

# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, D.C. 20460

OFFICE OF PREVENTION, PESTICIDES AND TOXIC SUBSTANCES

NOV 1 3 2008

Dr. Jeffrey Birk BASF Corporation 26 Davis Drive Research Triangle Park, NC 27709

Subject:

Raptor Herbicide

EPA Registration No. 241-379

Amended labeling submitted on September 15, 2008

Dear Dr. Birk:

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is acceptable.

This amended labeling supersedes all previously accepted labeling with the exception of supplemental labeling. A stamped copy of labeling is enclosed for your records.

Submit one copy of final printed labeling before you release the product for shipment. Please include an electronic label in pdf text format of the final printed labeling with your submission. If you have any questions about this letter, you may contact Tobi Colvin-Snyder at 703-305-7801 or Colvin-Snyder.Tobi@epa.gov.

Sincerely,

Jim Tompkins

Product Manager 25

Herbicide Branch

Registration Division (7505P)

Tobi Colin Sugles for



The Chemical Company

# ACCEPTED

NOV 13 2008

Under the Federal Insecticide, Pungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 21-379



FOR USE ON ALFALFA, BEANS (DRY), CHICORY, CLEARFIELD® CANOLA, CLEARFIELD LENTIL, CLEARFIELD SUNFLOWER, CLEARFIELD WHEAT, CLOVER GROWN FOR SEED, LIMA BEANS (SUCCULENT), PEAS (DRY), PEAS (ENGLISH), SNAP BEANS AND SOYBEANS

Apply Only on CLEARFIELD Canola, Lentil, Sunflower, and Wheat Varieties.

#### **Active Ingredient:**

U.S. Patent No. 5,334,576 EPA Reg. No. 241-379

EPA Est. No.

# KEEP OUT OF REACH OF CHILDREN CAUTION/PRECAUCIÓN

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

In case of an emergency endangering life or property involving this product, call 1-800-832-HELP (4357).

See inside for complete First Aid, Precautionary Statements, Directions For Use, Conditions of Sale and Warranty, and state-specific crop and/or use site restrictions.

### **Net Contents:**

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

	FIRST AID
If on skin or clothing	<ul> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15 to 20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
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 inhaled	<ul> <li>Move person to fresh air.</li> <li>If person is not breathing, call 911 or an ambulance; then give artificial respiration, preferably mouth-to-mouth if possible.</li> <li>Call a poison control center or doctor for further treatment advice.</li> </ul>
	HOT LINE NUMBER

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

# **Precautionary Statements**

# HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION

Harmful if absorbed through skin or inhaled. Avoid breathing spray mist. Avoid contact with skin, eyes or clothing.

### 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-resistance category-selection chart.

### **Applicators and Other Handlers Must Wear:**

- Long-sleeved 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, drinking, 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**

This pesticide may be hazardous to plants outside the treated area. **DO NOT** apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Off-site movement from spray drift, volatilization, and runoff may be hazardous to neighboring crops and vegetative habitat utilized for food and cover by wildlife and aquatic organisms. **DO NOT** contaminate water when disposing of equipment washwaters.

#### IN CASE OF EMERGENCY

In case of large-scale spillage regarding this product call: CHEMTREC 1-800-424-9300
BASF Corporation 1-800-832-HELP (4357)

- In case of medical emergency regarding this product, call:
   Your local doctor for immediate treatment
- Your local poison control center (hospital)
- BASF Corporation 1-800-832-HELP (4357)

### **Directions For Use**

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 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.

# **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 **4 hours**.

**Exception:** If the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Chemical-resistant gloves, such as butyl rubber
   ≥ 14 mils, or natural rubber ≥ 14 mils, or neoprene rubber ≥ 14 mils, or nitrile rubber ≥ 14 mils
- · Shoes plus socks

Ensure spray drift to nontarget species does not occur.

**DO NOT** apply **Raptor®** herbicide in any manner not specifically described in this label.

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

When applied by either ground or air, **Raptor** spray drift or other indirect contact may injure sensitive crops, including non-imidazolinone tolerant wheat, lentil, sunflower or canola, sugar beets, and leafy vegetables.

Spray equipment used for **Raptor** application must be drained and thoroughly cleaned with water before being used to apply other products.

Observe all cautions and limitations on this label and on the labels of products used in combination with **Raptor**. **DO NOT** use **Raptor** other than in accordance with the instructions set forth on this label. Keep containers closed to avoid spills and contamination.

#### STORAGE AND DISPOSAL

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

# **Pesticide Storage**

- KEEP FROM FREEZING.
- DO NOT store below 32°F.

**Pesticide Disposal.** Wastes resulting from the use of this product may be disposed of on-site or at an approved waste disposal facility.

#### **CONTAINER DISPOSAL**

Nonrefillable Container. DO NOT reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying; then offer for recycling, if available, or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Triple rinse containers small enough to shake (capacity ≤ 5 gallons) as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

Triple rinse containers too large to shake (capacity > 5 gallons) as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank, or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

### **General Information**

The mode of weed-killing activity involves uptake of **Raptor** by foliage and/or weed roots and rapid translocation to the growing points. After **Raptor** application, susceptible weeds may show yellowing, and weed growth will stop. Susceptible weeds stop growing and either die or are not competitive with the crop. Adequate soil moisture is important for optimum **Raptor** activity. When adequate soil moisture is present, **Raptor** will provide residual

79

activity of susceptible germinating weeds. Activity on established weeds will depend on the weed species and the location of its root system in the soil. A timely cultivation after a **Raptor®** herbicide application may improve general weed control.

When organophosphate (such as Lorsban® insecticide) or carbamate insecticides (such as Furadan® insecticide) are tank mixed with Raptor, temporary injury may result to the treated crop. Separate organophosphate and Raptor application by at least 7 days to reduce potential for injury.

**DO NOT** tank mix organophosphate or carbamate insecticides with **Raptor** on **CLEARFIELD®** crops unless otherwise specified in writing by BASF.

Use of **Raptor** is expected to result in normal growth of rotational 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, rotational crop injury is always possible.

Occasionally, internode shortening and/or temporary yellowing of crop plants may occur following **Raptor** applications. These effects can be more pronounced if crops are growing under stressful environmental or hot and humid conditions. These effects occur infrequently and are temporary. Normal growth and appearance should resume within 1 to 2 weeks.

