241-365

12/26/2001

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

DEC 2 6 2001

OFFICE OF PREVENTION, PESTICIDES AND TOXIC SUBSTANCES

Janet M. Overholt BASF P.O. Box 400 Princeton, N.J. 08543-0400

SUBJECT: New Uses - Use on Pasture and Rangeland Plateau Herbicide EPA Reg. No. 241-365 Submission Dated November 12, 2001

Dear Ms. Overholt:

The amendment referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended is acceptable provided that you:

1. Conduct a 28-day inhalation toxicity study, conducted using the protocol for the existing 90-day inhalation study.

2. Conduct four additional field trials reflecting the single post-emergence application of the ammonium salt SC formulation at 0.1875 lb ae/A. The trials will be conducted in late summer or fall in Regions 7&8

3. Make the labeling changes listed below before you release the product for shipment bearing the amended label.

A. On page 1 remove the word "other" from "other noncrop areas" in the sites list following PLATEAU HERBICIDE

B. Page 8 Tank Mixes. This section needs to be revised to specify those products that can be tank mixed with Plateau on rangeland, pasture and other crop sites and those products that can be tank mixed with Plateau for use on non-crop sites.

Submit one (1) copy of your final printed labeling before you release the product for shipment. A stamped copy of the labeling is enclosed for your records.

Sincerely; Joanne D. Mille.

Jim Tompkins Product Manger (25) Herbicide Branch Registration Division (7505C)

Enclosure

## PLATEAU<sup>®</sup> herbicide

#### FOR WEED CONTROL, NATIVE GRASS ESTABLISHMENT AND TURF GROWTH SUPPRESSION ON PASTURES, RANGELAND AND ROADSIDES AND OTHER NONCROP AREAS

#### **ACTIVE INGREDIENT:**

Ammonium salt of imazapic ( <u>+</u> )-2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1 <u>H</u> -imidazol-2-yl]- 5-methyl-3-pyridinecarboxylic acid*	23.6%
INERT INGREDIENTS	<u>76.4%</u>
TOTAL	100.0%

\*Equivalent to 22.2% (<u>+</u>)-2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1<u>H</u>-imidazol-2-yl]-5-methyl-3pyridinecarboxylic acid

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

EPA Reg. No. 241-365

U.S. Patent No. 4,798,619

EPA Est. No.

#### KEEP OUT OF REACH OF CHILDREN

#### **CAUTION!/PRECAUCION!**

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

In case of an emergency endangering life or property involving this product, call day or night, 800-832-HELP.

#### See Next Page for Additional Precautionary Statements

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**Net Contents:** 

<sup>®</sup>Registered Trademark of BASF NVA 2001-04-126-

BASF Corporation 26 Davis Drive Research Triangle Park, NC 27709

ACCEPTED with COMMENTS In EPA Letter Dated:

DEC 2 6 2001 Under the Federal Insecticide, Fungicide, and Redenticide Act, as amended, for the pesticide registered under EPA Reg. No.



11/7/01

#### FIRST AID

**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 15-20 minutes. Call a poison control center or doctor for treatment advice.

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

Have the product container or label with you when calling a poison control center or doctor or going for treatment.

#### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

#### CAUTION!

Harmful if inhaled or absorbed through skin. Avoid breathing spray mist. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling.

#### **Personal Protective Equipment (PPE):**

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category A on an EPA chemical-resistant category selection chart.

Applicators and other handlers must wear:

- Long-sleeve shirt and long pants
- Chemical-resistant gloves, such as butyl rubber ≥14 mils, or natural rubber ≥14 mils, or neoprene rubber ≥14 mils, or nitrile rubber ≥14 mils.
- shoes plus socks

Follow manufacturer's instructions for cleaning and 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 hands before eating, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

#### **ENVIRONMENTAL HAZARDS**

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

DO NOT contaminate water when disposing of equipment washwaters or rinsate.

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

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

#### IMPORTANT

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

#### **DIRECTIONS FOR USE**

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

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

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

DO NOT use PLATEAU herbicide on food or feed crops except as recommended by this label or supplemental labeling.

DO NOT cut treated area for hay within seven days after treatment.

DO NOT use organophosphate insecticides on newly seeded areas treated with PLATEAU herbicide unless severe injury or loss of stand can be tolerated.

Observe all cautions and limitations on this label and on the labels of products used in combination with PLATEAU herbicide. Do not use PLATEAU herbicide other than in accordance with the instructions set forth on this label. The use of PLATEAU herbicide not consistent with this label may result in injury to desired vegetation. Keep containers closed to avoid spills and contamination.

When making new plantings of prairiegrass or wildflowers, carry-over 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 PLATEAU herbicide.

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

DO NOT apply this product through any type of irrigation system.

DO NOT exceed 12 ounces of PLATEAU herbicide per acre in one year.

#### 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:

- coveralis
- chemical-resistant gloves, such as butyl rubber ≥14 mils, or natural rubber ≥14 mils, or neoprene rubber ≥14 mils, or nitrile rubber ≥14 mils.
- shoes plus socks

#### NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard (WPS) 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 GENERAL INFORMATION section of this label for a description of noncrop sites.

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

#### STORAGE AND DISPOSAL

#### **PROHIBITIONS:**

KEEP FROM FREEZING

DO NOT store below 20°F.

DO NOT contaminate water, food or feed by storage or disposal.

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

**CONTAINER DISPOSAL:** Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, by incineration or, if allowed by State and local authorities by burning. If burned, stay out of smoke.

#### DISCLAIMER

The label instructions for the use of this product reflect the opinion of experts based on research and field use. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Turf injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the use of, or application of the product contrary to label instructions, all of which are beyond the control of BASF Corporation (BASF). All such risks shall be assumed by the user.

BASF shall not be responsible for losses or damages resulting from use of this product in any manner not set forth on this label. User assumes all risks associated with the use of this product in any manner not specifically set forth on this label.

BASF warrants only that the material contained herein conforms to the chemical description on the label and is reasonably fit for the use therein described when used in accordance with the directions for use, subject to the risks referred to above. BASF DOES NOT MAKE OR AUTHORIZE ANY AGENT OR REPRESENTATIVE TO MAKE ANY OTHER WARRANTIES, EXPRESS OR IMPLIED AND EXPRESSLY EXCLUDES AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

BUYER'S EXCLUSIVE REMEDY AND BASF'S EXCLUSIVE LIABILITY, WHETHER IN CONTRACT, TORT, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE, SHALL BE LIMITED TO REPAYMENT OF THE PURCHASE PRICE OF PLATEAU herbicide. In no case shall BASF or the seller be liable for consequential, special or indirect damages resulting from the use or handling of this product.

BASF makes no other express or implied warranty, including other express or implied warranty of FITNESS or of MERCHANTABILITY. User assumes the risk of any use contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable by BASF.

#### **USES WITH OTHER PRODUCTS (TANK-MIXES)**

If this product is used in combination with any other product except as specifically recommended in writing by BASF Corporation then BASF Corporation shall have no liability for any loss, damage, or injury arising out of its use in any such combination not so specifically recommended. If used in combination recommended by BASF Corporation, the liability of BASF Corporation shall in no manner extend to any damage, loss or injury not directly caused by the inclusion of the BASF Corporation product in such combination use, and in any event shall be limited to return of the amount of the purchase price of the BASF Corporation product.

#### **GENERAL INFORMATION**

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

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

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

PLATEAU herbicide may be applied in the dormant or growing season for weed control.

Tolerance of desirable grass species to PLATEAU herbicide may be reduced when grasses are stressed due to insect damage, disease, environmental conditions, shade, poorly drained soils or other causes.

Depending on the turf type being treated, some yellowing of turf may occur with applications during the growing season. Depending on weather conditions, yellowing will usually disappear in 2 to 4 weeks.

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

#### MIXING INSTRUCTIONS

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

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

When tank-mixing PLATEAU herbicide with recommended herbicides, add wettable powders, dispersible granules or other dry formulations first, then EC's, then PLATEAU herbicide, and then an adjuvant.

#### SPRAYING INSTRUCTIONS

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

#### **GROUND APPLICATIONS:**

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

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

#### SPOT TREATMENTS:

To prepare the spray solution, thoroughly mix in water 0.25 to 1.5% (0.3 to 1.9 oz/gallon water) PLATEAU herbicide plus an adjuvant (see "SPRAY ADJUVANTS FOR POSTEMERGENCE APPLICATIONS" section). A methylated seed oil at 1% v/v is the recommended spray adjuvant except when treating seedling prairiegrasses and wildflowers. See section on desired species and do not exceed the recommended PLATEAU rate per acre. Also see "WEEDS CONTROLLED" and "SPECIAL WEED CONTROL" sections for specific rate and/or tank-mix recommendations.

#### AERIAL APPLICATION:

All precautions should be taken to minimize or eliminate spray drift. Fixed wing aircraft and helicopters can be used to apply PLATEAU herbicide, however, when making applications by fixed wing aircraft maintain appropriate buffer zones to prevent spray drift out of the target area. Aerial equipment designed to minimize spray drift such as a helicopter equipped with a MICROFOIL<sup>TM</sup> boom, or THRU-VALVE<sup>TM</sup> boom or raindrop nozzles, must be used and calibrated. Except when applying with a MICROFOIL boom, a drift control agent may be added at the recommended label rate. To avoid drift, applications should not be made during inversion conditions, when winds are gusty, or under any other conditions that promote spray drift.

