

## U.S. ENVIRONMENTAL PROTECTION AGENCY

Office of Pesticide Programs Registration Division (7505P) Ariel Rios Building 1200 Pennsylvania Ave., NW Washington, D.C. 20460

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\_\_ Registration
\_\_X Reregistration
(under FIFRA, as amended)

241-409

Date of Issuance:

2 0 JUN 2008

Term of Issuance:

Name of Pesticide Product:

Oasis Herbicide

Name and Address of Registrant (include ZIP Code):

BASF Corporation, Agricultural Products

26 Davis Drive

Research Triangle Park, NC 27709

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act. Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is reregistered in accordance with FIFRA sec. 4(g)(2)(C) provided that you:

- 1. Revise the glove statement in the PPE section to read "Chemical-resistant gloves, such as barrier laminate, butyl rubber, nitrile rubber or viton.".
- 2. The storage and disposal section must be revised to include statements which identify the container as refillable or non-refillable.
- 3. On page 3 add the following restrictions: "Do not make more than 2 applications per year. Minimum of 30 days between applications. (More restrictive language is acceptable) Applications to non-crop areas are not applicable to treatment of commercial timber or other plants being grown for sale or other commercial use, or for commercial seed production, or for research purposes."
- 4. On page 4 under General Information change "such as" to "including". Delete "and other similar areas".

Joanne J. Miller

Signature of Approving Official:

Joanne I. Miller Product Manager 23 Herbicide Branch

Registration Division (7505P)

Date:

2 0 JUN 2008

EPA Form 8570-6

page 2 EPA Reg. No. 241-409

- 5. To the label add a Non Agricultural Use Requirements Box and "The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to product agricultural plants on farms, forests, nurseries, or greenhouses. Do not allow people or pets to enter the treated area until sprays have dried."
- 6. To the label add "Use of this product in certain portions of California, Oregon, and Washington is subject to the January 22, 2004 Order for injunctive relief in <u>Washington Toxics Coalition</u>, et al. v. EPA, C0132C, (W.D. WA). For further information, please refer to EPA Web Site: <a href="http://www.epa.gov/espp.">http://www.epa.gov/espp.</a>"
- 7. When labels are printed the Signal Word CAUTION and Keep Out of Reach of Children must meet the type size requirements specified by 40 CFR 156.60(b)(1).
- 8. Move the statement "It is a violation of federal law to use this product in a manner inconsistent with its labeling" to directly below the heading "Directions for Use".

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

Submit one copy of the revised final printed label for the record.

A stamped copy of the label is enclosed for your records.

If you have any questions please call or email Erik Kraft at 703-308-9358 or Kraft. Erik@epa.gov.



## Oasis® herbicide

ACCEPTED with COMMENTS In EPA Letter Dated:

2 0 JUN 2008

Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No.

241-409

# For weed control, native grass release and turf growth suppression on roadsides and other noncrop areas

Active Ingredients:

imazapic: (±)-2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1*H*-imidazol-2-yl]5-methyl-3-pyridinecarboxylic acid 19.4%
2-ethylhexyl ester of 2,4-Dichlorophenoxyacetic acid\* 58.2%

Other Ingredients: 22.4%

Total: 100.0 %

\*Equivalent to 38.6% 2,4-Dichlorophenoxyacetic acid

(1 gallon contains 2.0 pounds of imazapic as the free acid and

4.0 pounds of 2,4-Dichlorophenoxyacetic acid as the free acid)

EPA Reg. No. 241-409

EPA Est. No.

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

## 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 1-800-832-HELP (4357).

See inside for complete First Aid, Precautionary Statements, Directions For Use, and Conditions of Sale and Warranty.

**Net Contents:** 

BASF Corporation, Agricultural Products 26 Davis Drive, Research Triangle Park, NC 27709

	FIRST AID
If swallowed	<ul> <li>Call a poison control center or doctor immediately for treatment advice.</li> <li>Have person sip a glass of water if able to swallow.</li> <li>DO NOT induce vomiting unless told to do so by a poison control center or doctor.</li> <li>DO NOT give anything by mouth to an unconscious person.</li> </ul>
If in eyes	<ul> <li>Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes.</li> <li>Remove contact lenses, if present, after first 5 minutes, then continue rinsing eyes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
If on skin or clothing	<ul> <li>Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
•	HOT LINE NUMBER
Have the product containe	r or label with you when calling a poison control center or doctor or going for treatment.

Have the product container or label with you when calling a poison control center or doctor or going for treatment You may also contact BASF Corporation for emergency medical treatment information: 1-800-832-HELP (4357).

## Precautionary Statements Hazards to Humans and Domestic Animals

**CAUTION.** Harmful if swallowed. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

## Personal Protective Equipment (PPE)

Some materials that are chemical resistant to this product are listed below. For more options, refer to **Category F** on an EPA chemical-resistance category-selection chart.

## All mixers, loaders, applicators, flaggers, and other handlers must wear:

- · Long-sleeved shirt and long pants
- Shoes plus socks
- Chemical-resistant gloves, such as barrier laminate, butyl rubber, nitrile rubber or viton, when
  applying with any handheld nozzle or equipment, mixing or loading, cleaning up spills or
  equipment, or otherwise exposed to the concentrate
- Chemical-resistant apron when mixing, loading, cleaning up spills or equipment, or otherwise exposed to the concentrate

See other engineering controls for additional requirements.

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

### **Engineering Controls for Aerial Applications**

Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(6)].

## **User Safety Recommendations**

### Users should:

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

#### **Environmental Hazards**

This product is toxic to fish and aquatic invertebrates. **DO NOT** apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.

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

This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. Application around a cistern or well may result in contamination of drinking water or groundwater.

IMPORTANT: DO NOT use on food or feed crops. For the maintenance of noncrop sites, Oasis® herbicide may be applied to nonirrigation 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**

## **General Precautions and Restrictions**

It is a violation of federal law to use this product in a manner inconsistent with its labeling. This labeling must be in the possession of the user at the time of pesticide application.