Replanting: If replanting is necessary in a field previously treated with Raptor, the field may be replanted to beans (dry), CLEARFIELD canola, CLEARFIELD corn, CLEARFIELD lentil, CLEARFIELD sunflowers, CLEARFIELD wheat, peas (English), peas (dry), lima beans (succulent), snap beans or soybeans. Rework the soil no deeper than 2 inches.

DO NOT apply a second treatment of Raptor.

**DO NOT** apply **Pursuit® herbicide**, **Raptor**, or **Pursuit® Plus EC herbicide** if soybeans are replanted.

Naturally occurring biotypes¹ of some of the weeds listed on this label may not be effectively controlled by this and/or other products with either the ALS/AHAS enzyme-inhibiting mode of action. Other herbicides with the ALS/AHAS enzyme-inhibiting mode of action include the sulfonylureas (e.g. Finesse® herbicide, etc.), imidazolinones (e.g. Pursuit or Scepter® herbicide), the sulfonamides (e.g. Hornet® herbicide, etc.) and the pyrimidyl benzoates (e.g. Staple® herbicide, etc.). If naturally occurring ALS/AHAS-resistant biotypes are present in a field, Raptor and/or any other ALS/AHAS enzyme-inhibiting mode of action herbicide should be tank mixed or applied sequentially with an appropriate registered herbicide having a different mode of action to ensure control.

'A weed biotype is a naturally occurring plant within a given species that has a slightly different, but distinct, genetic makeup from other plants.

**Raptor** is very active against many broadleaf and grass weed species. For long-term weed management, use 2

herbicides with different modes of action to reduce the potential for weed resistance. Crop (and herbicide) rotation is also effective in managing weed resistance where herbicides of different modes of action are used. Tillage, where practical (such as in fallow production or prior to planting), is also effective in controlling weeds to minimize resistance development. Additionally, a burndown herbicide during fallow or prior to planting is also effective in reducing weed resistance development.

Raptor has no preharvest interval (PHI) for any crop.

# Mixing Instructions

POSTEMERGENCE APPLICATIONS OF **Raptor** REQUIRE THE ADDITION OF AN ADJUVANT **AND** A NITROGEN FERTILIZER SOLUTION.

#### **ADJUVANTS**

When an adjuvant (or a specific adjuvant product, such as a drift control agent) is to be used with this product, the use of a Chemical Producers and Distributors Association (CPDA) certified adjuvant is recommended.

Crop Oil Concentrate (COC), Methylated Seed Oil (MSO), or High Surfactant Oil Concentrate (HSOC).

A petroleum or vegetable seed-based crop oil concentrate may be used. A methylated seed oil is recommended when weeds are under moisture or temperature stress. Use methylated seed oils or crop oil concentrate at a rate of 1 to 2 gallons/100 gallons of spray solution.

Use HSOC at a rate of 0.5 gallon/100 gallons of spray solution.

### OR

**Surfactants.** Use a nonionic surfactant containing at least 80% active ingredient. Apply the surfactant at the rate of 1 quart/100 gallons of spray solution (0.25% volume/volume [v/v]). An organosilicone surfactant may be used in place of a nonionic surfactant.

#### AND

**Nitrogen Fertilizer.** Recommended nitrogen-based fertilizers include liquid fertilizers [such as liquid ammonium sulfate (AMS), 28% N, 32% N or 10-34-0] at the rate of 2.5 gallons/100 gallons of spray solution. Instead of a liquid fertilizer, spray-grade ammonium sulfate may be used at the rate of 12 to 15 pounds/100 gallons of spray solution.

For CLEARFIELD spring wheat and CLEARFIELD winter wheat, AMS/nitrogen substitutes are not recommended in place of ammonium sulfate, 28% N, 32% N, or 10-34-0 unless recommended by BASF.

When targeting feral rye or weeds under moisture or temperature stress, using higher nitrogen fertilizer rates [Urea Ammonium Nitrate (UAN) at 5% v/v or 20 lbs AMS/100 gallons] may improve weed control. Additional crop response may be observed when higher fertilizer rates are used.

Crop oil concentrate or methylated seed oil is not recommended for use with Raptor® herbicide on CLEARFIELD® lentil and CLEARFIELD sunflower.

DO NOT use crop oil concentrate or methylated seed oil with Raptor on CLEARFIELD wheat varieties that DO NOT possess 2-gene tolerance.

Fill the spray tank 1/2 to 3/4 full with clean water. Use a calibrated measuring device to measure the required amount of **Raptor**. Add **Raptor** to the spray tank while agitating. Add adjuvants and fill the remainder of the tank with water.

**NOTE:** Nitrogen fertilizer is not required when applied in use areas south of Interstate Highway 40, except in the states of Arizona, California, New Mexico, Oklahoma, and Texas.

**NOTE: DO NOT** apply **Raptor** in liquid fertilizer as the carrier (except to **CLEARFIELD** spring wheat and **CLEARFIELD** winter wheat).

### LIQUID FERTILIZER AS A CARRIER

**DO NOT** apply **Raptor** with liquid fertilizer as a carrier unless specifically allowed for a given crop. Refer to specific crop **DIRECTIONS FOR USE** sections for crop-specific adjuvant recommendations and/or restrictions.

# NOTE: ADDITIONAL MIXING INSTRUCTIONS FOR DRY BEANS AND DRY PEAS [other than English Peas, Lima Beans (Succulent) and Snap Beans].

Raptor applications may be made to dry beans and dry peas either with or without the addition of a fertilizer. The addition of nitrogen-based fertilizer, such as ammonium sulfate or liquid fertilizers (such as 28-0-0), may improve weed control but also increases the likelihood of dry beans and dry peas response. When nitrogen is added to the mixture, add Basagran® herbicide (at a rate of 6 ozs to 16 ozs/A) or Rezult® herbicide (at a rate of 12 ozs to 24 ozs/A) to minimize crop response. For applications to dry peas, always add Basagran or Rezult to the spray mixture. For enhanced grass activity, add a crop oil or methylated seed oil instead of surfactant. Always add Basagran or Rezult at the rates indicated above when crop oils and/or fertilizers are used in the spray mixture. Basagran applications at rates higher than 16 ozs/A may reduce grass control.

