
| Bull                | Cirsium vulgare         | S                | С                 | WA/B                                       |
| Musk                | Carduus nutans          |                  | S                 | В  |
| Platt               | Cirsium canescens       | S                | С                 | P  |
| Russian*            | Solsola iberica         | С                | 3                 | A  |
| Toadflax, Dalmatian | Linaria dalmatica       |                  | C*                | Р  |
| Velvetleaf          | Abutilon theophrasti    | С                | С                 | A  |
| Vervain, Blue       | Verbena hastate         |                  | S                 | WA   |
| Vervain, Prostrate  | Verbena bracteata       |                  | С                 | Р  |
| Whitetop            | Cardaria spp.           |                  | С                 | Р  |
| Willowherb          | Epilobium spp.          |                  | С                 | Р  |
| Woodsorrel, Yellow  | Oxalis stricta          | С                | С                 | Р  |

| Common Name  | Species   | PRE <sup>1</sup> | POST <sup>2</sup>     | ANNUAL/BIENNIAL/<br>PERENNIAL <sup>3</sup> |
|--|---|------------------|-----------------------|--|
| GRASS  |   |                  |                       |  |
| Bahiagrass   | Paspalum nutatum  | S                | C*                    | P  |
| Barley, Little                                     | Hordeum pusillum  | С                | 4                     | WA   |
| Barley, Squirrel Tail                              | Hordeum jubatum   |                  | С                     | Р  |
| Barnyardgrass                                      | Echinochloa crus-galli  | С                | 6                     | SA   |
| Cheat  | Bromus secalinus  | С                | С                     | WA   |
| Crabgrass  | Digitaria spp.  | С                | 6                     | SA   |
| Crowfootgrass                                      | Dactylocienum aegyptium   | С                | С                     | SA   |
| Dallisgrass  | Paspalum dilatatum  | S                | C*                    | Р  |
| Downy Brome  | Bromus tectorum   | С                | С                     | WA   |
| Dropseed, Tall                                     | Sporobolus cryptandrus  | S                | С                     | A/P  |
| Fescue, Tall                                       | Festuca arundinacea   | С                | C*                    | Р  |
| Foxtail, Giant Green Knotroot Purple Robust Yellow | Setaria faberi<br>Setaria viridis<br>Setaria geniculatus<br>Setaria viridis<br>Setaria glauca | C<br>C<br>S<br>S | C<br>C<br>6<br>S<br>4 | SA<br>SA<br>SA<br>SA<br>SA                 |
| Garlic, Wild                                       | Allium vineale  | С                | С                     | Р  |
| Goosegrass   | Elusine indica  | С                | 3S                    | SA   |
| Itchgrass  | Rottboellia cochinchinensis   |                  | C*                    | SA   |
| Johnsongrass,<br>Seedling<br>Rhizome               | Sorghum halepense<br>Sorghum halepense  | C<br>            | C<br>C*               | SA<br>P                                    |
| Medusahead   | Taeniatherum captu-medusa   | С                | С                     | WA   |
| Panicum,<br>Fall<br>Texas                          | Panicum dichotomuflorum<br>Panicum texanum  | C<br>C           | C<br>C                | SA<br>SA                                   |
| Ryegrass, Annual (Italian)                         | Lolium multiflorum  | С                | С                     | WA   |
| Ryegrass, Perennial                                | Lolium perenne  |                  | С                     | Р  |
| Sandbur  | Cenchrum spp.   | S                | С                     | A/P  |
| Shattercane  | Sorghum bicolor   | С                | С                     | SA   |

| Common Name                   | Species                                | PRE <sup>1</sup> | POST <sup>2</sup> | ANNUAL/BIENNIAL/<br>PERENNIAL <sup>3</sup> |
|-------------------------------|--|------------------|-------------------|--|
| Signalgrass, Broadleaf        | Brachiaria platyphylla                 | С                | С                 | SA   |
| Smutgrass                     | Sporobolus indicus                     |                  | С                 | Р  |
| Stiltgrass, Japanese          | Microstegiium vimineum                 | С                | С                 | A  |
| Stinkgrass, Annual            | Eragrostis cilianensis                 | С                | 2                 | SA   |
| Torpedograss                  | Panicum repens                         |                  | С                 | Р  |
| Vaseygrass                    | Paspalum urvillei                      |                  | С                 | Р  |
| Wild Oats                     | Avena fatua                            |                  | С                 | WA   |
| SEDGES/RUSHES                 |  |                  |                   |  |
| Nutsedge,<br>Yellow<br>Purple | Cyperus esculentus<br>Cyperus rotundus | C                | C<br>C            | P<br>P                                     |
| Rush                          | Juneus spp.                            | S                | 4                 | A/P  |
| 1C santral C summersia        | the manufacture LIC and the            |                  |                   |  |