- **DO NOT** apply this product in a way that will contact any person or pet, either directly or through drift. Keep people and pets out of the area during application.
- DO NOT enter or allow people or pets to enter the treated area until sprays have dried.
- DO NOT use on areas to be grazed or cut for hay.
- **DO NOT** use on turf being grown for sale or other commercial use as sod, or for commercial seed production, or for research purposes.

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

The use of the maximum allowable use rate of **Oasis** (12 ozs/A) will contribute 0.375 pound acid equivalent of 2,4-D toward the maximum allowable 2,4-D use rate for that site.

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 **Oasis**. See **TOLERANCE OF TREES AND BRUSH TO Oasis herbicide** section of this label.

- DO NOT apply this product through any type of irrigation system.
- DO NOT exceed 12 ounces of Oasis per acre in one year.

## Storage and Disposal

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

Pesticide Storage: KEEP FROM FREEZING. DO NOT store below 200 F.

**Pesticide Disposal:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of federal law and may contaminate groundwater. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the hazardous waste representative at the nearest EPA Regional Office for guidance.

**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.

## **General Information**

Oasis® herbicide is an emulsifiable suspension concentrate to be mixed with water and an adjuvant and applied as a spray solution to provide weed control and/or turf height suppression on noncropland areas such as railroad, utility, pipeline and highway rights-of-way, railroad crossings, utility plant sites, petroleum tank farms, pumping installations, nonagricultural fence rows, storage areas, nonirrigation ditchbanks, Conservation Reserve Program (CRP) land (see USE OF OASIS ON FEDERAL CONSERVATION RESERVE PROGRAM (CRP) LAND section), prairie sites, airports, industrial turf, golf courses, recreational and nonresidential turf and other similar areas. Oasis may be used for the release of Bermudagrass, Bahiagrass, smooth bromegrass, wheatgrass, wildtype common Kentucky bluegrass, native prairiegrass, green needlegrass, Idaho fescue, needleandthread and other listed species. Oasis may also be used for wildlife habitat management (see WILDLIFE HABITAT MANAGEMENT section).

Oasis 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. Epinasty and chlorosis appear 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 Oasis activity. When adequate soil moisture is present, Oasis will provide residual control of susceptible germinating weeds. Activity on established weeds will depend on the weed species and rooting depth. Oasis is rainfast one hour after application.

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

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

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 diminish in 2 to 4 weeks.

Oasis should not be applied to newly seeded or sprigged grass stands nor to newly emerged seedlings.

## **Spray Drift Management**

A variety of factors, including weather conditions (e.g., wind direction, wind speed, temperature, relative humidity) and method of application (e.g., ground, aerial), can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product.

**Droplet Size** 

When applying **Oasis®** herbicide alone, apply only as a coarse or coarser spray (ASAE standard 572) or a volume mean diameter of 385 microns or greater for spinning atomizer nozzles.

When applying **Oasis** as a tank mixture with products that require a medium or more fine spray, apply only as a medium or coarser spray (ASAE standard 572) or a volume mean diameter of 300 microns or greater for spinning atomizer nozzles.

## Wind Speed

**DO NOT** apply at wind speeds greater than 15 mph. Only apply this product if the wind direction favors on-target deposition and there are not sensitive areas (including, but not limited to, residential areas, bodies of water, known habitat for nontarget species, nontarget crops) within 250 feet downwind. If applying a medium spray, leave one swath unsprayed at the downwind edge of the treated area.

## **Temperature Inversions**

If applying at wind speeds less than 3 mph, the applicator must determine if: a) conditions of temperature inversion exist, or b) stable atmospheric conditions exist at or below nozzle height.

**DO NOT** make applications into areas of temperature inversions or stable atmospheric conditions.

## Susceptible Plants

**DO NOT** apply under circumstances where spray drift may occur to food, forage, or other plantings that might be damaged or crops thereof rendered unfit for sale or consumption. Susceptible crops include, but are not limited to: cotton, okra, flowers, grape (in growing stage), fruit trees (foliage), soybeans (vegetative stage), ornamentals, sunflowers, tomatoes, beans, and other vegetables, or tobacco. Small amounts of spray drift that might not be visible may injure susceptible broadleaf plants.

## Other State and Local Requirements

Applicators must follow all state and local pesticide drift requirements regarding application of 2,4-D herbicides. Where states have more stringent regulations, they must be observed.

## Equipment

All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers or surrogates.

### **Aerial Applications**

The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter.

Release spray at the lowest height consistent with efficacy and flight safety. **DO NOT** release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety. This requirement does not apply to rights-of-way applications.

When applications are made with a crosswind, the swath will be displaced downwind. The applicator must compensate for this by adjusting the path of the aircraft upwind.

### **Ground Applications**

DO NOT apply with a nozzle height greater than 4 feet above the crop canopy.

#### Volatilization

The 2,4-D ester component of **Oasis®** herbicide may volatilize during conditions of low humidity and high temperatures. **DO NOT** apply during conditions of low humidity and high temperatures.

## **Mixing Instructions**

Shake product well before using. Fill the spray tank ½ to ¾ full with clean water. Use a calibrated measuring device to measure the required amount of **Oasis**. Add **Oasis** 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 **Oasis** with recommended herbicides, add wettable powders, dispersible granules, or other dry formulations first; then emulsifiable concentrates (ECs); next **Oasis**, 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. Rainfall within 1 hour after Oasis application may reduce weed control.

Use of the same spray equipment for applying other materials to 2,4-D-susceptible crops may result in injury if spray equipment is not thoroughly cleaned before reuse. Clean and rinse spray equipment using soap or detergent and water or suitable chemical cleaner, and rinse thoroughly before reuse for other spraying.

## **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.

Adjust the 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 oz to 1.9 ozs/gallon water)

Oasis plus an adjuvant (see Spray Adjuvants For Postemergence Applications section). A
methylated seed oil (MSO) at 1% volume/volume (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 Oasis 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 **Oasis® 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™ boom**, or **Thru-Valve™ 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 **Oasis** 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.