See application information within ENGLISH PEAS, LIMA BEANS (Succulent) and SNAP BEANS DIRECTIONS FOR USE for additional mixing instructions.

# TANK MIX COMBINATIONS WITH OTHER HERBICIDES

If other herbicides or other spray tank components are tank mixed with **Raptor**, while agitating, add components in the following order and thoroughly mix after adding each component.

- 1. Fill spray tank 1/2 to 3/4 full with clean water.
- 2. Add soluble-packet products and thoroughly mix.
- Add WP (wettable powder), DG (dispersible granule), DF (dry flowable) or liquid flowable formulations not in soluble packets.

- 4. Add Raptor and thoroughly mix.
- 5. Add other aqueous solution products.
- 6. Add EC (emulsifiable concentrate) products.
- 7. Add surfactant or crop oil to the spray tank.
- 8. Add nitrogen fertilizer solution.
- 9. While agitating, fill the remainder of the tank with water.

To avoid injury to sensitive crops, spray equipment used for **Raptor** applications must be drained and thoroughly cleaned with water before being used to apply other products.

When **Raptor** is used in combination with another herbicide, refer to the respective label for rates, methods of application, proper timing, weeds controlled, restrictions and precautions. Always use in accordance with the more restrictive label restrictions and precautions. No label dosages may be exceeded. **Raptor** cannot be mixed with any product containing a label prohibiting such mixtures.

# **Spraying Instructions**

**DO NOT** apply when wind conditions may result in drift, when temperature inversion conditions exist, or when spray may be carried to sensitive crops. Sensitive crops include, but are not limited to, leafy vegetables and sugar beets.

### **GROUND APPLICATION**

Uniformly apply with properly calibrated ground equipment in 10 or more gallons of water per acre. A spray pressure of 20 to 40 psi is recommended.

To ensure thorough coverage, use a minimum of 20 gallons of water per acre when applying **Raptor** to minimum or no-till crops. Use higher gallonage for fields with dense vegetation or heavy crop residues.

Adjust the boom height to ensure proper coverage of weed foliage (according to the manufacturer's instructions). Use flat-fan nozzle tips or similar appropriate nozzle tips to ensure adequate coverage.

Avoid overlaps when spraying.

# GROUND APPLICATION WITH A LOW-VOLUME SPRAYER

Raptor may be applied with a low-volume (Spra-Coupe®-type) sprayer. When applying Raptor with a low-volume sprayer, spray the weeds before they reach the maximum size listed in this label. Adequate control of weeds is dependent upon good spray coverage of the weeds. The sprayer must be calibrated to deliver the recommended spray volume and pressure to ensure adequate spray coverage of the weeds.

When applying **Raptor** with a low-volume sprayer, apply a minimum of 10 gallons per acre of spray solution with a nozzle pressure between 40 to 60 psi for optimum coverage.

### **AERIAL APPLICATION**

**Raptor** may be applied by air to all crops listed on this label.

Uniformly apply with properly calibrated equipment in 5 or more gallons of water per acre. The addition of an adjuvant AND fertilizer solution are required for optimum weed control.

Nonuniform applications of **Raptor®** herbicide through aerial equipment may increase **CLEARFIELD®** crop response, especially when applied to large slopes and hills. All risks associated with nonuniform applications shall be assumed by the user.

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

The following drift-management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements DO NOT apply to forestry applications, public health uses or to applications using dry formulations.

- The distance of the outermost nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
- Nozzles must always point backward parallel with the airstream and never be pointed downward more than 45 degrees.

Where states have more stringent regulations, they must be observed.

The applicator must be familiar with and take into account the information covered in the **aerial drift reduction advisory information** that follows.

#### INFORMATION ON DROPLET SIZE

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential but will not prevent drift if applications are made improperly or under unfavorable environmental conditions (see

WIND; TEMPERATURE AND HUMIDITY; and TEMPERATURE INVERSIONS).

### **CONTROLLING DROPLET SIZE**

- Volume. Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- Pressure. DO NOT exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- Number of Nozzles. Use the minimum number of nozzles that provide uniform coverage.
- Nozzle Orientation. Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is recommended practice. Significant deflection from the horizontal will reduce droplet size and increase drift potential.

 Nozzle Type. Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid-stream nozzles oriented straight back produce the largest droplets and the lowest drift.

### **BOOM LENGTH**

For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.

### **APPLICATION HEIGHT**

Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

#### **SWATH ADJUSTMENT**

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

#### WIND

Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. Application should be avoided below 2 mph because of variable wind direction and high inversion potential.

**NOTE:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

### **TEMPERATURE AND HUMIDITY**

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

### **TEMPERATURE INVERSIONS**

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

#### **SENSITIVE AREAS**

The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, or nontarget crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

Applicator is responsible for any loss or damage which results from spraying **Raptor® herbicide** in a manner other than specified in this label. In addition, applicator must follow all applicable state and local regulations and ordinances in regard to spraying.

# **Application Information**

Apply Raptor as a postemergence treatment when weeds are actively growing and before they exceed the maximum specified size (see weed control tables following each crop).

Delay application until the majority of the weeds are at the specified growth stage. In general, **Raptor** should be applied when weeds are small and actively growing; however, delay application in seedling alfalfa and dry beans until minimum growth stages have occurred. Refer to the crop-specific sections, **ALFALFA** (see **SEEDLING ALFALFA**) and **DRY BEANS AND DRY PEAS**.

An adjuvant (either a surfactant or a crop oil concentrate) and a nitrogen fertilizer must be added to the spray solution for optimum weed control activity. See the **ADJU-VANTS** section under **Mixing Instructions** for specific instructions.

When **Raptor** is applied postemergence, absorption will occur through both the roots and foliage. Susceptible weeds stop growing and either die or are not competitive with the crop. **Raptor** not only controls many existing broadleaf and grass weeds when applied postemergence, it also provides activity on susceptible weeds that may emerge shortly after application.

Weeds are most easily controlled when actively growing. Under conditions of cold temperatures (less than 40°F maximum daytime temperature), weed control may be less than optimal.

For maximum weed control, cultivate (where possible) 7 to 10 days following a postemergence **Raptor** application. This timely cultivation will enhance residual weed activity, especially under dry conditions.