Uniformly apply recommended amount of PLATEAU herbicide, using enough water volume to provide adequate coverage of target area or foliage. Include an adjuvant in the spray solution (see "SPRAY ADJUVANTS FOR POSTEMERGENCE APPLICATIONS" section). A foam reducing agent may be added at the recommended rate, if needed. Aerial application to target species growing under the canopy of trees and brush may not receive sufficient spray coverage for effective control. For weed species with a recommended fall application timing (see "SPECIAL WEED CONTROL" section), delaying the aerial application until trees and brush have dropped their leaves can improve weed control and reduce the potential for tree and brush injury (see "TOLERANCE OF TREES AND BRUSH TO PLATEAU HERBICIDE" section).

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

Avoid overlaps when spraying.

#### SPRAY ADJUVANTS FOR POSTEMERGENCE APPLICATIONS

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

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

Nonionic Surfactants: Use a nonionic surfactant at the rate of 0.25% v/v or higher (see manufacturer's label) of the spray solution (0.25% v/v is equivalent to 1 quart in 100 gallons). For best results, select a nonionic surfactant with a HLB (hydrophilic to lipophilic balance) ratio between 12 and 17 and having at least 60% surfactant in the formulated product (alcohols, fatty acids, oils, ethylene glycol or diethylene glycol should not be considered as surfactants to meet the above requirements).

Silicone-Based Surfactants: See manufacturer's label for specific rate recommendations. Silicone-based surfactants may reduce the surface tension of the spray droplet allowing greater spreading on the leaf surface as compared to conventional nonionic surfactants. However, some silicone-based surfactants may dry too quickly, limiting herbicide uptake and higher spray volumes may exhibit "run-off".

Fertilizer/Surfactant Blends: Nitrogen-based liquid fertilizers such as 28%N, 32%N, 10-34-0, or ammonium sulfate, may be added at the rate of 2 to 3 pints per acre in combination with the recommended rate of nonionic surfactant or methylated seed oil. Research indicates that nitrogen based fertilizers aid in the burndown of annual weeds and increase PLATEAU herbicide uptake through waxy leaf species. However, fertilizers may increase phytotoxicity to desired species and newly emerged seedling prairiegrasses and wildflowers. The use of liquid fertilizers at a rate of 2 to 3 pints per acre in a tank-mix without a nonionic surfactant or a methylated seed oil is not recommended and may result in herbicide failure. Only when liquid fertilizer is used as the spray carrier is no additional spray adjuvant required.

#### TANK MIXES

PLATEAU herbicide may be tank-mixed with PENDULUM® herbicide for additional control of late season annual grasses and certain broadleaves. For additional weed control, PLATEAU herbicide may be tank-mixed with ACCORD<sup>™</sup>, ROUNDUP<sup>™</sup> PRO, glyphosate, ARSENAL<sup>®</sup> herbicide, SAHARA<sup>®</sup> DG herbicide, diuron, CAMPAIGN™, FINALE™, GARLON™ 3A, MSMA, VANQUISH™, OUST™, ESCORT™, TORDON™, or other labeled products. A compatibility test is advised for products not listed. 2,4-D and other phenoxy type herbicides have resulted in reduced control of perennial grass weeds.

3-11 DO NOT tank mix with organophosphate insecticides or use the same year as PLATEAU herbicide when making applications to newly planted areas.

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Consult manufacturer's labels for specific rates and weeds controlled. Always follow the more restrictive label when making an application involving tank-mixes.

#### FOR WEED CONTROL IN PASTURE AND RANGELAND

For the control of undesirable weeds in pasture and rangeland (see "GUIDELINES FOR RANGELAND USE" section), apply PLATEAU herbicide at 2 to 12 oz. per acre as a broadcast treatment or as a ½ to 1% solution for spot treatments. See appropriate sections of this label for specific use directions.

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#### **GUIDELINES FOR RANGELAND USE**

PLATEAU herbicide may be applied to rangeland for the control of undesirable vegetation in order to achieve one or more of the following vegetation management objectives:

- 1. The control of undesirable (non-native, invasive and noxious) plant species
- 2. The control of undesirable vegetation in order to aid in the establishment of desirable rangeland plant species.
- 3. The control of undesirable vegetation in order to aid in the establishment of desirable rangeland vegetation following a fire.
- 4. The control of undesirable vegetation for purposes of wildfire fuel reduction.
- 5. The release of existing desirable rangeland plant communities from the competitive pressure of undesirable plant species.
- 6. The control of undesirable vegetation for purposes of wildlife habitat improvement.

To ensure the protection of threatened and endangered plants when applying PLATEAU herbicide to rangeland:

- 1. Federal agencies must follow NEPA regulations to ensure protection of threatened and endangered plants.
- 2. State agencies must work with the Fish and Wildlife Service or the Service's designated state conservation agency to ensure protection of threatened and endangered plants.
- 3. Other organizations or individuals must operate under a Habitat Conservation Plan if threatened or endangered plants are known to be present on the land to be treated.

Please see the appropriate section(s) of this label for specific use directions for the desired rangeland vegetation management objective.

PLATEAU herbicide should only be applied to a given rangeland acre as specific weed problems arise. For the control of annual weed species such as cheatgrass, downy brome and medusahead rye, a single application of PLATEAU herbicide that coincides with the successful establishment and/or release of desirable rangeland vegetation and the use of available IPM can provide effective, sustainable control of the annual weed problem. For difficult to control perennial weed species such as leafy spurge, dalmatian toadflax and Russian knapweed, a single broadcast application of PLATEAU herbicide can be used to control any remnant plants or new seedlings that may emerge. Long term control of undesirable weed species ultimately depends on the successful use of land management practices that promote the growth and sustainability of desirable rangeland plant species.

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

PLATEAU herbicide may be used postemergence at a rate of 4 to 12 oz per acre for control of undesirable winter and summer annual and perennial grasses in bermudagrass pastures and hay meadows (see rate and timing recommendations below). PLATEAU herbicide may be used on common and coastal varieties of bermudagrass including, but not restricted to Tifton 44, 78 and 85, Alicia and Russell. Suppression of bermudagrass growth for 30 to 45 days or longer may occur, depending upon growth conditions after application. Jiggs bermudagrass in particular has shown greater sensitivity to PLATEAU herbicide. Do not use PLATEAU herbicide if this growth response is not acceptable.

In bermudagrass pastures and hay meadows, even and thorough spray coverage is necessary to achieve the desired level of weed control. To ensure proper spray coverage, the sprayer must be calibrated to deliver the recommended spray volume and pressure and the spray boom height adjusted to ensure proper coverage of weed foliage (according to the manufacturer's recommendation). The use of boomless or flood type nozzles is not recommended and may result in decreased weed control.

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DO NOT apply PLATEAU to drought stressed bermudagrass.

DO NOT use PLATEAU for the establishment of sprigged or seeded bermudagrass.

DO NOT use PLATEAU on World Feeder varieties of bermudagrass.

DO NOT apply PLATEAU during transition from dormancy to full green-up.

AVOID applications of PLATEAU to newly aerated fields for 30 days after aeration.

Spring Applications and Bermudagrass Tolerance: Spring application of PLATEAU herbicide should only be made after bermudagrass has reached 100% green-up. PLATEAU applications to bermudagrass during transition from winter dormancy to 100% green-up will significantly delay green-up and growth of bermudagrass, resulting in the potential loss of one or more cuttings. Bermudagrass can be considered to have reached 100% green-up only when all stolons (runners) have developed new active growth. Partial green-up may be characterized by the green appearance of new bermudagrass growth in the field, but upon close inspection some of the stolons may not have begun to grow. PLATEAU applications made at this time can still cause significant reductions in bermudagrass growth and development and should be delayed until 100% green-up. To minimize bermudagrass response from spring applications, all applications should be made postemergence to the targeted summer annual or perennial weeds. See specific use directions below for appropriate postemergence timing for targeted weed species.

**Postemergent Control of Summer Annual and Perennial Grass Weeds:** Apply PLATEAU herbicide after bermudagrass has reached full green-up and target grass weeds are at the desired growth stage (see recommended rates and growth stages below). Early Spring applications made during transition from dormancy to green-up will delay bermudagrass green-up and subsequent bermudagrass growth. Recommended PLATEAU herbicide applications may cause some stolon internode shortening and yellowing of the bermudagrass. The use of a nitrogen fertilizer (32-0-0 or 28-0-0) as the spray carrier will shorten recovery time.

For summer annual grass control apply 4 to 6 oz per acre of PLATEAU early postemergence (2 to 4 leaf stage) following full bermudagrass green-up. If target weeds are at or above boot stage, apply 6 to 8 oz per acre for control. Always add a surfactant when applying PLATEAU herbicide unless liquid fertilizer is being used as the spray carrier. PLATEAU will provide some preemergence annual grass control, however initial applications need to be made postemergence to target weed species.

For summer perennial grass control apply 6 to 12 oz per acre of PLATEAU postemergence following bermudagrass green-up. If higher rates (8 to 12 oz per acre) are needed for control of target species, PLATEAU herbicide can be applied in the fall before killing frost occurs. When making a fall application, if bermudagrass has been cut for hay, allow sufficient regrowth of target species before making application. Always add a surfactant when applying PLATEAU herbicide unless liquid fertilizer is being used as the spray carrier.

**Postemergent Control of Winter Annual and Perennial Grass Weeds:** Apply PLATEAU herbicide when bermudagrass is dormant prior to green-up. If bermudagrass has green tissue at the root crown or stolons, applications of PLATEAU may delay green-up of bermudagrass and subsequent bermudagrass growth. During mild winters, bermudagrass in the deep South may not be completely dormant. Applications in these areas should be avoided if delayed green-up cannot be tolerated.