**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 **Oasis** require a spray adjuvant. See **SPECIAL WEED CONTROL** section. Because of variations in surfactant contents, certain surfactants containing high amounts of alcohols, paraffin-based petroleum oils, and other compounds that can increase phytotoxicity to desirable vegetation; it is recommended to choose a low phytotoxic surfactant.

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 gallons per acre (GPA) or less. At spray volumes above 50 GPA, their advantage appears negated. When using spray volumes greater than 30 GPA, 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 following. Research indicates these oils may aid in deposition and uptake of Oasis for hard-to-control perennials and for waxy leaf species or when plants are under moisture or temperature stress.

**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 hydrophilic to lipophilic balance (HLB) 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 preceding 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 runoff.

**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 **Oasis® 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**

Oasis may be tank mixed with Pendulum® herbicide for additional control of late season annual grasses and certain broadleaves. For additional weed control, Oasis may be tank mixed with Accord®, Arsenal® herbicide, Arsenal® PowerLine™ herbicide, Campaign®, diuron, Escort®, Finale®, Garlon® 3A, glyphosate, Milestone®, MSMA, Oust®, Roundup Pro®, Sahara® DG herbicide, Tordon®, Vanquish®, 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.

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

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

Bahiagrass: Oasis may be used at the rate of 2 ozs to 6 ozs per acre to suppress growth and seedhead development of Bahiagrass in unimproved areas. In North Carolina and South Carolina, it is recommended to use Oasis at the rate of 2 ozs per acre as higher rates may cause turf thinning. Depending on the rate of Oasis 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 because 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.

Oasis	Phytotoxicity	Length of Suppression
2 ozs	none to low	partial to season long
3 to 6 ozs	low to moderate	season long

For winter annual weed control, apply 8 ozs of **Oasis** when Bahiagrass is dormant, but when weeds are actively growing. This can be followed by 3 ozs to 4 ozs of **Oasis** 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 Oasis at 2 ozs to 4 ozs 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 Oasis for optimum performance. The addition of a surfactant to 4 ozs of Oasis 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 Oasis at 6 ozs to 10 ozs per acre for foliar and seedhead suppression of crested wheatgrass, and 6 ozs to 12 ozs per acre for foliar and seedhead suppression of intermediate wheatgrass. Other wheatgrass species may also be suppressed; however, apply Oasis to a limited area to determine effectiveness. Tank mixes with 2,4-D or products containing 2,4-D may decrease the

effectiveness of Oasis® herbicide. Tank mixes with Garlon®, Tordon®, Transline® 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

Oasis may be used on Bermudagrass turf such as roadsides, utility rights-of-way, railroad crossings, airports, nonirrigation drainage ditches and other such noncropland sites. There is a differential tolerance between Bermudagrass types (see following paragraphs). Depending on Bermudagrass type, timing of application, and Oasis rate, some foliar, stolon, and seedhead suppression may occur.

**IMPORTANT:** Apply **Oasis** 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 **Oasis**. **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 **Oasis** application as some internode suppression may prevent Bermudagrass from quickly recovering from mowing.

**Common Bermudagrass:** Common Bermudagrass is the most tolerant Bermudagrass to **Oasis**. Tank mixes with **Accord®**, glyphosate or **Roundup Pro®** 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: Oasis at 2 ozs to 12 ozs per acre will provide control of labeled weeds as well as foliar and seedhead 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 Oasis rate increases. Tank mixes with Accord, glyphosate, or Roundup Pro 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 **Oasis**. **Oasis** at rates of 2 ozs to 6 ozs per acre will provide some annual weed control and foliar and seedhead suppression. Rates above 6 ozs per acre may result in excessive injury or death of turf-type Bermudagrass.

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

**Winter Annual Weed Control:** Apply **Oasis** at the rate of 4 ozs to 12 ozs 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 **Oasis** at the rate of 4 ozs to 12 ozs 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 **Oasis** at the rate of 8 ozs to 12 ozs per acre postemergence after weeds have produced adequate foliage for herbicide uptake. For a particular weed, see **SPECIAL WEED CONTROL** section. The addition of **Accord**, MSMA, or **Roundup Pro herbicides** may increase control.

Bahiagrass Control: Apply Oasis at the rate of 8 to 12 ozs per acre postemergence. See SPECIAL WEED CONTROL section for recommendations. The addition of Accord® or Roundup Pro® herbicides at 12 ozs to 16 ozs per acre may increase control.

Oasis® herbicide may be applied at a rate of 4 ozs to 8 ozs per acre to established centipede grass for the control of annual broadleaf and grass weeds. Apply Oasis after centipede grass has reached full green-up. Spring applications made prior to full green-up may delay green-up. Always add a surfactant when applying Oasis. 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 Oasis 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

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

Smooth Bromegrass and Wildtype Common Kentucky Bluegrass: Use Oasis at 4 ozs to 8 ozs 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 ozs to 12 ozs per acre may be applied in the spring but may result in excessive growth suppression. For fall applications (see SPECAL WEED CONTROL section), Oasis may be used at 8 ozs to 12 ozs per acre for control of perennial weeds.

Wheatgrass: To control undesirable weeds in wheatgrasses, apply Oasis at 4 ozs to12 ozs per acre.

### WILDLIFE HABITAT MANAGEMENT

Oasis may be used to control exotic and other undesirable vegetation for purposes of wildlife habitat management and enhancement within terrestrial noncrop sites. Applications can be made to control undesirable vegetation prior to the establishment of desirable species and to release desirable species which may be present but suppressed by competitive vegetation. See specific sections of this label for weed control and desirable species tolerance information.

## NATIVE PRAIRIEGRASS RENOVATION AND RESTORATION

Oasis may be applied at the rate of 2 ozs to 12 ozs per acre to established stands of labeled species (see following for details) in such areas as roadsides, industrial sites, prairie restoration sites, drainage ditch banks, and other such noncropland areas. Oasis controls many annual and perennial grass and broadleaf weeds. Oasis 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 Oasis. To maximize weed control, always use a methylated seed oil when treating established grass stands. The addition of liquid fertilizer may decrease grass tolerance.