**Raptor** should be applied a minimum of 1 hour before rainfall or overhead irrigation.

### **ALFALFA**

### **DIRECTIONS FOR USE**

Apply Raptor as an early postemergence treatment when weeds are actively growing and before they exceed a height of 3 inches, unless otherwise indicated.

Delay application until the majority of the weeds are at the specified growth stage. Apply **Raptor** to crop and weeds that are actively growing.

#### **Use Rate**

Apply **Raptor** postemergence only at a broadcast rate of 0.031 to 0.047 lb imazamox ae/acre (4 to 6 fl ozs **Raptor**/acre) to seedling or established alfalfa grown for forage, hay or seed. At the specified application rate, 1 gallon of **Raptor** will treat 21 to 32 acres.

#### **SEEDLING ALFALFA**

Apply **Raptor** when the seedling alfalfa is in the second trifoliate stage or larger and when the majority of the weeds are 1 to 3 inches tall. When applied to alfalfa grown for seed, apply **Raptor** before bud formation. For prostrate growing weeds (such as mustards and filaree), apply **Raptor** before the rosette exceeds 3 inches. When **Raptor** is applied to seedling alfalfa, there may be a temporary reduction in growth. Alfalfa soon outgrows any effects of the herbicide.

### **ESTABLISHED ALFALFA**

Raptor can be applied to established alfalfa in the fall, winter, or in the spring to dormant or semidormant alfalfa, or between cuttings. Any application should be made before significant alfalfa growth or regrowth (3 inches) to allow **Raptor** to reach the target weeds.

### **Crop-specific Restrictions and Limitations**

A maximum of 0.047 lb imazamox ae/acre (6 fl ozs/acre of **Raptor**) per season may be applied to alfalfa.

**DO NOT** make sequential applications of **Pursuit®** herbicide followed by **Raptor** (or **Raptor** followed by **Pursuit**) within a 60-day time frame because of increased potential alfalfa crop response.

### **WEEDS CONTROLLED**

**Raptor** will control or suppress listed weeds when applied postemergence at the specified rates listed as follows.

# Broadleaf Weeds Controlled by Raptor in Affalfa Application Rate

	4 fl ozs/A	5 fl ozs/A	6 fl ozs/A
	Maxi	mum Weed (inches)	Size
Bedstraw		3	3
Beet, wild	3	3	3
Buckwheat, wild		3	3 .
Buttercup		3	3
Canola, volunteer (non-CLEARFIEL	. <b>D®</b> ) 3	3	3
Cocklebur, common	3	3	3
Filaree,			
Redstem			3
Whitestem			3
Flixweed	3	3	3
Henbit			2
Knotweed, prostrate		. 3	3
Kochia¹		3	3

# Broadleaf Weeds Controlled: by Raptor nerbicide in Alfalfa (continued)

		Application I	Rate
	4 fl ozs/A	5 fl ozs/A	6 fl ozs/A
	Max	imum Weed (inches)	Size
Lambsquarters, common	3²	3	3
Lettuce, miner's		3	3
Jimsonweed	3	3	3
Mallow,			
Common	3	3	3
Venice		1	1
Morningglory,			
Entireleaf		3	3
lvyleaf		3	3
Smallflower		3	· 3
Tall		3	3
Mustard,			<del></del>
Black (Brassica nigra)	3	3	4
Tumble (Sisymbrium altissimum)		3 ·	3
Wild (Brassica kaber)	3	3	4
Nettle, burning		2	2
Nettleleaf goosefoot	3	3	3
Nightshade,	<del></del> -	<u>-</u>	
Black	3	5	5
Eastern black	3	5	5
Hairy	3	4	<del>5</del>
Pennycress, field	3	3	3
Pigweed,	_ <del>_</del>		<u>~</u>
Redroot	3	4	5
Smooth	3	4	4
Spiny	3	3	3
Purslane, common			3
Radish, wild	3	3	3
Rocket,			
London		3	3
Yellow		4	4
		<del></del>	3
Shepherdspurse Smartweed,			
	3	2	
Ladysthumb		3	3
Pennsylvania	3	. 3	3
Swamp		3	3
Spurge, prostrate		3	3
Sunflower, common		.3	3
Swinecress		3	3
Tansymustard, green	3 .	3	4
Thistle, Russian		3	
Velvetleaf	. 3	4	5
Willoweed panicle  Raptor controls non-ALS-resistant kochia or		3	3

# Broadleaf Weeds Supressed by Raptor in Alfalfa

### **Application Rate**

	4 fl ozs/A	5 fl ozs/A	6 fl ozs/A
	Maxi	mum Weed (inches)	Size
Chickweed, common	3	3 .	3
Dandelion			3
Dock, curly		3	3
Dodder'			3
Fiddleneck			3
Ragweed,			
Common		3	3
Giant		3	3
Thistle, Canada			3
Shepherdspurse	3	3	
Sowthistle		3	

<sup>&</sup>lt;sup>1</sup> For suppression of dodder, apply **Raptor** after the dodder has emerged until soon after dodder attaches to the alfalfa.

# Grass Weeds Controlled by Raptor in Alfalfa

### **Application Rate**

		.pp.ioacon	
	4 fl ozs/A	5 fl ozs/A	6 fi ozs/A
	Maxi	imum Weed (inches)	Size
Barnyardgrass		3	3
Blackgrass	3	3	. 3
Brome,			
California	3	3	3
Cheat	3	3	3
Downy	3	3	3
Japanese	3-	3	3
Canarygrass, littleseed	3	3	3
Cereals, volunteer			
Barley	3	3	3
Oat	3	3	3
Wheat (non-CLEARFIELD®)	3	3	3
Corn, volunteer	4	5	8
Crabgrass, large		3	3
Darnel, Persian	3	3	3
Foxtail,			
Giant	3	4	5
Green	- 3	3	4 .
Yellow	3	3	4
Johnsongrass, seedling		3	3
Jointéd goatgrass	3	3	3
Lovegrass	3	3	3
Millet, wild proso		3	3
Dats, wild	3 ·	3	3
Ryegrass, Italian	3	3	3
Rye, feral or cereal		3	3
Shattercane	3	4	5

<sup>&</sup>lt;sup>1</sup> Raptor controls non-ALS-resistant kochia only.
<sup>2</sup> Raptor controls common lambsquarters at 4 fl ozs/A east of the Rocky Mountains.