For winter annual and perennial grass control, apply 6 to 12 oz per acre of PLATEAU postemergent, when bermudagrass is dormant. The addition of 16 to 24 oz per acre of ROUNDUP ULTRA<sup>™</sup> or glyphosate equivalent will increase control of larger winter annual and cool season perennial grasses. Always add a surfactant when applying PLATEAU herbicide unless liquid fertilizer is being used as the spray carrier.

Common Name	Genus Species	Weed Height (inches)	Rate per Acre (fluid oz)
Large Crabgrass	Digitaria sanguinalis	<u>_</u> 4	4
		>4	6
Smooth Crabgrass	Digitaria ischaemum	<u>&lt;</u> 4	4
		>4	6
Giant Foxtail	Setaria faberi		6
Green Foxtail	Setaria viridis	<u>_</u> 4	4
		>4	6
Yellow Foxtail	Setaria glauca	<u></u> 4	4
	_	>4	6
Texas Panicum	Panicum texanum		6
Fall Panicum	Panicum dichotomiflorum		6
Broadleaf Signalgrass	Bracharia platyphylla		4
Annual Jewgrass	Microstegium vimineum	<u>≤</u> 4	4
	-	>4	6
Barnyardgrass	Echinchloa crus-galli	<u></u>	4
	_	>4	• 6
Sandbur	Cenchrus spp.	<u>&lt;</u> 4	4
		· >4	6

Recommended PLATEAU Herbicide Rates for Postemergent Summer Annual Grass Control

Applications made to summer annual grasses should be done after bermudagrass green-up. Applications of PLATEAU made during bermudagrass transition will delay green up and subsequent bermudagrass growth. Avoid applications to bermudagrass during green-up transition if delayed green-up cannot be tolerated.

Common Name	Genus Species	Weed Height (inches)	Rate per Acre (fluid oz)
Johnsongrass	Sorgham halepense	18-24	8
		>24	12
Vaseygrass	Paspalum urvillei	<u>≤</u> 6	6
		>6	8
Nutsedge	Cyperus spp.	· <u>&lt;</u> 4	4
		>4	6
Bahiagrass	Paspalum notatum		6
Dallisgrass*	Paspalum dilatatum	· · ·	8-12
Smutgrass*	Sporobolus indicus		8-12

Recommended PLATEAU Herbicide Rates for Postemergent Summer Perennial Grass Control

\*Suppression

Common Name	Genus Species	Weed Height (inches)	Rate per Acre (fluid oz)
Annual Ryegrass*	Lolium multiflorum	<u>&lt;</u> 6	6
		>6	10
Tall Fescue	Festuca arundinacea		12
Wild Oats	Avena fatua	<u>&lt;6</u>	6

Hordeum pusilium

Little Barley

Recommended PLATEAU Herbicide Rates for Postemergent Winter Annual and Cool Season Perennial Grass Control

\*AHAS and ALS resistant annual ryegrass has been documented across the Southeastern United States. To minimize this problem, tank mix 16 to 24 oz per acre of ROUNDUP ULTRA or glyphosate equivalent when making applications to annual ryegrass.

<u>≤</u>6 >6

<u>≤</u>6 >6 10 4

6

Spray Adjuvants: The addition of 10 to 20 gallons per acre of 32-0-0 or 28-0-0 liquid fertilizer as part of the spray carrier will promote the recovery of the bermudagrass from any growth reduction caused by the herbicide application. No additional spray adjuvant is required if liquid fertilizer is used as the spray carrier.

See "SPRAY ADJUVANTS FOR POSTEMERGENCE APPLICATIONS" section for additional spray adjuvant recommendations.

DO NOT use crop oil concentrates (COC) as spray adjuvant for control of weeds with PLATEAU herbicide.

Tank Mixtures: For broadleaf weed control the addition of a broadleaf herbicide such as WEEDMASTER<sup>®</sup> is recommended. PLATEAU may also be tank mixed with GRAZON<sup>™</sup>, REMEDY<sup>™</sup>, REDEEM<sup>™</sup>, ALLY<sup>™</sup>, 2,4-D and ROUNDUP ULTRA or glyphosate equivalent. Applications with tank mixes of 2,4-D that exceed 1 pound active ingredient per acre and applications with tank mixes of triclopyr amine that exceed 1.5 pounds active ingredient per acre may reduce efficacy on target grass weed species.

#### USE OF PLATEAU HERBICIDE ON FEDERAL CONSERVATION RESERVE PROGRAM (CRP) LAND

PLATEAU herbicide may be used on Federal Conservation Reserve Program (CRP) land at rates up to 12 oz. per acre per year (see minimum plant-back intervals below). See appropriate section of this label for specific instructions for the intended use.

#### **ROTATIONAL CROP RESTRICTIONS**

The following rotational crops may be planted after applying PLATEAU herbicide. Planting rotational crops earlier than the recommended interval may result in crop injury.

Plateau Use Rate (oz/A)	Minimum Pla	nt Back Interval	(Months After PI	ATEAU Herbicid	e Application)
<u>_</u> 4	12	12	18	26	40
5-8	12	14	22	30	44
9-12	12	18	24	36	48
Rotational Crops	Bahiagrass CLEARFIELD <sup>®</sup> corn hybrids Peanuts Rye Wheat	Snapbeans Southern peas Soybeans Tobacco	Barley Cotton <sup>1</sup> Grain sorghum Oats	Field corn <sup>2</sup> All crops not otherwise listed or included for use on this label <sup>2</sup>	Canola <sup>2</sup> Potatoes <sup>2</sup> Red table beets <sup>2</sup> Sugar beets <sup>2</sup>

<sup>1</sup>For Arizona, New Mexico, Oklahoma, and Texas only: Depending on the PLATEAU herbicide use rate, cotton may be planted 18 to 24 months after PLATEAU herbicide application in the states of Arizona, New Mexico, Oklahoma, and Texas unless drought conditions develop the year of PLATEAU herbicide application. DO NOT rotate to cotton at 18 to 24 months after PLATEAU herbicide application if less than 15 inches of rainfall or irrigation is received from the time of PLATEAU herbicide application through November 1 of the same year. If drought conditions develop the year of PLATEAU herbicide application, cotton may be planted 26, 30 and 40 months after PLATEAU herbicide application.

<sup>2</sup> After the recommended rotational interval listed for these selected crops and for all crops not otherwise listed or included for use on this label, a successful field bioassay must be completed. The field bioassay consists of a test strip of the intended rotational crop planted across the previously treated field and grown to maturity. The test strip should include low areas and knolls, and include variations in soil such as type and pH. If no crop injury is evident in the test strip, then the intended rotational crop may be planted the following year.

Use of PLATEAU herbicide in accordance with label directions is expected to result in normal growth of plantback crops in most situations; however, various environmental and agronomic factors make it impossible to eliminate all risks associated with the use of this product and, therefore, plant-back crop injury is always possible. If crop injury is a concern then a bioassay with the desired crop is recommended prior to planting.

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

**Bahiagrass:** PLATEAU herbicide may be used at the rate of 2 to 6 oz per acre to suppress growth and seedhead development of bahiagrass in unimproved areas. In North and South Carolina it is recommended to use PLATEAU herbicide at the rate of 2 oz per acre as higher rates may cause turf thinning. Depending on rate of PLATEAU herbicide used, surfactant and environmental conditions, temporary turf discoloration may occur. For optimum performance, application should be made after green-up. Applications may be made before or after mowing. If applied prior to mowing, raise mowing height to leave adequate existing foliage as new growth will be suppressed. If applied after mowing, allow adequate foliage to remain by increasing mower height or allowing time for foliar regrowth prior to application. DO NOT apply to turf under stress (drought, cold, insect, disease, etc.) or severe injury may occur. DO NOT use a methylated seed oil adjuvant.

PLATEAU	PHYTOTOXICITY	LENGTH OF SUPPRESSION
2 oz	none to low	partial to season long
3 to 6 oz	low to moderate	season long

For winter annual weed control, apply 8 oz of PLATEAU herbicide when bahiagrass is dormant, but when weeds are actively growing. This can be followed by 3 to 4 oz of PLATEAU herbicide 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:** Apply PLATEAU herbicide at 2 to 4 oz per acre for foliar and seedhead suppression of certain cool season grasses such as "KY31" tall fescue and "wildtype common" Kentucky bluegrass. Add a surfactant to the 2 oz rate of PLATEAU herbicide for optimum performance. The addition of a surfactant to 4 oz of PLATEAU herbicide may cause excessive turf injury or mortality of tall fescue. Application to turf type tall fescue or Kentucky bluegrass may result in severe injury or loss of stand.

Wheatgrass: Apply PLATEAU herbicide at 6 to 10 oz. per acre for foliar and seedhead suppression of crested wheatgrass, and 6 to 12 oz. per acre for foliar and seedhead suppression of intermediate wheatgrass. Other wheatgrass species may also be suppressed, however, apply PLATEAU herbicide to a limited area to determine effectiveness. Tank-mixes with 2,4-D or products containing 2,4-D may decrease the effectiveness of PLATEAU herbicide. Tank-mixes with GARLON, TORDON<sup>TM</sup>, TRANSLINE<sup>TM</sup> and VANQUISH may decrease the potential of turf injury. DO NOT apply to turf under stress or severe injury may occur.