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

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

<sup>&</sup>lt;sup>3</sup>Growth habit: A=annual, SA=summer annual, WA=winter annual, B=biennial, P=perennial

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

 $<sup>^{\</sup>rm 5} \text{For annual control}.$  The addition of 1-2 pints of 2,4-D will aid in burndown

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

<sup>\*</sup> 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.

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

### CONTAINER DISPOSAL:

Nonrefillable Container (five gallons or less): Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds offer the flow begins to drip. Fill the container ¼ 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 retre the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Nonrefillable Container (greater than five gallons): Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container K 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.

### LIMITATION OF WARRANTY AND LIABILITY

Read the entire directions for use, conditions of warranties and limitations of liability before using this product. If terms are not acceptable, return the unopened product container at once.

By using this product, user or buyer accepts the following **CONDITIONS**, **DISCLAIMER OF WARRANTIES** and **LIMITATIONS OF LIABILITY**.

**CONDITIONS:** The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Makhteshim Agan of North America. Inc. All such risks shall be assumed by the user or buver.

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**LIMITATIONS OF LIABILITY:** To the extent consistent with applicable law, the exclusive remedy of the user or buyer for any and all losses, injuries or damages resulting from the use or handling of this product, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid or at Makhteshim Agan of North America, Inc.'s election, the replacement of product

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Manufactured for:

Makhteshim Agan of North America, Inc. (d/b/a ADAMA) 3120 Highwoods Blvd., Suite 100

Raleigh, NC 27604

050120.v1

## **IMPOSE® HERBICIDE**

For use on Conservation Reserve Program (CRP) land, paved surfaces, pasture and rangeland, and peanuts

| ACTIVE INGREDIENT:                                       | % BY WT.     |
|--|--------------|
| Ammonium salt of imazapic (+/2-[4,5-dihydro-4-m          |              |
| 4-(1-methylethyl)-5-oxo-1 H imidazol-2-yl]-5-methyl      | -3-          |
| pyridinecarboxylicacid*)                                 | 23.3%        |
| OTHER INGREDIENTS:                                       | <u>76.7%</u> |
| TOTAL:   | 100.0%       |
| *Equivalent to 21.9%(+/-)-2-[4,5-dihydro-4-methyl-4 (1-r | nethylethyl) |

-5-oxo-1 H-imidazol-2-vl]-5-methyl-3-pyridinecarboxylicacid

1 gallon contains 2.0 pounds of active ingredient as the free acid

EPA Rea. No. 66222-141 FPA Fst. No. 37429-GA-001BT 37429-GA-00280; 37429-GA-0038V

Letter(s) in lot number correspond(s) to superscript in EPA Est. No.

# KEEP OUT OF REACH OF CHILDREN

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION

Causes moderate eye irritation. Avoid breathing spray mist. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.

Manufactured for: Makhteshim Agan of North America, Inc. (d/b/a ADĀMA) 3120 Highwoods Blvd., Suite 100 Raleigh, NC 27604



Net Contents 1 gallon



#### IMAZAPIC GROUP 2 HERBICIDE

#### FIRST AID

IF IN EYES: Hold eve open and rinse slowly and aently with water for 15 to 20 minutes. Remove contact lenses, if present. after the first 5 minutes, then continue rinsing eve. Call a poison control center or doctor for treatment advice

IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.

IF SWALLOWED: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1-877-250-9291 for emergency medical treatment information.

### 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.

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

### CONTAINER DISPOSAL:

Nonrefillable Container (five aallons or less): Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available, Clean container 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 ¼ 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 or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke,

For additional Precautionary Statements, Directions for Use and Storage and Disposal, see inside of this booklet.