### Grass Weeds and Sedges Suppressed by Raptor herbicide in Alfalfa

**Application Rate** 

	• •	pp	
	4 fl ozs/A	5 fl ozs/A	6 fl ozs/A
	Maxi	mum Weed (inches)	Size
GRASSES			
Bluegrass, annual			3
Johnsongrass, rhizome			3
SEDGES			
Nutsedge,			
Purple			3 -
Yellow			3

#### Tank Mix Combinations with Other Herbicides

To control weeds not listed on the **Raptor** label, other herbicides may be tank mixed with **Raptor**. When **Raptor** is used in combination with another herbicide, refer to the respective label for rates, methods of application, proper timing, weeds controlled, restrictions and precautions. Always use in accordance with the more restrictive label restrictions and precautions. No label dosages may be exceeded.

### CHICORY

### **DIRECTIONS FOR USE**

Quackgrass

Apply **Raptor** as an early postemergence treatment when weeds are actively growing and before they exceed a height of 3 inches, unless otherwise indicated. Apply **Raptor** as an early postemergence treatment when chicory has at least 2, and no more than 4, fully expanded true leaves present. **DO NOT** apply to chicory subjected to stress conditions, such as hail damage, flooding, drought, injury from other herbicides, or widely fluctuating temperatures, as crop injury may result.

THIS PRODUCT WHEN USED IN CHICORY MAY LEAD TO CROP INJURY, LOSS, OR DAMAGE. BASF RECOMMENDS THAT THE USER AND/OR GROWER TEST THIS PRODUCT TO DETERMINE ITS SUITABILITY FOR SUCH INTENDED USE.

### **Use Rate**

Apply **Raptor** postemergence only at a rate of 0.031 lb imazamox ae/acre (4 fl ozs **Raptor**/acre). At this rate, 1 gallon of **Raptor** will treat 32 acres of chicory. It is recommended that a registered soil-applied grass herbicide be used prior to use of **Raptor**.

APPLICATIONS OF RAPTOR REQUIRE THE ADDI-TION OF A SURFACTANT. Refer to the Mixing Instructions section for specific surfactant types and rates.

ADDITION OF NITROGEN FERTILIZER, SUCH AS 28-0-0 OR 32-0-0 LIQUID FERTILIZER, MAY

# IMPROVE WEED CONTROL BUT ALSO INCREASES THE LIKELIHOOD OF INJURY TO CHICORY. Add liquid fertilizer at a rate of 2.5% v/v.

Crop-specific Restrictions and Limitations
DO NOT apply more than 0.031 lb imazamox ae/acre
(4 fl ozs/acre Raptor) during the growing season. For use
in Colorado, Idaho, Montana, Nebraska, Oregon, and
Wyoming.

### **WEEDS CONTROLLED**

E																							

	Raptor at 4 fl ozs/A with a surfactant
	Maximum Weed Size (inches)
Beet, wild	3
Jimsonweed	3
Flixweed	3
Lambsquarters	3
Mustard,	
Black	3
Tumble	3
Wild	3
Nightshade,	
Black	3 .
Eastern black	3
Hairy	3
Pennycress, field	3
Pigweed,	
Redroot	3
Smooth	3
Spiny	3 .
Radish, wild	3
Shepherdspurse	3
Tansymustard, green	3

### Grass Weeds Controlled by Raptor in Chicory

Raptor at 4 fl ozs/A

	with a surfactant
	Maximum Weed Size (inches)
Brome,	
Cheat	3
Downy	3
Japanese	3
Cereals, volunteer	
Barley	3 .
Oat	3
Wheat (non-CLEARFIELD®)	3

# Grass Weeds Controlled by Raptor® herbicide in Chicory (continued)

Raptor at 4 fl ozs/A with a surfactant

	With a surroutant
	Maximum Weed Size (inches)
Darnel, Persian	_ 33
Foxtail,	, <u></u>
Giant	3
Green	3
Yellow	3
Jointed goatgrass	3
Oats, wild	3
Shattercane	3

									e	
		by								

Raptor at 4 fl ozs/A with a surfactant

	with a surfactant
	Maximum Weed Size (inches)
GRASSES	
Crabgrass,	
Large	3
Smooth	3
SEDGES	
Nutsedge,	
Purple	3
Yellow	3
Quackgrass	3

# **CLEARFIELD® CANOLA**

### **DIRECTIONS FOR USE**

Raptor is effective in controlling weeds in conservation tillage and conventional production systems. Raptor can be applied early postemergence in CLEARFIELD canola but before the bloom stage. Refer to the specific treatment under the Spraying Instructions section of the label.

### **Use Rate**

Apply **Raptor** postemergence only at a rate of 0.031 lb imazamox ae/acre (4 fl ozs **Raptor**/acre). At this rate, 1 gallon of **Raptor** will treat 32 acres of **CLEARFIELD** canola. It is recommended that a registered soil-applied grass herbicide be used prior to use of **Raptor**.

An adjuvant and a nitrogen fertilizer must be added to the spray solution for optimum weed control activity. See the **ADJUVANTS** section under **Mixing Instructions** for specific instructions.

Crop-specific Restrictions and Limitations

DO NOT apply more than 0.031 lb imazamox ae/acre
(4 fl ozs Raptor) during the growing season.

#### **WEEDS CONTROLLED**

**Raptor** will control or suppress listed weeds when applied postemergence at the specified rates listed as follows.

# Broadleaf Weeds Controlled by Raptor in CLEARFIELD Canola

	Maximum Weed Size (inches)
Beet, wild	3
Canola, volunteer (non-CLEARFIELD)	3
Chickweed, common	3
Cocklebur, common	3
Jimsonweed	3
Flixweed	3
Lambsquarters, common	31
Mustard,	
Black	3
Tumble	3
Wild	3 .
Nightshade,	
Black	3
Eastern black	3
Hairy	3
Pennycress, field	3
Pigweed,	
Redroot	3
Smooth	3
Spiny	3
Radish, wild	3
Shepherdspurse	3
Smartweed,	
Ladysthumb	3
Pennsylvania	3
Tansymustard, green	3
Velvetleaf	3

Raptor controls common lambsquarters at 4 fl ozs/A east of the Rocky Mountains.