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

PLATEAU herbicide may be used on bermudagrass turf such as roadsides, utility rights-of-way, railroad crossings, airports, non-irrigation drainage ditches and other noncropland sites. There is a differential tolerance between bermudagrass types (See below paragraphs). Depending on bermudagrass type, timing of application, and PLATEAU herbicide rate, some foliar, stolon, and seedhead suppression may occur. IMPORTANT: Apply PLATEAU herbicide after bermudagrass has reached full green-up. Spring applications made prior to full green-up may delay green-up. Always add a surfactant when applying PLATEAU herbicide. DO NOT apply to grass under stress from drought, disease, insects or other causes. Simultaneous mow/spray operations may suppress internode development. After mowing, allow adequate foliage regrowth prior to PLATEAU application as some internode suppression may prevent bermudagrass from quickly recovering from mowing.

**Common Bermudagrass:** Common bermudagrass is the most tolerant bermudagrass to PLATEAU herbicide. Tank-mixes with ROUNDUP PRO, ACCORD or glyphosate will improve the weed control spectrum, but may increase turf phytotoxicity. Some stolon internode shortening and seedhead suppression may occur for the first 8 weeks.

**Established Coastal Bermudagrass:** PLATEAU herbicide at 2 to 12 oz per acre will provide control of labeled weeds as well as foliar and seed head suppression of established coastal bermudagrass. Do not use on New World hybrid bermudagrass. Depending on environmental conditions and weed pressure, the longevity of suppression and weed control increases as the PLATEAU herbicide rate increases. Tank-mixes with ROUNDUP PRO, ACCORD, or glyphosate may result in death or excessive injury of coastal bermudagrass.

**Turf Type Bermudagrass:** Turf type bermudagrass varieties show a high degree of variation in tolerance to PLATEAU herbicide. PLATEAU herbicide at rates of 2 to 6 oz per acre will provide some annual weed control and foliar & seedhead suppression. Rates above 6 oz per acre may result in excessive injury or death of turf type bermudagrass.

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

Winter Annual Weed Control: Apply PLATEAU herbicide at the rate of 4 to 12 oz. per acre prior to winter weed germination or while winter weeds are actively growing. Early spring applications may delay green-up of bermudagrass turf.

Summer Annual Weeds: For best results, apply PLATEAU herbicide at the rate of 4 to 12 oz per acre preemergence or early postemergence before weeds have reached 6 inches in height. Larger weeds may be controlled depending on susceptibility, growing conditions, tank-mix partner and adjuvant selection.

**Perennial Weeds:** Apply PLATEAU herbicide at the rate of 8 to 12 oz per acre postemergence after weeds have produced adequate foliage for herbicide uptake. For a particular weed see "SPECIAL WEED CONTROL" section below. The addition of ACCORD or ROUNDUP PRO herbicide may increase control.

**Bahiagrass Control:** Apply PLATEAU herbicide at the rate of 8 to 12 oz per acre postemergence. See "SPECIAL WEED CONTROL" section below for recommendations. The addition of ROUNDUP PRO or ACCORD herbicide at 12 to 16 oz per acre may increase control.

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

PLATEAU herbicide may be applied at a rate of 4 to 8 oz per acre to established centipede grass for the control of annual broadleaf and grass weeds. Apply PLATEAU herbicide after centipede grass has reached full greenup. Spring applications made prior to full green-up may delay green-up. Always add a surfactant when applying PLATEAU herbicide. DO NOT apply to grass under stress from drought, disease, insects or other causes. Simultaneous mow/spray operations may suppress internode development. After mowing, allow adequate foliage regrowth prior to PLATEAU application as some internode suppression may prevent centipede grass from quickly recovering from mowing.

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

PLATEAU herbicide may be used on smooth bromegrass, "wildtype" common Kentucky bluegrass and wheatgrass. PLATEAU herbicide provides control of labeled grass and broadleaf weeds (see "WEEDS CONTROLLED" and "SPECIAL WEED CONTROL" sections). Treatment of smooth bromegrass and wheatgrass with PLATEAU herbicide may result in foliar height and seedhead suppression.

Smooth Bromegrass and "Wildtype" Common Kentucky Bluegrass: Use PLATEAU herbicide at 4 to 8 oz per acre in the spring for weed control and growth suppression after smooth bromegrass and "wildtype" common Kentucky bluegrass have reached 100% green-up. Applications prior to 100% green-up may delay green-up. Rates from 8 to 12 oz per acre may be applied in the spring but may result in excessive growth suppression. For fall applications (see "SPECAL WEED CONTROL" section), PLATEAU herbicide may be used at 8 to 12 oz per acre for control of perennial weeds.

Wheatgrass: To control undesirable weeds in wheatgrasses apply PLATEAU herbicide at 4 to 12 oz. per acre.

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

PLATEAU herbicide may be applied at the rate of 4 oz per acre to newly seeded crown vetch beds to aid in the establishment of vetch and reduce weed competition.

PLATEAU herbicide at 8 to 12 oz per acre may be used on unimproved established crown vetch in noncropland areas. PLATEAU herbicide provides control of labeled grass and broadleaf weeds (refer to the "WEEDS CONTROLLED" and "SPECIAL WEED CONTROL" sections for specific rates). Treatment of crown vetch

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beds with PLATEAU herbicide may cause internode shortening and some minor tip chlorosis depending on timing of application.

PLATEAU herbicide should be applied during winter dormancy or early spring to reduce potential injury. Applications made after May, may result in increased injury or defoliation. Addition of surfactants such as dilimenene based or crop oil concentrates will increase injury. Fall applications during the period of active crown vetch growth may result in severe injury or loss of stand.

#### **REVEGETATION WITH PRAIRIEGRASSES AND OTHER FORAGE GRASSES**

PLATEAU herbicide may be applied at the rate of 2 to 12 oz per acre to newly established or existing stands of labeled species (see below for details) in such areas as pasture, rangeland (see "GUIDELINES FOR RANGELAND USE" section), Conservation Reserve Program (CRP) land and noncropland sites such as roadsides, industrial sites, prairie restoration sites, drainage ditch banks, and other similar areas. Certain local ecotypes or varieties may be suppressed by PLATEAU herbicide. Many factors such as poor seedling vigor, cool temperatures, poor soil, planting depth, excessive moisture, disease, insects and dry weather after emergence can all result in poor stands. Additional stress of herbicide residue, poor soils and other factors contributing to poor seedling vigor can also increase injury and could result in mortality. BASF can not be held responsible for such unforeseen factors. It is suggested to try PLATEAU herbicide on a small area if tolerance is not known. PLATEAU herbicide controls many annual and perennial grass and broadleaf weeds. Weed competition is reduced allowing grass seedlings to establish. PLATEAU herbicide is also effective for control of noxious weeds in established grass stands and must be applied postemergence as a foliar treatment to perennial weeds. IMPORTANT: ALWAYS ADD AN ADJUVANT when applying PLATEAU herbicide. To maximize weed control always use a methylated seed oil when treating established grass stands. Use a nonionic surfactant when treating newly emerged seedling grasses. The addition of liquid fertilizer will decrease grass tolerance and should not be used when treating newly emerged seedling grasses.

PLATEAU herbicide may be applied at a rate of up to 12 oz per acre to Federal Conservation Reserve Program (CRP) land for the establishment or release of certain grass species (see "TOLERANT GRASS SPECIES" table).

Establishment: For optimum results in establishing mixed grass stands with PLATEAU herbicide, make application at planting before grass seedlings emerge. Newly emerged grasses can be sensitive to PLATEAU herbicide and/or the adjuvant used. If grasses have begun to emerge, it is best to wait until they have reached the five leaf stage to make a PLATEAU herbicide application and use a nonionic or silicone surfactant. Do not use a methylated seed oil at this time as some grass species tolerance will be lost. PLATEAU herbicide will control annual weeds preemergence or early postemergence. See "WEEDS CONTROLLED" section for maximum height of weeds and see below for more details on best rate and timing for grass and wildflower species. Postemergence applications may result in stand thinning due to variability in seedling grass tolerance to the use of spray adjuvants. Seedling grasses are generally more tolerant to the use of spray adjuvants after they have reached the five leaf stage. When planting into a field which was row cropped the previous year, compounded injury may occur from herbicide carry-over (see "DIRECTIONS FOR USE" section).

**Rates and Control:** Apply PLATEAU herbicide at 2 to 6 oz per acre to fields cropped the previous year, when annual weeds are the target and/or if grass/forb mixtures are used. PLATEAU herbicide at 2 to 6 oz per acre will provide control and/or suppression of many annual grass and broadleaf weeds. Use lower rates when in the northern most U.S., dry climates or for late season plantings into clean seedbeds. PLATEAU herbicide rates as low as 2 oz. per acre may be used on soils with a pH > 7, a low CEC and a course texture containing a minimum of clay and organic matter. Use higher rates in heavy weed pressure, heavy residue, high organic matter, high rainfall and long growing season (southern portions of Illinois, Indiana, Missouri and Ohio, etc.). Apply PLATEAU herbicide rates of 8 to 12 oz per acre for giant ragweed or for perennial weed control/suppression. PLATEAU herbicide rates of 8 to 12 oz per acre may result in stunting or stand thinning. The duration and intensity of suppression are directly related to weed pressure, chemical residue, soil type and environmental conditions. See below for details for particular grass tolerances and timings.

**Established Stands:** For optimum results, apply PLATEAU herbicide as an early postemergence application to annual grasses and broadleaf weeds. For perennial weed control, see "SPECIAL WEED CONTROL" section. The use of high rates may result in foliar and/or seed head height suppression of established grass stands. This effect is more likely to occur under conditions of light soils, low weed pressure, low rainfall, and short growing seasons. Use the lower rates for light weed infestations or when applying to grass stands containing desirable wildflowers and legumes (see "WILDFLOWER ESTABLISHMENT AND MAINTENANCE" section for rate tolerance). Use higher rates to broaden and lengthen weed control spectrum.