Oasis® herbicide may be applied at a rate of up to 4 ozs per acre to Federal Conservation Reserve Program (CRP) land for the release of certain grass species (see TOLERANCE OF ESTABLISHED GRASS SPECIES table).

Established Stands: For optimum results, apply Oasis® 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 seedhead 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, and use higher rates to broaden weed control spectrum and lengthen period of control.

Big Bluestem, Little Bluestem and Indiangrass: Oasis may be applied at the rate of 2 ozs to 12 ozs per acre 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*): Mature switchgrass planting can be reclaimed from certain perennial weeds, such as tall fescue, leafy spurge, Johnsongrass, etc., with *Oasis* at rates of 10 ozs to 12 ozs per acre. However, severe stunting and injury is imminent. **DO NOT** apply *Oasis* to switchgrass if such severe injury cannot be tolerated.

Sideoats and Blue Grama: Apply Oasis to monoculture stands of sideoats and blue grama only if some stand thinning or loss of stand can be tolerated. When using Oasis at 4 ozs per acre, it is not recommended to use in combination with a methylated seed oil adjuvant as stand thinning may occur. For weed control in established stands, use 4 ozs to 10 ozs per acre of Oasis. Up to 12 ozs per acre of Oasis 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:** For established stands, **Oasis** may be applied at the rate of 2 ozs to 8 ozs per acre for weed control. Higher rates may cause some turf discoloration and stunting. Applications made when air temperature exceeds 75° F may cause increased grass injury. **Oasis** may be applied to dormant buffalograss to control winter annual weeds. Turf-type buffalograss may express a different tolerance level to **Oasis** than wildtype buffalograss.

**Eastern Gamagrass:** Postemergence application to seedlings will cause mortality. On established Eastern gamagrass, apply **Oasis** at 2 ozs to 8 ozs per acre prior to gamagrass breaking dormancy. Some stunting will occur and increases as the **Oasis** 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 Oasis at the rate of 12 ozs per acre, plus methylated seed oil at 2 pints per acre in established stands, or to prepare a seedbed for big bluestem, little bluestem, and Indiangrass. The addition of nitrogen fertilizer (see Spray Adjuvants For Postemergence Applications section) to the preceding 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, Oasis may be tank mixed with Accord®, glyphosate, or Roundup Pro®. Fall applications of Oasis at 8 ozs to 12 ozs per acre, plus 24 ozs to 64 ozs per acre Accord or Roundup Pro will result in the best control of existing tall fescue and new germinating seedlings. With spring applications of Oasis at 6 ozs to 12 ozs per acre, plus Accord or Roundup Pro at 32 ozs to 64 ozs per acre, use higher rates for older, mature fescue stands. Burning the fescue stand, where permitted, the following spring just prior to green-up will aid in control. 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 Oasis and glyphosate products need foliage present for herbicide uptake and satisfactory control.

## TOLERANCE OF ESTABLISHED GRASS SPECIES<sup>1</sup>

Common Name	Genus species	Oasis <sup>®</sup> herbicide Rate (ozs/A) <sup>2</sup>	
Big bluestem	Andropogon gerardii	2 to12	
Little bluestem	Schizachyrium scoparium	2 to 12	
Indiangrass	Sorghastrum nutans	2 to 12	
Bushy bluestem	Andropogon glomeratus	2 to 12	
King Ranch bluestem	Bothriochloa ischaemum	2 to 12	
Silver beard bluestem	Bothriochloa saccharoides	2 to 12	
Broomsedge	Andropogon virginicus	2 to 12	
Fingergrass, Rhodes grass	Choris spp.	2 to12	
Needlegrass	Stipa spp.	2 to12	
Needleandthread	Stipa comata	2 to12	
Kearny (Plains) threeawn	Aristida longespica	2 to12	
Prairie threeawn	Aristida oligantha	2 to12	
Prairie sandreed	Calamovilfa longifolia	2 to12	
Smooth bromegrass	Bromus inermis	2 to 12	
Kentucky bluegrass	Poa pratensis	2 to 12	
Sandberg's bluegrass	Poa sandbergii	2 to12	
Bottlebrush squirreltail	Sitanian hystrix	2 to12	
Russian wildrye	Elymus junceus	2 to 12	
Bulbous bluegrass	Poa bulbosa	2 to 12	
Wheatgrasses	Agropyron spp.	2 to 12	
Idaho fescue	Festuca idahoensis	2 to12	
Sideoats grama	Bouteloua curtipendula	2 to 8	
Blue grama	Bouteloua gracilis	2 to 8	
Buffalograss	Buchloe dactylo <u>i</u> des	2 to 8 <sup>3</sup>	
Eastern gamagrass	Tripsacum dactylo <u>i</u> des	2 to 8	
Timothy	Phleum pratense	0	

See individual grass sections for application timing.
 High rates may result in stunting and growth suppression.
 8 ozs per acre applied when air temperature exceeds 75° F may cause increased grass injury.