# Broadleaf Weeds Suppressed by Raptor in CLEARFIELD Canola

	Maximum Weed Size (inches)
Buckwheat, wild	3
Flax	2
Knotweed, prostrate	3
Lettuce, miner's	3

# Broadleaf Weeds Suppressed by Raptor® herbicide in CLEARFIELD® Canola (continued)

# Maximum Weed Size (inches)

Morningglory,		
Entireleaf	3	-
lvyleaf	3	
Smallflower	3	
Tall	3	
Rocket,		
London	3	
Yellow	3	
Spurge, prostrate	3	
Thistle, Russian (non-ALS-resistant)	3	

# Grass Weeds Controlled by Raptor in CLEARFIELD Canola

	Weed Size
	Number of Leaves (maximum tillers)
Blackgrass	1 to 4 (1)
Brome,	
Cheat	1 to 5 (2)
Downy	1 to 5 (2)
Japanese	1 to 5 (2)
Canarygrass, littleseed	1 to 5 (2)
Cereals, volunteer	
Barley	1 to 5 (1)
Oat	1 to 5 (1)
Wheat (non-CLEARFIELD)	1 to 4 (1)
Darnel, Persian	1 to 5 (2)
Foxtail,	
Giant	1 to 6 (2)
Green	1 to 4 (1)
Yellow	1 to 4 (1)
Jointed goatgrass	1 to 6 (2)
Oats, wild	1 to 5 (2)
Ryegrass, Italian	1 to 4 (1)
Rye, feral or cereal	1 to 4 (1)
Shattercane	1 to 6 (2)

	eds Suppressed by: CLEARFIELD Canola
Account of the control of the contro	Weed Size
	Number of Leaves (maximum tillers)
Barnyardgrass	1 to 4 (1)
Corn, volunteer	1 to 4 (1)
Crabgrass, large	1 to 4 (1)

# **Specific Weed Problems**

**Canada thistle.** For enhanced activity of Canada thistle, add **Stinger® herbicide** to the tank mixture. Apply to Canada thistle in the rosette stage.

### **CLEARFIELD LENTIL**

### **DIRECTIONS FOR USE**

Raptor is effective in controlling weeds in conservation and conventional tillage production systems. Raptor can be applied early postemergence in CLEARFIELD lentil (imidazolinone-tolerant lentil) varieties. Apply only on selected lentil varieties labeled as "CLEARFIELD" and warranted by the seed supplier to possess tolerance to direct application of Raptor. DO NOT apply Raptor to lentil varieties that lack resistance/tolerance to Raptor. Contact your seed supplier, chemical dealer or BASF to obtain information regarding CLEARFIELD lentil varieties. Refer to the specific treatment under the SPRAYING INSTRUCTIONS section of the label.

Apply Raptor as an early postemergence treatment when weeds are actively growing and before broadleaf weeds exceed a height of 3 inches and grasses exceed 4 to 5 leaves (unless otherwise indicated, refer to weed control tables for specific weed sizes). Under conditions of cold temperatures (less than 50°F maximum daytime temperature), weed control may be less than optimal. Make application when the majority of weeds are at the specified growth stage.

When adequate soil moisture is present, **Raptor** will provide residual activity of susceptible germinating weeds; activity on established weeds will depend on the weed species and the location of its root system in the soil.

Occasionally, reduction in plant height or temporary yellowing of crop plants may occur following **Raptor** applications. These effects can be more pronounced if crops are growing under stressful environmental conditions. These effects are temporary. Normal growth and appearance should resume within 1 to 2 weeks.

For best weed control and to provide the highest crop competitive advantage, apply **Raptor** to actively growing **CLEARFIELD** lentil. Plant a locally adapted **CLEARFIELD** lentil variety at the normal seeding rate for your geography. Apply to lentils at the 2- to 6-leaf stage.

### **Raptor Application Timing in Lentil**

Apply **Raptor** at the following crop and weed stages of growth:

CLEARFIELD Lentil	2-leaf to 6-leaf Stage
	Refer to weed control tables for specific weed sizes.
Grass weeds	noi specific weed sizes.

#### **Use Rate**

Apply Raptor® herbicide postemergence at a rate of 0.031 to 0.047 lb imazamox ae/acre (4 to 6 ozs Raptor/acre). At this rate, 1 gallon of Raptor will treat 21.3 to 32 acres of CLEARFIELD® lentils. It is recommended that a registered soil-applied grass herbicide like Prowl® 3.3 EC herbicide or Prowl® H2O herbicide be used prior to use of Raptor.

A nonionic surfactant AND nitrogen-based fertilizer must be added to the spray solution for optimum weed control activity. See the ADJUVANTS section under Mixing Instructions for specific instructions.

**Crop-specific Restrictions and Limitations** DO NOT apply more than 0.047 lb imazamox ae/acre (6 ozs Raptor/acre) during the growing season.

Broadleaf Weeds Controlled by Raptor Alone,

Sequential Progr	am	
Application Rate		
Raptor Postemergence Alone	Prowl 3.3 EC or Prowl H <sub>2</sub> O Soil- applied followed by Raptor' Postemergence	
4 to 6 fl ozs/A	4 to 6 fl ozs/A	
Maximum Weed Size (inches)		
3	3	
3	3	
3	3-5	
3	3	
3	3	
3	3-6	
3	3	
	1-4	
3	3-5	
3	3	
1	1	
4	4	
2-8	2-8	
2-5	2-5	
2-5	2-5	
2-5	2-5	
3	3	
	Applica Raptor Postemergence Alone  4 to 6 fl ozs/A  Maximum (inc) 3 3 3 3 3 3 3 1 4 2-8 2-5 2-5 2-5	

3

3

3

3

redroot

smooth

spiny

**Puncturevine** Purslane, common

Radish, wild

# Broadleaf Weeds Controlled by Raptor Alone, or in a Sequential Program (continued)

Application Hate		
Raptor Postemergence Alone	Prowl 3.3 EC or Prowl H₂O Soil- applied followed by Raptor' Postemergence	
4 to 6 fl ozs/A	4 to 6 fl ozs/A	
Maximum	Weed Size	

	4 to 6 fl ozs/A	4 to 6 fl ozs/A
	Maximum Weed Size (inches)	
Shepherdspurse	3	3
Smartweed,		
ladysthumb	2-5	2-5
Pennsylvania	2-5	2-5
Spurge, prostrate		3-4
Sunflower, wild or volunteer (non-CLEARFIELD)	2-6	2-6
Tansymustard	3	3
Velvetleaf	3	3-8

Soil-applied grass herbicide, such as Prowl 3.3 EC or Prowl H<sub>2</sub>O, is followed by a posternergence application of **Raptor** at a broadcast rate of 4 to 6 fl ozs/acre. Control of light-to-moderate populations of ALS-susceptible biotypes only.