Big Bluestem, Little Bluestem and Indiangrass: PLATEAU herbicide may be applied at the rate of 2 to 12 oz per acre at planting, or any time thereafter, including after seedling grasses have emerged or to perennial stands (dormant or actively growing). See "WEEDS CONTROLLED" section for desired rate. Use the lower rates in Wisconsin, Michigan, Minnesota, South Dakota, North Dakota, Kansas, Oklahoma, Texas and Nebraska and higher rates as rainfall and/or growing season increases.

Switchgrass (*Panicum virgatum*): PLATEAU herbicide is not recommended for the establishment of pure switchgrass stands as severe injury or death may result. PLATEAU herbicide may be applied at a rate of 2 to 4 oz per acre if switchgrass is planted in mixed stands with tolerant species, but only if some stand thinning or loss of stand can be tolerated. Mature switchgrass planting can be reclaimed from certain perennial weeds such as tall fescue, leafy spurge, johnsongrass, etc., with PLATEAU herbicide at rates of 10 to 12 oz per acre. However, severe stunting and injury is imminent. DO NOT apply PLATEAU herbicide to switchgrass if such severe injury can not be tolerated.

Sideoats and Blue Grama: Apply PLATEAU herbicide to monoculture stands of sideoats and blue grama only if some stand thinning or loss of stand can be tolerated. PLATEAU herbicide may be applied at the rate of 2 to 4 oz/A plus an adjuvant to aid in the establishment of sideoats and blue grama after new seedlings have emerged and reached the five (5) leaf stage. When using PLATEAU herbicide at 4 oz per acre it is not recommended to use in combination with a methylated seed oil adjuvant as stand thinning may occur. The lower rates may provide adequate weed suppression in early summer plantings 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. Sideoats and blue grama have shown tolerance to PLATEAU herbicide at 2 to 4 oz/A, applied pre-emergence at planting, however, some stand thinning may occur. For weed control in established stands use 4 to 10 oz/A of PLATEAU herbicide. Up to 12 oz/A of PLATEAU herbicide may be applied, but may result in foliar and/or seedhead suppression, or in the injury of sideoats and blue grama, depending on surfactant choice, soil type, variety, weed pressure and environmental conditions.

**Buffalograss:** Apply PLATEAU herbicide at the rate of 2 to 4 oz/A for control or suppression of labeled weeds and to aid in the establishment of newly sprigged buffalograss. Apply PLATEAU herbicide immediately after planting prior to spring growth or seed germination. New growth and small seedlings can be severely injured or killed. If applying after emergence it is best to wait until buffalograss has at least five true leaves and use a nonionic or silicone surfactant. Do not use a methylated seed oil. For established stands, PLATEAU herbicide may be applied at the rate of 2 to 8 oz/A for weed control. Higher rates may cause some turf discoloration and stunting. PLATEAU herbicide may be applied to dormant buffalograss to control winter annual weeds. Turf type buffalograss may express different tolerance level to PLATEAU herbicide than wild type buffalograss. Some turf types can tolerate low rates of PLATEAU herbicide at seeding. Consult seed dealer for details.

Eastern Gamagrass: PLATEAU herbicide should only be used for the establishment or maintenance of eastern gamagrass if some stand thinning or loss can be tolerated. Apply PLATEAU herbicide at 2 to 6 oz per acre at planting prior to gamagrass emergence. Stand thinning and stunting is imminent. Adverse conditions, poor soils, or added stress to the gamagrass could result in stand mortality. Postemergence application to seedlings will cause mortality. On established eastern gamagrass, apply PLATEAU herbicide at 2 to 8 oz per acre prior to gamagrass breaking dormancy. Some stunting will occur and increases as the PLATEAU herbicide rate increases. Applications made during or after green-up may result in foliar and seedhead suppression and possible mortality of weak plants.

Tall Fescue Control: Tall fescue can be controlled by using PLATEAU herbicide at the rate of 12 oz per acre plus methylated seed oil at 2 pints per acre in established stands of or to prepare a seed bed for big bluestem, little bluestem, and indiangrass. The addition of Nitrogen fertilizer (see "SPRAY ADJUVANTS FOR POSTEMERGENCE APPLICATIONS " section) to the above mix will aid in control. Tall fescue must be actively growing for optimum control. If tall fescue has reached the boot stage or has reached summer dormancy, control may be poor. For improved control of tall fescue, PLATEAU herbicide may be tank mixed with ACCORD, ROUNDUP PRO, or glyphosate. Fall applications of PLATEAU herbicide at 8 to 12 oz/A plus 24 to 64 oz/A ACCORD or ROUNDUP PRO will result in best control of existing tall fescue and new germinating seedlings. With spring applications of PLATEAU herbicide at 6 to 12 oz/A, plus a ACCORD or ROUNDUP PRO at 32 to 64 oz/A, use higher rates for older, mature fescue stands and lower PLATEAU herbicide rates when planting forbs. When using 8 oz/A of PLATEAU herbicide in the fall with a glyphosate product, it is recommended to apply 4 oz/A PLATEAU herbicide in the spring at planting for annual weed and seedling fescue control. Burning the fescue stand, where permitted, the following spring, just prior to green-up. will aid in control and provide a better seedbed for planting. Mowing the fescue several times the summer before fall application will weaken the fescue root system, making it more susceptible to herbicides. Always allow for at least 10 inches of regrowth, following the last mowing before spraying, as both PLATEAU herbicide and glyphosate products need foliage present for herbicide uptake and satisfactory control.

Prairiegrass		PLATEAU he	
C	Community in	<u>(oz/</u>	
Common Name	Genus species	New Seeding	Established
Big Bluestem	Andropogon gerardii	2-12	2-12
Little Bluestem	Schizachyrium scoparium	2-12	2-12
Indiangrass	Sorghastrum nutans	2-12	2-12
Bushy Bluestem	Andropogon glomeratus		2-12
King Ranch Bluestem	Bothriochloa ischaemum		2-12
Silver Beard Bluestem	Bothriochloa saccharoides		2-12
Broomsedge	Andropogon virginicus		2-12
Fingergrass, Rhodes grass	Choris spp.		2-12
Needlegrass	Stipa spp.		2-12
Needleandthread	Stipa comata		2-12
Kearny (Plains) Threeawn	Aristida longespica		2-12
Prairie Threeawn	Aristida oligantha	-*-	2-12
Prairie Sandreed	Calamovilfa longifolia		2-12
Smooth Bromegrass	Bromus inermis		2-12
Kentucky Bluegrass	Poa pratensis		2-12
Sandberg's Bluegrass	Poa sandbergii		2-12
Wheatgrasses	Agropyron spp.		2-12
Bottlebrush Squirreltail	Sitanian hystrix		2-12
Russian Wildrye	Elymus junceus	2-62	2-12
Sideoats Grama	Bouteloua curtipendula	<b>2-8</b> <sup>3</sup>	2-8
Blue Grama	Bouteloua gracilis	2-83	2-8
Buffalograss	Buchloe dactylo <u>i</u> des	2-4	2-8

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

 See individual grass sections for application timing.
High rates may result in stunting and growth suppression.
PLATEAU herbicide preemergence applications to newly seeded sideoats, blue grama and Eastern gamagrass may result in thinning or loss of stand.

Tripsacum dactyloides

2-63

2-8

\* Tolerance unknown

Eastern Gamagrass

20134

### TOLERANCE OF ESTABLISHED GRASSES TO 8 TO 12 OZ/A OF PLATEAU HERBICIDE APPLIED IN THE FALL

Grass Species <sup>1</sup>	Tolerant	Suppressed <sup>2</sup>	Not Tolerant	Tolerance Unknow
Bermudagrass	X			
Bluegrass, Kentucky		X		
Bluegrass, Sandberg's	X			
Bluestem, big	X	<u></u>		
Bluestem, bushy	x	· · · · · · · · · · · · · · · · · · ·		<u></u>
Bluestem, King Ranch	X			
Bluestem, little	X			
Bluestern, silver beard	X			······································
Bromegrass, meadow		X	X	· · · · · · · · · · · · · · · · · · ·
Bromegrass, smooth		X		
Broomsedge	x	<u></u>		
Buffalograss		X		· <u> </u>
Cheatgrass	^	<u>^</u>	x	
Creaning fautail Corrigon		<u></u>	<u>^</u>	v
Creeping foxtail, Garrison				X
Downey brome			X	
Fescue, Idaho	x		·	
Fescue, tall		<u> </u>	X	
Gamagrass, eastern		X		
Grama, blue	X	X		
Grama, sideoats	X	X		
Indiangrass	x			<u> </u>
Medusahead		-	X	
Needleandthread	X			
Needlegrass, green	X			
Orchardgrass		X		
Prairie cordgrass		X		
Prairie dropseed				X
Praire sandreed	x			······································
Praire threeawn	x			—
Quackgrass		X		
Redtop		X	X	
Reed canarygrass		<u>x</u>	X	
Rhodes grass/Fingergrass		<u> </u>	<u>^</u>	
Rye, annual or Italian	<u>^</u>		x	
Rye, perennial			X	······································
Squirreltail, bottlebrush	x	<u> </u>	<u>^</u>	······································
Switchgrass	<u>_</u>	x	x	
Timothy	<u>_</u>	<u>^</u>	<u> </u>	_ <u></u>
	x	x	<u>^</u>	
Wheatgrass, bluebunch				- ap
Wheatgrass, crested	X	X		
Wheatgrass, intermediate	X	X		
Wheatgrass, pubescent	<u>x</u>	·X		······································
Wheatgrass, siberian	x			
Wheatgrass, slender	X	<u> </u>		·
Wheatgrass, stream bank	x	X		- <u></u>
Wheatgrass, western	x	X		• • • • • • • • • • • • • • • • • • •
Wild ryegrass, Canada		X		
Wild ryegrass, Russian	X			
Wild ryegrass, Virginia		X		

Species with an X in more than one column means tolerance will vary depending on variety, use rate and environmental conditons.