## Tolerance of Established Grasses to 8 ozs to 12 ozs/A of Oasis® herbicide Applied in the Fall

Grass Species <sup>1</sup>	Tolerant	Suppressed <sup>2</sup>	Not Tolerant	Tolerance Unknown
Bermudagrass	X		-	
Bluegrass, Kentucky		. X	1	
Bluegrass, Sandberg's	X			
Bluestem, big	X			
Bluestem, bushy	X			
Bluestem, King Ranch	X			
Bluestem, little	X,			
Bluestem, silver beard	X			
Bromegrass, meadow		X	X	
Bromegrass, smooth		Х		
Broomsedge	X	,		
Buffalograss	Х	X		
Cheatgrass		•	X	
Creeping foxtail, Garrison				Χ
Downy brome			X	<del></del>
Fescue, Idaho	Х			<u></u>
Fescue, tall			X	
Gamagrass, Eastern		X		
Grama, blue	. x	X	<del>                                     </del>	· · · · · · · · · · · · · · · · · · ·
Grama, sideoats	X	X	<u> </u>	
Indiangrass	X		<u> </u>	
Medusahead		····	X	
Needleandthread	X			<del></del>
Needlegrass, green	X			
Orchardgrass		X		
Prairie cordgrass		X		
Prairie dropseed				Х
Praire sandreed	X			<del></del>
Praire threeawn	X			
Quackgrass		Χ		<del></del>
Redtop		Χ	X	
Reed canarygrass		X	X	
Rhodes grass/fingergrass	X			
Rye, annual or Italian			X	
Rye, perennial		X	X	
Squirreltail, bottlebrush	X			
Switchgrass		X	X	
Timothy			$\frac{\hat{x}}{x}$	
Wheatgrass, bluebunch	Х	X		
Wheatgrass, crested	x	X		
Wheatgrass, intermediate	X	X		
Wheatgrass, pubescent	X	X		
Wheatgrass, Siberian	X			
Wheatgrass, slender	X	X		
Wheatgrass, stream bank	X	X		<del></del>
Wheatgrass, Western	$\frac{\hat{x}}{x}$	X	<del>  </del>	
Wild ryegrass, Canada		X	<u> </u>	<u> </u>
	X			
Wild ryegrass, Russian Wild ryegrass, Virginia		X		

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

## Perennial Wildflower and Legume Tolerance to Oasis® herbicide (maximum rate¹, ozs/A) in Mixed Grass/Forb Stands

Common Name	Genus Species	PRE
Flax, blue	Linum perenne	0
Indian blanket	Gaillardia pulchella	0
Blanketflower	Gaillardia aristata	0
Chicory	Cichorium intybus	4
Daisy, shasta	Chrysanthemum maximum	4
Prairieclover, purple	Dalea purpurea	4
Coneflower, upright prairie	Ratibida columnifera	6
Mexican hat	Ratibida columnifera	6
Poorjoe	Diodia teres	8
Lupine	Lupinu perennis	8
Coneflower, purple	Echinacea purpurea	8
Daisy, ox-eye <sup>3</sup>	Chrysanthemum leucanthermum	8
Leadplant	Amorpha canescens	8
Lespedeza, bicolor	Lespedeza	8
Milkweed, common	Asclepias syriaca	8
Pea, prairie scurf	Psoralea esculenta	. 8
Yarrow, gold <sup>3</sup>	Achillea filipendulina	8
Blackeyed Susan	Rudbeckia hirta	8
Johnny jump-ups	Viola cornuta	8
Sweetclover	Melilotus sp.	12
Alfalfa	Medicago sativa	12
Bundleflower, Illinois	Desmanthus illinoensis	12
Lespedeza, sericea	Lespedeza cuneata	12
Partridgepea	Cassia fasciculata	12
Sensitive vine	Mimosa strigillosa	12
Vetch, crown	Coronilla varia	12
Violet, wild	Viola spp.	12

<sup>&</sup>lt;sup>1</sup> Height suppression or stand reduction may occur at maximum use rate.

#### SPECIAL WEED CONTROL

ALWAYS ADD AN ADJUVANT to Oasis (see Spray Adjuvants For Postemergence Applications section). Research has shown methylated seed oil (MSO) surfactants provide Oasis 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 following listed weeds, it is recommended to use an MSO for best results. The use of nonionic surfactants or silicone-based surfactants may result in less than acceptable control.

**Johnsongrass and Itchgrass:** For best results, apply **Oasis** at the rate of 8 ozs to 12 ozs per acre after Johnsongrass or itchgrass has reached 18 inches to 24 inches in height at the whorl. The addition of **Accord®** or **Roundup Pro®** at the rate of 8 ozs to 16 ozs per acre may improve control after culm elongation or in dense stands. Use higher herbicide rates as density increases. Larger grass than specified in preceding list can be controlled.

**Dallisgrass, Bahiagrass, Vaseygrass,** *Paspalum* **spp., Smutgrass**: For dallisgrass, Bahiagrass and smutgrass control, apply **Oasis** at the rate of 10 ozs to 12 ozs per acre postemergence after grass has reached 100% green-up. For vaseygrass, apply **Oasis** at the rate of 4 ozs to 6 ozs per acre postemergence after grass has reached 100% green-up and is 3 inches to 8 inches in height. The addition of **Accord®** or **Roundup Pro®** at the rate of 12 ozs to 16 ozs 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 Oasis® herbicide at 8 ozs to 12 ozs per acre in late summer or fall (late August through mid-October). Consecutive year applications will optimize long-term control. Oasis at 12 ozs per acre applied spring or fall, or 4 ozs per acre in the spring following an 8 ozs per acre 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 has resulted in little or no control of leafy spurge. Approximate dates for fall timing in North Dakota and South Dakota is late August through September; for Nebraska and Iowa, it 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 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, Oasis can still be applied.

Canada Thistle: Spring applications of 12 ozs Oasis plus 2 pints of methylated seed oil per acre applied postemergence to Canada thistle will provide control and/or suppression of aboveground biomass. For best results, apply when thistle is in the rosette to early bolt stage. Applications made at flowering will provide knockdown of existing foliage but may result in root sucker sprouting.

**Tall Fescue Control:** Tall fescue can be controlled by using **Oasis** at the rate of 12 ozs, 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 preceding 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 **Oasis** at 8 ozs to 12 ozs per acre plus **Accord** or **Roundup Pro** at 24 ozs to 64 ozs per acre will result in best control of existing tall fescue and new germinating seedlings. With spring applications of **Oasis** at 6 ozs to 12 ozs per acre, plus **Accord** or **Roundup Pro** at 32 ozs to 64 ozs per acre, use higher rates for older, mature fescue stands and lower **Oasis** rates when planting forbs. When using 8 ozs per acre of **Oasis** in the fall with **Accord** or **Roundup Pro**, it is recommended to apply 4 ozs per acre **Oasis** 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 **Oasis** and **Roundup** products need foliage present for herbicide uptake and satisfactory control.