Broadleaf Weeds Suppressed by Raptor Alone, or in a Sequential Program		
31 5 2 7 1 X 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Application Rate	
	Raptor Postemergence Alone	Prowl 3.3 EC or Prowl H₂O Soil- applied followed by Raptor¹ Postemergence
	4 to 6 fl ozs/A	4 to 6 fl ozs/A
	Maximum \ (incl	
Bindweed,		
field (seedling)	2-4	2-4
hedge (seedling)	2-4	2-4
Buckwheat, wild	1-3	1-3
Dandelion	3	3
Flax	2	2
Knotweed, prostrate	3	3
Lettuce, miner's	3	3
Mallow, Venice	*****	1-4
Morningglory,		
entireleaf	3	3
ivyleaf	3	3 -
smallflower	3	3
tall	3	3
Ragweed,		
common	3	3
giant	3	3

3-8

3-8

3-5

1-3

1-3 3-4

# Broadleaf Weeds Suppressed by Raptor herbicide Alone, or in a Sequential Program (continued)

Application Rate		
Raptor Postemergence	Prowi® 3.3 EC herbi	
Alone	herbicide Soil-	
	applied followed	

by Raptor<sup>1</sup>

		Postemergence
	4 to 6 fl ozs/A	4 to 6 fl ozs/A
	Maximum Weed Size (inches)	
Rocket,		
London	3	3
yellow	3	3
Spurge, prostrate	3	
Sowthistle, annual	2-4	2-4
Thistle,		5
Canada	2-5	2-5
Russian (non-ALS-resistant)²	3	3

<sup>1</sup> Soil-applied grass herbicide, such as Prowl 3.3 EC or Prowl H2O, is followed by a posternergence application of Raptor at a broadcast rate of 4 to 6 fl ozs/acre. <sup>2</sup> Control of light-to-moderate populations of ALS-susceptible biotypes only.

# Grass Weeds Controlled by Raptor herbicide Alone, or in a Sequential Program.

	Application Rate	
	Raptor Postemergence Alone	Prowl 3.3 EC or Prowl H₂O Soll- applied followed by Raptor' Postemergence
	4 to 6 fl ozs/A	4 to 6 fl ozs/A
		of Leaves ım tillers)
Barley, wild	2-4	2-4
Barnyardgrass	3²	3-5
Blackgrass	1-4 (1)	1-4 (1)
Brome,		
cheat	1-5.(2)	1-5 (2)
downy	1-5 (2)	1-5 (2)
Japanese	1-5 (2)	' 1-5 (2)
Canarygrass, littleseed	1-5 (2)	1-5 (2)
Cereals, volunteer (поп- <b>CLEARFIELD®</b> )	1-6 (3)	1-6 (3)
Crabgrass,		
large	·	1-4
smooth		1-4

1-5 (2)

Cupgrass, woolly3

Darnel, Persian

### Grass Weeds Controlled by Raptor herbicide Alone, or in a Sequential! Program (continued)

	Application Rate	
	Raptor Postemergence Alone	Prowl 3.3 EC or Prowl H₂O Soil- applied followed by Raptor¹ Postemergence
	4 to 6 fl ozs/A	4 to 6 fl ozs/A
		of Leaves ım tillers)
Foxtail,		
giant	1-6 (2)	1-6 (2)
green	1-6 (1)	1-6 (1)
yellow	1-6 (1)	1-6 (1)
Goosegrass		1-4 (1)
Goatgrass, jointed	1-5 (2)	1-5 (2)
Millet, wild proso	2-4 <sup>2</sup>	2-4
Oats, wild	1-5 (2)	1-5 (2)
Panicum,		
fall	1-5	1-5
Texas		1-5
Rescuegrass	1-4 (1)	· ·
Rye, feral or cereal	1-4 (1)	1-4 (1)
Ryegrass, Italian	1-4 (1)	1-4 (1)
Sandbur, field <sup>3</sup>		2-5
Shattercane	2-8	2-8
Signalgrass, broadleaf	2-5²	2-5
Stinkgrass		2-4
Witchgrass		2-5

- 1 Soil-applied grass herbicide, such as Prowl 3.3 EC or Prowl H<sub>2</sub>O, is followed by a postemergence application of Raptor at a broadcast rate of 4 to 6 fl ozs/acre.
- <sup>2</sup> Control of light-to-moderate populations only. For control of heavier populations, use a sequential application with a soil-applied grass herbicide, as described
- <sup>3</sup> For control, a dinitroaniline (DNA) herbicide, such as Prowl 3.3 EC or Prowl H<sub>2</sub>O, must be soll-applied at a full labeled rate.

# Gress Weeds and Seddes Sundays value

	s and Sedges Sup e, or in a Sequenti	AND THE RESERVE OF THE PARTY OF
The state of the s	Applica	stion Rate
	Raptor Postemergence Alone	Prowl 3.3 EC or Prowl H₂O Soil- applied followed by Raptor' Postemergence
	4 to 6 fl ozs/A	4 to 6 fl ozs/A
	Number of Leaves (maximum tillers)	
GRASSES		
Corn, volunteer (non-CLEARFIELD)		1-4 (1)
Crabgrass,		
large	1-4 (1)	
smooth	1-4 (1)	

1-5 (2)

### Grass Weeds and Sedges Suppressed by Raptor® herbicide Alone, or in a Sequential' Program (continued)

	Application Rate	
	Raptor Postemergence Alone	Prowl <sup>e</sup> herbicide 3.3 EC or Prowi <sup>e</sup> herbicide H₂O Soil- applied followed by Raptor¹ Postemergence
	4 to 6 fl ozs/A	4 to 6 fl ozs/A
	Number of Leaves (maximum tillers)	
Cupgrass, woolly	1-3	
Goosegrass	1-3	
Itchgrass		2-5
Quackgrass		4-8
Stinkgrass	2-4	
SEDGES		
Nutsedge,		
purple	1-3	1-3

Soil-applied grass herbicide, such as Prowl 3.3 EC or Prowl H<sub>2</sub>O, is followed by a postemergence application of Raptor at a broadcast rate of 4 to 6 fl ozs/acre.