<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.

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#### WILDFLOWER ESTABLISHMENT AND MAINTENANCE

Due to high degree of variation in genotypes, ecotypes and varieties of wildflowers, tolerances to PLATEAU herbicide can vary dramatically and may be reduced under certain soil types and environmental conditions. Apply PLATEAU herbicide only if some stand thinning or loss can be tolerated. Preemergence applications of low use rates (4 oz/A) to tolerant species, result in the least amount of injury, but may not eliminate it. Postemergence applications of PLATEAU herbicide can result in injury or death of some genotypes, and should be used only as a rescue treatment when weed competition threatens the stand. Use of certain spray adjuvants can also increase wildflower injury and loss of stand. Although most legumes listed in the tolerance table are tolerant to 4 oz/A of PLATEAU herbicide preemergence, some stand thinning may occur. Legumes are more tolerant to post applications, but chlorosis or stunting is possible. Recommendations listed in the tables below are designed for mixed grass/wildflower stands. Less than satisfactory results may occur from applications to monoculture stands. It is recommended to try on a small scale to determine degree of satisfaction on monoculture stands.

For prairiegrass/wildflower mixtures: Where some wildflower injury (phytotoxicity, height suppression) can be tolerated, apply PLATEAU herbicide at the rate to achieve desired weed control, but not to exceed tolerance rate listed in the table below. Wildflower injury can be reduced or eliminated with pre-emergence applications. To minimize injury, apply PLATEAU herbicide at 2 to 4 oz per acre at planting to tolerant species listed below. Use the 2 oz per acre rate under cool dry conditions and in low rainfall areas. If postemergence application is made to established prairiegrass/wildflower mixtures, use the lowest rate of PLATEAU herbicide necessary to achieve desired weed control (see "WEEDS CONTROLLED" section). Postemergence application can result in stand thinning or death due to vast variation in seed sources, varieties and genotypes. It is recommended that a small area be tested prior to full application for tolerance of desired species. The rates listed below are for those species in which acceptable tolerance has been confirmed on the varieties/genotypes being treated.

Application of PLATEAU herbicide in conjunction with an organophosphate insecticide may cause an increase in wildflower injury.

Seedling Wildflower and Legume Tolerance to PLATEAU herbicide (4 oz/A)<sup>1</sup> 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	Gilia 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
Daisy, Shasta	Chrysanthemum maximum	Yes	Yes
Five Spot	Nemophila maculata	No	Yes
Flax, Blue	Linum perenne	No	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 superata	No	Yes
Lupine, Perennial	Lupinu perennis	Yes	Yes
Mexican Hat	Ratibida columnifera	Yes	Yes
Partridgepea	Cassia fasciculata	Yes	Yes
Pea, Calico	Pisum 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 sp.	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>1</sup> For legumes, at least three true leaves should be present before a postemergence application.

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

Established Wildflower and Legume Tolerance to PLATEAU herbicide (Maximum Rate<sup>1</sup>, oz/A) in Mixed Grass/Forb Stands.

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

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

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

Common Name	Genus Species	PRE <sup>2</sup>	POST <sup>3</sup>
Blackeyed Susan	Rudbeckia hirta	Yes	Yes
Blanketflower	Gaillardia pulchella	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	ОК
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

## . . . .

<sup>1</sup> 2 lbs ai/A = 2.4 qts of PENDULUM herbicide 3.3 EC or 3.3 lbs of PENDULUM herbicide WDG

Chrysanthemum leucanthermum

Chrysanthemum maximum

Lupinu perennis

Cassia fasciculata

Eschscholzia californica

Achillea filipendulina

25% thinning

marginal-OK

20% thinning

Yes

25% thinning

Yes

OK

thinning

2 Preemergence at planting

<sup>3</sup> Postemergence to seedlings

Yes = no injury

Daisy, Ox-eye

Daisy, Shasta

Partridgepea

Yarrow, Gold

Lupine, Perennial

Poppy, California

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

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

Yes

Yes

<50% thinning

Yes

25% injury

stunting, thinning

OK

Due to the diversity of species and varieties that exist in areas where wildflowers are grown, the response to PLATEAU herbicide may vary greatly. Careful testing on desirable species is recommended to determine if area-wide applications can be made. Try on a limited area to verify tolerance in a specific area.

The suitability of PLATEAU herbicide use on wildflower species not listed, should be determined by treating a small number of such wild flowers at an appropriate rate, not to exceed 12 oz per acre per year. Treated wildflowers should be evaluated 1 to 2 months following application for possible injury. THE USER ASSUMES RESPONSIBILITY FOR ANY DAMAGE OR OTHER LIABILITY.

#### SPECIAL WEED CONTROL

ALWAYS ADD AN ADJUVANT to PLATEAU herbicide (see "SPRAY ADJUVANTS FOR POSTEMERGENCE APPLICATIONS" section). Research has shown Methylated Secd Oil (MSO) surfactants provide PLATEAU herbicide with superior control of perennial weeds. This effect is not always observed and is most prevalent on waxy leaf species, perennials and weeds under stress conditions. For the weeds listed below, it is recommended to use a MSO for best results. The use of nonionic surfactants or silicone based surfactants may result in less than acceptable control.

Johnsongrass & Itchgrass: For best results, apply PLATEAU herbicide at the rate of 8 to 12 oz per acre after johnsongrass or itchgrass has reached 18 to 24 inches in height at the whorl. The addition of ACCORD or ROUNDUP PRO at the rate of 8 to 16 oz per acre may improve control after culm elongation or in dense stands. Use higher herbicide rates as density increases. Larger grass than specified above can be controlled.

Dallisgrass, Bahiagrass, Vaseygrass, Paspalum spp., Smutgrass: For dallisgrass, bahiagrass and smutgrass control, apply PLATEAU herbicide postemergence at the rate of 10 to 12 oz per acre, after grass has reached 100% green-up. For vaseygrass apply PLATEAU herbicide at the rate of 4 to 6 oz per acre postemergence after grass has reached 100% green-up and is from 3 to 8 inches in height. The addition of ACCORD or ROUNDUP PRO at the rate of 12 to 16 oz per acre will improve efficacy. Use higher herbicide rates as target grass weed densities and/or maturity increase. The addition of PENDULUM herbicide will provide increased preemergence control of these grasses from seed.

Leafy Spurge: For best results, apply PLATEAU herbicide at 8 to 12 oz per acre in late summer or fall (late August through mid-October). Consecutive year applications will optimize long term control. PLATEAU herbicide at 12 oz/A applied spring or fall, or 4 oz/A in the spring following an 8 oz/A fall treatment may result in excessive injury to cool season grasses in some areas. For best results, always use a methylated seed oil at 2 pints per acre. Two pints per acre of Nitrogen fertilizer (see"SPRAY ADJUVANTS FOR POSTEMERGENCE APPLICATIONS" section) may also be added to the spray tank to increase leafy spurge control, however, this may increase injury to desired species of grasses and forbs. The use of nonionic and silicone based surfactants have resulted in little or no control of leafy spurge. Approximate dates for fall timing in North and South Dakota is late August through September; for Nebraska and Iowa is mid September through mid-October. This application should be made after good soil moisture is present but prior to the leafy spurge losing its milky sap flow due to a killing frost. To check and see if the milky sap flow has been affected by a frost simply break the main stem of the leafy spurge and if milky sap flows from the break then PLATEAU herbicide can still be applied.

**Canada Thistle**: Spring applications of 12 oz PLATEAU herbicide plus 2 pints of Methylated Seed Oil per acre applied postemergence to Canada thistle will provide control and/or suppression of above ground biomass. For best results, apply when thistle is in the rosette to early bolt. Applications made at flowering will provide knock down of existing foliage but may result in root sucker sprouting.

Tall Fescue Control: Tall fescue can be controlled by using PLATEAU herbicide at the rate of 12 oz plus Methylated Seed Oil at 2 pints per acre. The addition of ACCORD, glyphosate or ROUNDUP PRO and/or Nitrogen fertilizer (see "SPRAY ADJUVANTS FOR POSTEMERGENCE APPLICATIONS" section) to the above mix will aid in control. Tall fescue must be actively growing for optimum control. If tall fescue has reached summer dormancy, control may be poor.

Fall applications of PLATEAU herbicide at 8 to12 oz/A plus a ACCORD or ROUNDUP PRO at 24 to 64 oz/A will result in best control of existing tall fescue and new germinating seedlings. With spring applications of PLATEAU herbicide at 6 to 12 oz/A, plus ACCORD or ROUNDUP PRO at 32 to 64 oz/A, use higher rates for older, mature fescue stands and lower PLATEAU herbicide rates when planting forbs. When using 8 oz/A of PLATEAU herbicide in the fall with ACCORD or ROUNDUP PRO, it is recommended to apply 4 oz/A PLATEAU herbicide in the spring at planting for annual weed and seedling fescue control. Burning the fescue stand, where permitted, the following spring, just prior to green-up, will aid in control and provide a better seedbed for planting. Mowing the fescue several times the summer before fall application, will weaken the fescue root system, making it more susceptible to herbicides. Always allow for at least 10 inches of regrowth, following the last mowing before spraying, as both PLATEAU herbicide and ROUNDUP products need foliage present for herbicide uptake and satisfactory control.