Russian Knapweed: Apply 12 ozs per acre of Plateau® herbicide, plus 1 quart per acre of methylated seed oil when Russian knapweed has begun fall senesence. Control may still be obtained with applications made after full senesence. Applications made prior to the initiation of senesence will result in reduced control.

**Dalmatian Toadflax:** Apply 12 ozs per acre of **Plateau**, 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**®) with the ALS/AHAS enzyme-inhibiting mode of action. If naturally occurring ALS/AHAS-resistant biotypes are present in an area, **Oasis® 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, **Oasis** at 12 ozs per acre may be tank mixed with **Pendulum**® **herbicide**, **Roundup Pro**®, **Escort**®, **Karmex**®, 2,4-D, diuron, **Endurance**® or other labeled products to provide total vegetation control. For other bareground areas, **Oasis** at 12 ozs per acre may be tank mixed with **Arsenal**® **herbicide**, **Krovar**®, **Oust**, **Sahara**® **DG herbicide**, **Tordon**®, **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: Oasis** 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% v/v (0.3 oz to 5.4 ozs per gallon) **Oasis** plus 1% v/v 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 **Oasis** application. Apply **Oasis** in sufficient water to ensure thorough and uniform wetting of the soil surface, including the shoulder area. Add **Oasis** at a rate of 12 ozs 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 **Oasis** will improve control. **Oasis** can be incorporated into the soil to a depth of 2 inches using a rototiller or disc. Rainfall or irrigation totaling 1 inch is also sufficient to incorporate **Oasis** into the soil surface. **DO NOT** allow treated soil to wash or move into untreated areas.

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

**Oasis** may be used on Federal Conservation Reserve Program (CRP) land at rates up to 4 ozs per acre per year (see minimum plant-back intervals below). See appropriate section of this label for specific instructions for the intended use. **DO NOT** use rates higher than 4 ozs per acre per year on CRP land.

MINIMUM PLANT-BACK INTERVALS (months after Oasis application)					
4	9	18	26	40	
Bahiagrass Rye Wheat	Field corn Snapbeans Southern peas Soybeans Tobacco	Barley Cotton* Grain sorghum Oats Sweet corn	All crops not otherwise listed	Canola Potatoes Red table beets Sugar beets	

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

Use of **Oasis** in accordance with label directions is expected to result in normal growth of plant-back 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.

## TOLERANCE OF TREES AND BRUSH TO Oasis® herbicide

DO NOT use Oasis® herbicide on nursery, orchard, ornamental plantings, new plantings or seedling trees. It is suggested that Oasis be tried on a limited basis to determine tolerance in your area. Oasis may be used at rates up to 12 ozs per acre for general weed control in and around established trees on roadsides, prairies and other noncropland areas used for wildlife cover, erosion control, wind breaks, etc. Tree and brush species known to have acceptable tolerance to Oasis when applied under the canopy are listed following. Tolerance is based upon trees with a minimum of 2-inch DBH. Some species may exhibit tip chlorosis and minor necrosis. Foliar contact may increase injury to include defoliation and terminal death. Under high temperatures, volatility of the 2,4-D in Oasis may cause injury (leaf crinkle) to tree foliage.

## Tolerant Brush and Tree Species to Oasis at 12 ozs per Acre When Applied as a Directed Application beneath the Canopy<sup>1</sup>

Common Name	Genus Species	Tolerance <sup>2</sup>
Apple (var. Winesap) <sup>3</sup>	Malus sylvestris	Yes
Ash, blue	Fraxinus quadrangulata	Yes
Ash, green	Fraxinus pennsylvanica	Yes
Azalea	Rhododendron spp.	No
Basswood	Tilia hetrophylla	. No
Boxelder	Acer negundo	Yes
Buckeye, Ohio	Aesculus glabra	Yes
Cedar-juniper, Western	Thuja plicata	Yes
Cherry, black³	Prunus serotina	No
Cherry, choke	Prunus virginiana	No
Cherry, sweet <sup>3</sup>	Prunus avium	Yes
Cottonwood	Populus deltoides	Yes
Cottonwood, narrow leaf	Populus spp.	Yes
Dogwood, flowering	Cornus spp.	Yes
Dogwood, grey	Cornus racemosa	Yes
Dogwood, red trig	Cornus spp.	Yes
Douglas fir	Pseudotsuga menziesii	Yes
Elm, American	Ulmus americana	Yes
Elm, slippery	Ulmus rubra	Yes
Gooseberry	Ribes spp.	Yes
Hackberry	Celtis occidentalis	Yes
Hawthorn	Crataegus spp.	Yes
Juniper, Chinese	Juniperus chinensis	Yes
Juniper, Western	Juniperus osteosperma	Yes
Linden, American	Tilia americana	No
Locust, black	Robinia pseudoacacia	Yes
Locust, honey	Gleditsia triacanthos	Yes
Maple, red	Acer rubrum	Yes
Maple, sugar	Acer saccharum	Yes
Mahogany, mountain	Cercocarpus spp.	· Yes
Mulberry, red	Morus rubra	Yes
Mulberry, white	Morus alba	Yes
Oak, black	Quercus velutina	Yes
Oak, live	Quercus virginiana	Yes
Oak, Southern red	Quercus falcata	Yes
Oak, white	Quercus alba	Yes
Osage orange	Maclura pomifera	Yes
Peach (var. Elberta) <sup>3</sup>	Prunus persica	Yes

Tolerant Brush and Tree Species to Oasis® herbicide at 12 ozs per Acre When Applied as a

## Directed Application beneath the Canopy<sup>1</sup> (continued)

Common Name	Genus Species	Tolerance <sup>2</sup>
Photinia, red tip	Photinia fraseri	Yes
Pine, lodgepole	Pinus contorta	Yes
Pine, white⁴	Pinus strobus	Yes
Pittosporum, Japanese	Pittosporum tobira	Yes
Poplar, yellow (tulip)	Liriodendron tulipfera	Yes
Privet, common	Ligustrum vulgare	Yes
Rabbitbrush species	Chrysothamnus spp.	Yes
Redbud	Cercis canadenis	Yes
Redcedar, Eastern	Juniperus virginiana	Yes
Rose, multiflora <sup>5</sup>	Rosa multiflora	Yes
Sage, big	Artemisia tridentata	Yes
Sage, silver	Artemisia cana	Yes
Sagebrush, big	Artemisia tridentata	Yes
Serviceberry	Amelanchier alnifolia	Yes
Snowberry, Western	Symphoricarpos occidentalis	Yes
Sugarberry	Celtis laevigata	Yes
Sweetgum	Liquidambar styraciflua	Yes
Sycamore	Plantanus occidentalis	Yes
Tree-of-Heaven	Ailanthus altissima	Yes
Walnut, American black	Juglans nigra	Yes

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

<sup>2</sup> Yes = Tolerant.

WEEDS CONTROLLED Oasis® herbicide 4 ozs to 6 ozs/A

No = Not tolerant, severe injury or death.

NR = Not recommended due to insufficient tolerance data.

Not for use on ornamental or fruit-bearing trees.

Applications made just before or during candling may cause candle injury or death.

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

Common Name	Genus Species	PRE <sup>1</sup>	POST <sup>2</sup>	Annual/Biennial/Perennial <sup>3</sup>
	- Condo Optoreo		1 1 001	, amada biotiman elemina
BROADLEAVES	Collum aposina		· · ·	2010
Bedstraw, catchweed	Galium aparine	C	4	WA
Beggarweed, Florida	Desmodium tortuosum	<del>-  </del>	2	SA
Buffalobur	Solanum rostratum	<del></del>	C	SA
Cocklebur, common	Xanthium strumarium	S	6	SA
Lambsquarters, common	Chenopodium album		2	SA
Morningglory	I	<del>-  </del>	<del>  -</del>	
entireleaf	Ipomoea hederacea	S	3	SA
ivyleaf	Ipomoea hederacea	S	3	SA
tall 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	В
Radish, wild	Raphanus raphanistrum	S	4	WA
Rocket, yellow	Barbarea vulgaris	С	4	WA
Sicklepod	Senna obtusifolia	·C	4	SA
Sida, prickly	Sida spinosa	C	2	SA
Smartweed	· · · · · · · · · · · · · · · · · · ·			
ladysthumb	Polygonum persicaria	С	C	SA
Pennsylvania	Polygonum pensylvanicum	С	С	SA
swamp	Polygonum coccineum	С	С	SA
Starbur, bristly	Acanthospermum hispidum	С	2	SA
Velvetleaf	Abutilon theophrasti	С	6	SA
GRASSES				
Brome, downy	Bromus tectorum	С	2	WA
Cheat	Bromus secalinus	C	2	WA
Crabgrass	,	-		
large (hairy)	Digitaria sanguinalis	С	4	SA
smooth	Digitaria ischaemum	c	4	SA
Foxtail	Digitaria iconacimani	<del></del>		<u> </u>
giant	Setaria faberi	С	6	SA
green	Setaria viridis	Č	4	SA
yellow	Setaria glauca	c	4	SA
Goosegrass	Elusine indica	S	2	SA
Johnsongrass (seedling)	Sorghum halepense	C	12	SA
Medusahead	Taeniatherum caput-medusae	C	2	WA
Panicum, fall	Panicum dichotomiflorum	S	6	SA
Sandbur	Cenchrus sp.	Š	Č	A/P
Shattercane	Sorghum bicolor	Y	12	SA
Signalgrass, broadleaf	Brachiaria platyphylla	ĉ	C	SA
Stiltgrass, Japanese	Microstegium vimineum	$\frac{3}{x}$	4	A
Vaseygrass	Paspalum urvillei	<del></del>	8	P
	r dopularii di vindi			Ε
SEDGES				
Nutsedge				
yellow	Cyperus esculentus	S	4S	P
purple	Cyperus rotundus	S	48	Р
Sedge	Juncus sp.	S	4S	A/P

<sup>&</sup>lt;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.