**Russian Knapweed:** Appy 12 oz/A of PLATEAU herbicide plus 1 quart per acre of methylated seed oil when Russian knapweed has begun fall senescence. Control may still be obtained with applications made after full senescence. Applications made prior to the initiation of senescence will result in reduced control.

**Dalmatian Toadflax:** Appy 12 oz/A of PLATEAU herbicide plus 1 quart per acre of methylated seed oil in the fall when the top 25% of the plant is necrotic, usually after a hard frost (late October through November). As long as there is some green stem and/or leaf tissue remaining, good control can be achieved. This timing usually corresponds to fall basal growth. Applications made prior to this will result in poor control.

**Resistant Biotypes:** Naturally occurring biotypes (a plant within a given species that has a slightly different, but distinct genetic makeup from other plants of the same species) of some weeds listed on this label may not be effectively controlled by this and/or other herbicides ( $OUST^{TM}$ ) with the ALS/AHAS enzyme inhibiting mode of action. If naturally occurring ALS/AHAS resistant biotypes are present in an area, PLATEAU herbicide should be tank-mixed or applied sequentially with an appropriate registered herbicide having a different mode of action to ensure control.

#### **RESIDUAL BAREGROUND WEED CONTROL**

For sensitive areas and use around desirable vegetation PLATEAU herbicide at 12 ounces per acre may be tank mixed with PENDULUM herbicide, ROUNDUP PRO, ESCORT, KARMEX<sup>™</sup>, 2,4-D, diuron, ENDURANCE<sup>™</sup> or other labeled products to provide total vegetation control. For other bareground areas PLATEAU herbicide at 12 oz per acre may be tank mixed with ARSENAL herbicide, SAHARA DG herbicide, KROVAR, OUST, TORDON<sup>™</sup>, VANQUISH or other labeled products to provide total bareground weed control. For maximum weed control, use 2 pints per acre of methylated seed oil as an adjuvant.

**Spot Treatments:** PLATEAU herbicide may be used to control weed encroachment in bareground or total vegetation control situations. To prepare the spray solution, thoroughly mix in each gallon of water 0.25 to 5% volume/volume (0.3 oz to 5.4 oz per gallon) PLATEAU herbicide plus a methylated seed oil adjuvant.

#### USE UNDER PAVED SURFACES

Applications should be made to the soil surface only when final grade is established. DO NOT move soil following PLATEAU herbicide application. Apply PLATEAU herbicide in sufficient water to ensure thorough and uniform wetting of the soil surface, including the shoulder area. Add PLATEAU herbicide at a rate of 12 oz. per acre to clean water in the spray tank during the filling operation. Agitate before spraying. If soil is not moist prior to treatment, incorporation of PLATEAU herbicide will improve control. PLATEAU herbicide can be incorporated into the soil to a depth of two inches using a rototiller or disc. Rainfall or irrigation totaling one inch is also sufficient to incorporate PLATEAU herbicide into the soil surface. DO NOT allow treated soil to wash or move into untreated area.

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

The following tolerance information is provided as a general guideline when it is desirable or necessary to make PLATEAU herbicide applications in and around desirable tree and brush species. DO NOT use PLATEAU herbicide on nursery, orchard, ornamental plantings, new plantings, seedling trees or fiber farms except as specified on supplemental labeling. It is suggested that PLATEAU herbicide be tried on a limited basis to determine tolerance in your area. PLATEAU herbicide may be used at rates up to 12 oz per acre for weed control in and around established trees on pasture, rangeland (see "GUIDELINES FOR RANGELAND USE" section) and noncropland areas such as roadsides, prairies and similar areas used for wildlife cover, erosion control, wind breaks, etc. Tree and brush species known to have acceptable tolerance to PLATEAU herbicide when applied under the canopy and/or to the foliage are listed below. Tolerance is based upon trees with a minimum of 2 inch DBH. Application to tree and brush species that are under stress due to drought, disease, insect damage or other factors may be more susceptible to injury from PLATEAU herbicide and may result in severe injury or death. Some species may exhibit tip chlorosis and minor necrosis. Foliar contact may increase injury to include defoliation and terminal death. Application methods that minimize foliar contact with desirable tree and brush species can improve tolerance.

When making fall applications of PLATEAU herbicide, potential injury to tree and brush species from foliar contact may be minimized by making the application after the leaves have begun to senesce (fall color) or after leaf drop. Conifer species are generally tolerant to fall applications. PLATEAU herbicide applications in and around tree and brush species should be made at the recommended timing for the target weed species.

Common Name	Genus Species	Tolerance by Applicatio	n Method <sup>2</sup>
	-	<b>Directed Below Foliage</b>	To Foliage
Apple (Var. Winesap) <sup>3</sup>	Malus sylvestris	Yes	NR
Ash, Blue	Fraxinus quadrangulata	Yes	NR
Ash, Green	Fraxinus pennsylvanica	Yes	No
Azalea	Rhododendron spp.	No	No
Basswood	Tilia hetrophylla	No	No
Boxelder	Acer negundo	Yes	Injury <sup>5</sup>
Buckeye, Ohio	Aesculus glabra	Yes	NR
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	Yes	NR
Cottonwood	Populus deltoides	Yes	Injury <sup>5</sup>
Cottonwood, narrow leaf	Populus spp.	Yes	Injury <sup>5</sup>
Dogwood, Flowering	Cornus spp.	Yes	Yes
Dogwood, Grey	Cornus racemosa	Yes	Injury <sup>5</sup>
Dogwood, Red Trig	Cornus spp.	Yes	Yes
Douglas Fir	Pseudotsuga menziesii	Yes	Yes <sup>4</sup>
Elm, American	Ulmus americana	Yes	Yes
Elm, Slippery	Ulmus rubra		Yes
Gooseberry		Yes	-
Hackberry	Ribes spp. Celtis occidentalis	Yes	Injury <sup>5</sup>
Hawthorn		Yes	Yes
luniper, Chinese	Crataegus spp.	Yes	Injury <sup>5</sup>
	Juniperus chinensis	Yes	Yes
luniper, Western Lilac	Juniperus osteosperma	Yes	Yes
	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
Dak, Black	Quercus velutina	Yes	NR
Dak, Live	Quercus virginiana	Yes	Yes
Dak, Southern Red	Quercus falcata	Yes	NR
Dak, 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
ine, Lodgepole	Pinus contorta	Yes	Injury <sup>4</sup>
vine, White <sup>4</sup>	Pinus strobus	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
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## Brush and Tree Species Tolerance to PLATEAU herbicide at 12 oz per Acre $^{1}$

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Rose, Multiflora	Rosa múltiflora	Yes <sup>5</sup>	No
Sage, Big	Artemisia tridentata	Yes	Yes
Sage, Fringe	Artemisis frigida	Yes	Yes
Sage, Silver	Artemisia cana	Yes	Yes
Sagebrush, Big	Artemisia tridentata	Yes	Yes
Sagebrush, Fringed	Artemisia frigida	Yes	Yes
Saltcedar	Tamarix spp.	Yes	No
Serviceberry	Amelanchier alnifolia	Yes	NR
Snowberry, Western	Symphoricarpos occidentalis	Yes	Injury <sup>5</sup>
Sugarberry	Celtis laevigata	Yes	Yes
Sweetgum	Liquidambar styraciflua	Yes	Yes <sup>6</sup>
Sycamore	Plantanus occidentalis	Yes	No
Tree-of-Heaven	Ailanthus altissima	Yes	Yes
Walnut, American Black	Juglans nigra	Yes	.No
Willow	Salix spp.	Yes	Injury <sup>5</sup>

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

 $2 Y_{es} = T_{olerant}$ 

No = Not Tolerant, Severe injury or death

NR = Not Recommended due to insufficient tolerance data

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

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

<sup>5</sup>Possible defoliation and/or death. Some species may exhibit tip chlorosis and minor necrosis. If spray contacts foliage then defoliation and terminal death may occur.

<sup>6</sup>See supplemental label, "For Use In Sweetgum (Liquidambar styraciflua) Grown on Fiber Farms".