## WEEDS CONTROLLED Oasis® herbicide 8 ozs to 12 ozs/A

Common Name	Genus Species	PRE <sup>1</sup>	POST <sup>2</sup>	Annual/Biennial/Perennial <sup>3</sup>
BROADLEAVES	•		•	
Anoda, spurred	Anoda cristata	С	6	SA
Baby's breath <sup>3</sup>	Gypsophila paniculata		С	Р
Bedstraw, catchweed	Galium aparine	С	С	WA
Bedstraw, marsh	Galium spp.	С	С	WA
Beggarweed, Florida	Desmodium tortuosum	С	6	SA
Bindweed, field	Convolvulus arvensis		С	P
Buffalobur	Solanum rostratum		С	SA
Burclover	Medicago sp.		4	SA
Chickweed, common	Stellaria media.	С	6	SA
Cocklebur, common	Xanthium strumarium	C	. 6	SA
Cornsalad, common	Valerianella locusta		c	WA
Crownbeard, golden	Verbisina encelioides	С	2	SA
Dandelion	Taraxacum officinale		Ċ	P
Dock, curly	Rumex crispus	С	6	В
Fiddleneck	. Amsinckia sp.		C	SA
Flax, spurge	Thymelaea passerina	· C	C	A
Fleabane, annual	Erigeron annuus		C C	A
Geranium, Carolina	Geranium carolinianum		č	WA/B
Geranium, cranesbill	Geranium maculatum	C	č	WA/B
Ground cherry		<u></u>	c	P
	Physalis heterophylla Conium maculatum	C	6	В
Hemlock, poison Henbit	Lamium amplexicaule		3	
	<del></del>	C	C .	WA/B *
Hoary cress	Cardaria spp.	C		P
Houndstongue, bristly	Cynoglossum officinale		С	В
Indigo, hairy	Indigofera hirsuta	С	2	Р
Jimsonweed	Datura stramonium	С	6	SA
Knapweed, Russian <sup>6</sup>	Centaurea repens		C	P P
Knotweed, prostrate	Polygonum aviculare	С	C	SA
Kochia*	Kochia scoparia	· C	3	SA
Lambsquarters, common	Chenopodium album	C	. 3	SA
Morningglory				.:
cypressvine	Ipomoea quamoclit	C ·	6	SA
entireleaf	Ipomoea hederacea	С	6	SA
ivyleaf	Ipomoea hederacea	0	6	SA
pitted	Ipomoea lacunosa	С	6	SA
smallflower	Jacquemontia tamnifolia	С	6	SA
tall	Ipomoea purpurea	С	6	SA
Mustard, wild	Brassica kaber	С	C	WA
Nightshade, silverleaf	Solanum elaeagnifolium	С .	6	Р
Onion, wild	Allium canadense	С	С	Р
Pepperweed, perennial	Lepidium latifolium		C	Р
Pigweed <sup>4</sup>	Amaranthus sp.	С	6 ,	SA
Plantain, narrowleaf	Plantago lanceolata	С	C ·	В
Poinsettia, wild	Euphorbia heterophylla	C .	6	SA
Puncture vine			С	SA
Purslane, common	Portulaca oleracea	С	4	SA
Pusley, Florida	Richardia scapra	Ċ _	4	SA
Queen Anne's lace	Daucus carota	Č	Ċ	В
Ragweed	2 2000 50,50			
common	Ambrosia artemisiifolia	С	3	SA
giant	Ambrosia trifida	s	6	SA
Western	Ambrosia psilostachya		C	A/P
Rocket, yellow	Barbarea vulgaris	С	Ċ	WA
Senna, coffee	Cassia occidentalis	С	4	SA

## WEEDS CONTROLLED Oasis® herbicide 8 ozs to 12 ozs/A (continued)

Common Name	Genus Species	PRE <sup>1</sup>	POST <sup>2</sup>	Annual/Biennial/Perennial <sup>3</sup>
BROADLEAVES (continue	ed)			
Sicklepod	Senna obtusifolia	С	6	SA
Sida, prickly	Sida spinosa	С	6	SA
Smartweed				
ladysthumb	Polygonum persicaria	С	С	SA
Pennsylvania	Polygonum pensylvanicum	С	C	SA
swamp	Polygonum coccineum	С	C	SA
Spurge				
leafy	Euphorbia esula		FALL*	Р
spotted	Euphorbia maculata	С	4	SA
toothed	Euphorbia dentata	C	4	SA
Starbur, bristly	Acanthospermum hispidum		6	SA
Starthistle, yellow	Centaurea solstitialis		C	Α
Sunflower	Helianthus annuus		18	SA
Tansymustard	Descurainia pinnata	С	C	WA
Teasel, common	Dipsacus fullonum	<del></del>	Ċ	В
Thistle			<del>                                     </del>	
bull	Cirsium vulgare	S	С	WA/B
Canada	Cirsium arvense		S*	P
musk	Carduus nutans	S	C	В
platt	Cirsium canescens	S	C	P
Russian*	Salsola iberica	C	3	A
Toadflax, Dalmatian	Linaria dalmatica		C*	P
Velvetleaf	Abutilon theophrasti	C	C	A
Vervain, blue	Verbena hastata	<del> </del>	s	WA
Vervain, prostrate	Verbena hastata  Verbena bracteata	<del> </del>	<del>  c</del>	P
Whitetop	Cardaria spp.		C	P
Willowherb	Epilobium spp.	<del></del>	C	P
Woodsorrel, yellow	Oxalis stricta	<del></del>	<del>C</del>	P
	Oxalis stricts		<del></del>	
GRASSES			<del></del> -	
Bahiagrass	Paspalum nutatum	S	C*	P
Barley, little	Hordeum pusillum	С	4	SA
Barley, squirrel tail	Hordeum jubatum		C	Р
Barnyardgrass	Echinochloa crus-galli		6	SA ·
Cheat	Bromus secalinus	С	4	WA
Crabgrass	Digitaria sp.	С	6	SA
Crowfootgrass	Dactyloctenium aegyptiium	С	C	SA
Dallisgrass	Paspalum dilatatum	S	C*	P
Downy brome	Bromus tectorum	C	С	WA
Dropseed, tall	Sporobolus cryptandrus	S	C	A/P
Fescue, tall	Festuca arundinacea	С	C*	P
Foxtail				
giant	Setaria faberi	С	С	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		1		
	Sorahum halananaa	+	1	Ç^
seedling				
seedling rhizome	Sorghum halepense Sorghum halepense	C	C*	SA P

## WEEDS CONTROLLED Oasis® herbicide 8 ozs to 12 ozs/A (continued)

Common Name	Genus Species	PRE <sup>1</sup>	POST <sup>2</sup>	Annual/Biennial/Perennial <sup>3</sup>
GRASSES (continued)		,		
Medusahead	Taeniatherum caput-medusae	С	2	WA
Panicum				
fall	Panicum dichotomiflorum	C	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	CS	A/P
Shattercane	Sorghum bicolor	С	С	SA
Signalgrass, broadleaf	Brachiaria platyphylla	C	C .	SA
Smutgrass	Sporobolus indicus		С	P
Stiltgrass, Japanese	Microstegium vimineum	С	С	Α
Stinkgrass, annual	Eragrostis cilianensis	С	2	SA
Torpedograss	Panicum repens		C	P
Vaseygrass	Paspalum urvillei		C	P
Wild oats	Avena fatua		C	WA
SEDGES/RUSHES				
Nutsedge				
yellow	Cyperus esculentus	C	С	Р
purple	Cyperus rotundus	C	С	P
Rush	Juncus sp.	S	4	A/P

<sup>&</sup>lt;sup>1</sup>C = control, S = 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 to 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.

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