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#### WEEDS CONTROLLED

#### PLATEAU herbicide, 4 to 6 oz per acre

Common Name	Genus Species	PREI	POST 2	Annual/Biennial/Perennial <sup>3</sup>
BROADLEAVES	·· <u>·</u> ·································			<u> </u>
Bedstraw, Catchweed	Galium aparine	С	· 4	WA
Beggarweed, Florida	Desmodium tortuosum	С	2	SA
Buffalobur	Solanum rostratum		С	SA
Cocklebur, Common	Xanthium strumarium	S	6	SA
Lambsquarters, Common Morningglory	Chenopodium album	С	2	SA
Entireleaf	Ipomoea hederacea	S	3	SA
Ivyleaf	Ipomoea hederacea	S	3	SA
Tall	Ipomoea purpurea	S	3	SA
Mustard, Wild	Brassica kaber	C	C	WA
Pigweed	Amaranthus sp.	С	6	SA
Queen Anne's Lace	Daucus carota		4	B
Radish, Wild	Raphanus raphanistrum	S	4	WA
Yellow Rocket	Barbarea vulgaris	Č	4	WA
Sicklepod	Senna obtusifolia	č	4	SA
Sida, Prickly	Sida spinosa	C	2	SA
Smartweed	ona spinosa	U	4	0/1
Ladysthumb	Polygonum persicaria	С	С	SA
Pennsylvania	Polygonum pensylvanicum	č	č	SA
Swamp	Polygonum coccineum	Č	č	SA
Starbur, Bristly	Acanthospermum hispidum	č	2	SA
Velvetleaf	Abutilon theophrasti	c	6	SA
GRASS WEEDS	nounon meoph usu	C	Ŭ	<b>U</b> A
	D	C	<b>`</b>	337.4
Brome, Downy Cheat	Bromus tectorum	C	2	WA
	Bromus secalinus	С	2	WA
Crabgrass		G		<u>.</u>
Large (Hairy)	Digitaria sanguinalis	C	4	SA
Smooth	Digitaria ischaemum	С	4	SA
Foxtail, Giant	Setaria faberi	С	6	SA
Green	Setaria viridis	С	4	SA
Yellow	Setaria glauca	С	4	SA
Goosegrass	Elusine indica	S	2	SA
Johnsongrass (Seedling)	Sorghum halepense	C	12	SA
Medusahead	Taeniatherum caput-medusae	С	2	WA
Panicum, Fall	Panicum dichotomiflorum	S	6	SA
Sandbur	Cenchrus sp.	S	С	A/P
Shattercane	Sorghum bicolor	С	12	SA
Signalgrass, Broadleaf	Brachiaria platyphylla	С	С	SA
Stiltgrass, Japanese	Microstegium vimineum	С	4	Α
Vaseygrass	Paspalum urvillei		8	, <b>P</b>
SEDGES				
Nutsedge				
Yellow	Cyperus esculentus	S	<b>4</b> S	Р
Purple	Cyperus rotundus	S	4S	P
Sedge	Juncus sp.	S	4S	A/P

<sup>1</sup>C = control, S = suppression in northern United States only
<sup>2</sup>Maximum plant height in inches at time of application
<sup>3</sup>Growth habit: A=Annual, SA=Summer Annual, WA=Winter Annual, B=Biennial P=Perennial

## PLATEAU herbicide, 8 to 12 oz per acre

Common Name	Genus Species	PREI	POST <sup>2</sup>	Annual/Biennial/Perennial <sup>3</sup>
BROADLEAVES:				
Anoda, Spurred	Anoda cristata	С	6	SA
Baby's Breath <sup>5</sup>	Gypsophila paniculata		С	P
Bedstraw, Catchweed	Galium aparine	С	С	WA
Bedstraw, Marsh	Galium spp.	С	Ċ	WA
Beggarweed, Florida	Desmodium tortuosum	С	6	SA
Bindweed, Field.	Convolvulus arvensis		C	Р
Buffalobur	Solanum rostratum		С	SA
Burclover	Medicago sp.		4	SA
Chickweed, Common	Stellaria media	С	6	SA
Cocklebur, Common	Xanthium strumarium	С	6	SA
Cornsalad, Common	Valerianella locusta		Č	WA
Crownbeard, Golden	Verbisina encelioides	С	2	SA
Dandelion	Taraxacum officinale		ĉ	P
Dock, Curly	Rumex crispus	С	6	B .
Fiddleneck	Amsinckia sp.		Č	SA
Flax, Spurge	Thymelaea passerina	C	C ·	A
Fleabane, Annual	Erigeron annuus		C ·	A
Geranium, Carolina	Geranium carolinianum		c	WA/B
Geranium, Cranesbill	Geranium carolinianum Geranium maculatum	 C	c	WA/B
Ground Cherry			.C	P P
Hemlock, Poison	Physalis heterophylla	 C		
Henbit	Conium maculatum		6	B
	Lamium amplexicaule	С	3	WA/B
Hoary Cress	Cardaria spp.		C	P
Houndstongue, Bristly	Cynoglossum officinale	С	C	B
Indigo, Hairy	Indigofera hirsuta	C	2	Р
Jimsonweed	Datura stramonium	С	6	SA
Knapweed, Russian <sup>6</sup>	Centaurea repens		C*	P
Knotweed, Prostrate	Polygonum aviculare	С	С	SA
Kochia*	Kochia scoparia	С	3	SA
Lambsquarters, Common	Chenopodium album	С	3	SA
Morningglory				
Cypressvine	Ipomoea quamoclit	С	6	SA
Entireleaf	Ipomoea hederacea	С	6	SA
Ivyleaf	Ipomoea hederacea	С	6	SA
Pitted	Ipomoea lacunosa	С	6	SA
Smallflower	Jacquemontia tamnifolia	С	6	SA
Tali	Ipomoea purpurea	С	6	SA
Mustard, Wild	Brassica kaber	С	С	WA
Nightshade, Silverleaf	Solanum elaeagnifolium 👘	С	6	Р
Onion, Wild	Allium canadense	С	С	Р -
Pepperweed, Perennial	Lepidium latifolium		С	Р
Pigweed <sup>4</sup>	Amaranthus sp.	С	6	SA
Plantain, Narrowleaf	Plantago lanceolata	C	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
Ragweed		-		
Common	Ambrosia artemisiifolia.	С	. 3	SA
Giant	Ambrosia trifida	S	6	SA
Western	Ambrosia psilostachya		Č	A/P

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Rocket, Yellow	Barbarea vulgaris	C	С	WA
Senna, Coffee	Cassia occidentalis	С	4	SA 1
Sicklepod	Senna obtusifolia	. C	6	SA
Sida, Prickly	Sida spinosa	С	6	SA
Smartweed	- 1			
Ladysthumb	Polygonum persicaria	С	С	SA
Pennsylvania	Polygonum pensylvanicum	- C	С	SA
Swamp	Polygonum coccineum	С	С	· · · SA
Spurge	1 of gonum cooomean		-	
Leafy	Euphorbia esula		FALL*	Р
Spotted	Euphorbia usula Euphorbia maculata	С	4	SA
Toothed	Euphorbia dentata	c	4	SA
	-		6	SA
Starbur, Bristly	Acanthospermum hispidum Helianthus annuus		18	SA.
Sunflower		C	C	WA .
Tansymustard	Descurainia pinnata		Ċ	
Teasel, Common	Dipsacus fullonum		C	В
Thistle		G	2	
Bull	Cirsium vulgare	S	C	WA/B
Canada	Cirsium arvense		S*	P
Musk	Carduus nutans	S	C	• B
Platt	Cirsium canescens	S	С	Р
Russian*	Salsola iberica	С	3	А
Toadflax, Dalmatian	Linaria dalmatica		C*	Р
Velvetleaf	Abutilon theophrasti	С	С	Α
Vervain, Blue	Verbena hastata		. <b>S</b>	WA
Vervain, prostrate	Verbena bracteata		С	P
Whitetop	Cardaria spp.		С	Р
Willowherb	Epilobium spp.		С	Р
Woodsorrel, Yellow	Oxalis stricta	С	С	· P
GRASS				
Bahiagrass	Paspalum nutatum	S	C*	Р
Barley, Little	Hordeum pusillum	Č	4	SA
Barley, Squirrel Tail	Hordeum jubatum		Ċ.	Р
Barnyardgrass	Echinochloa crus-galli	C	6	SA
Cheat	Bromus secalinus	c	C	WA
		c	6	SA
Crabgrass	Digitaria sp.		C	
Crowfootgrass	Dactyloctenium aegyptiium	C	. C*	SA P
Dallisgrass	Paspalum dilatatum	S		
Downy Brome	Bromus tectorum	C	С	WA
Dropseed, Tall	Sporobolus cryptandrus	S	C	A/P
Fescue, Tall	Festuca arundinacea	С	C*	Р
Foxtail		~	0	<u>.</u>
Giant	Setaria faberi	C .	C	SA
Green	Setaria viridis	С	С	SA
Knotroot	Setaria geniculatus	S	6	SA
Purple Robust	Setaria viridis	S	S	SA
Yellow	Setaria glauca	С	4	SA
Garlic, Wild	Allium vineale	С	С	Р
Goosegrass	Elusine indica	С	3S	SA
Guineagrass	Panicum maximum		С	Р
Itchgrass	Rottboellia cochinchinensis		C*	SA
Johnsongrass				
Seedling	Sorghum halepense	С	С	SA
Rhizome	Sorghum halepense		C*	Р
Medusahead	Taeniatherum caput-medusae	С	С	WA
	· ··· ·····			

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				2015
Panicum				
Fall	Panicum dichotomiflorum	С	С	SA
Texas	Panicum texanum	С	С	SA
Ryegrass, Annual (Italian)	Lolium multiflorum	С	С	WA
Ryegrass, Perennial	Lolium perenne		С	Р
Sandbur	Cenchrus sp.	S	С	A/P
Shattercane	Sorghum bicolor	С	С	SA
Signalgrass, Broadleaf	Brachiaria platyphylla	С	С	SA
Smutgrass	Sporobolus indicus		С	Р
Stiltgrass, Japanese	Microstegium vimineum	С	C	Α
Stinkgrass, Annual	Eragrostis cilianensis	С	2	SA
Torpedograss	Panicum repens		C ·	Р
Vaseygrass	Paspalum urvillei		С	Р
Wild Oats	Avena fatua		С	WA
SEDGES/RUSHES				
Nutsedge	•			
Yellow	Cyperus esculentus	С	С	P
Purple	Cyperus rotundus	С	C	Р
Rush	Juncus sp.	S	4	. A/P

 $^{1}C = \text{control}, S = \text{suppression}$ 

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

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

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

<sup>5</sup>For annual control. The addition of 1-2 pints of 2,4-D will aid in burndown.

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

\*See "SPECIAL WEED CONTROL" section

#### **BASF Corporation**

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