1-3

1-3

# **CLEARFIELD® SUNFLOWER**

### **DIRECTIONS FOR USE**

yellow

Raptor is effective in controlling weeds in conservation and conventional tillage production systems. Raptor can be applied early postemergence in CLEARFIELD sunflower (imidazolinone-tolerant sunflower) varieties. Apply only on selected sunflower varieties labeled as "CLEARFIELD" and warranted by the seed supplier to possess tolerance to direct application of Raptor.

DO NOT apply Raptor to sunflower varieties that lack resistance/tolerance to imidazolinone herbicides. Contact your seed supplier, chemical dealer or BASF to obtain information regarding CLEARFIELD sunflower varieties. Refer to the specific treatment under the Spraying Instructions section of the label.

Apply Raptor as an early postemergence treatment when weeds are actively growing and before broadleaf weeds exceed a height of 3 inches and grasses exceed 4 to 5 leaves (unless otherwise indicated, refer to weed control tables for specific weed sizes). Under conditions of cold temperatures (less than 50°F, maximum daytime temperature), weed control may be less than optimal. Make application when the majority of weeds are at the specified growth stage.

When adequate soil moisture is present, **Raptor** will provide residual activity of susceptible germinating weeds. Activity on established weeds will depend on the weed species and the location of its root system in the soil.

Occasionally, reduction in plant height or temporary yellowing of crop plants may occur following **Raptor** applications. These effects can be more pronounced if crops are growing under stressful environmental conditions. These effects are temporary. Normal growth and appearance should resume within 1 to 2 weeks.

For best weed control and to provide the highest crop competitive advantage, apply **Raptor** to actively growing **CLEARFIELD** sunflowers. Plant a locally adapted **CLEARFIELD** sunflower variety at the normal seeding rate for your geography. Apply to sunflower after the first pair of true leaves has unfolded and up to, and including, when the fourth pair of leaves is unfolded (2- to 8-leaf stage).

### **Application Timing**

Apply **Raptor** at the following crop and weed stages of growth.

CLEARFIELD Sunflowers	2-leaf to 8-leaf Stage
Broadleaf weeds	Refer to the weed con-
Grass weeds	trol tables for specific weed sizes.

#### **Use Rate**

Apply **Raptor** postemergence only at a rate of 0.031 lb imazamox ae/acre (4 fl ozs **Raptor**/acre). At this rate, 1 gallon of **Raptor** will treat 32 acres of **CLEARFIELD** sunflowers. It is recommended that a registered soil-applied grass herbicide like **Prowl 3.3 EC** or **Prowl H<sub>2</sub>O** be used prior to use of **Raptor**.

A nonionic surfactant **and** nitrogen-based fertilizer **must** be added to the spray solution for optimum weed control activity. See the **ADJUVANTS** section under **Mixing Instructions** for specific instructions.

Crop-specific Restrictions and Limitations

DO NOT apply more than 0.031 lb imazamox ae/acre
(4 fl ozs Raptor/acre) during the growing season.

### Broadleaf Weeds Controlled by Raptor Alone or in a Sequential Program in CLEARFIELD Sunflower.

#### **Application Rate** Prowl 3.3 EC or Raptor Postemergence Prowl H<sub>2</sub>O Soil Applied followed Alone by Raptor<sup>1</sup> Postemergence 4 fl ozs/A 4 fl ozs/A Maximum Weed Size (inches) 3. Beet, wild 3 3 3 to 5 Chickweed, common 3 3 Cocklebur, common 3 Jimsonweed 3 to 6

3

1 to 4

3 to 5

Kochia<sup>2</sup>

Lambsquarters, common

### Broadleaf Weeds Controlled by Raptor<sup>®</sup> herbicide Alone or in a Sequential<sup>1</sup> Program in CLEARFIELD<sup>®</sup> Sunflower (continued)

### **Application Rate**

		··-··
	Raptor Postemergence Alone	Prowl <sup>®</sup> 3.3 EC or Prowl <sup>®</sup> H <sub>2</sub> O Soil Applied followed by Raptor¹ Postemergence
	4 fl ozs/A	4 fl ozs/A
		n Weed Size ches)
Marshelder	4	4
Mustard spp.	2 to 8	2 to 8
Nightshade,		
Black	2 to 5	2 to 5

Nightshade,		
Black	2 to 5	2 to 5
Eastern black	2 to 5	2 to 5
Hairy	2 to 5	2 to 5
Pigweed,		
Redroot	3	3 to 8
Smooth	3	3 to 8
Spiny	3	3 to 5
Puncturevine		1 to 3
Purslane, common		1 to 3
Radish, wild	3	3 to 4
Smartweed,		

Spurge, prostrate 3 to 4

Sunflower, wild or volunteer 2 to 6 2 to 6

(non-CLEARFIELD)

Tansymustard 3 3

2 to 5

2 to 5

2 to 5

2 to 5

Ladysthumb

Pennsylvania

(non-CLEARFIELD)

Tansymustard 3 3

Velvetleaf 3 3 to 8

'Soil-applied grass herbicide, such as Prowl 3.3 EC and Prowl H<sub>2</sub>O, is followed

by a postemergence application of **Raptor** at a broadcast rate of 4 flox/acre.

<sup>2</sup> Control of light-to-moderate populations of ALS-susceptible biotypes only.

# Broadleaf Weeds Suppressed by Raptor Alone or in a Sequential Program in CLEARFIELD Sunflower

	Application Rate	
	Raptor Postemergence Alone	Prowl 3.3 EC or Prowl H <sub>2</sub> O Soil Applied followed by Raptor' Postemergence
	4 fl ozs/A	4 fi ozs/A
	Maximum Weed Size (inches)	
Bindweed,		
Field (seedling)	2 to 4	2 to 4
Hedge (seedling)	2 to 4	2 to 4
Buckwheat, wild	1 to 3	1 to 3
Flax	2	2

# Broadleaf Weeds Suppressed by Raptor Alone or in a Sequential! Program in CLEARFIELD Sunflower (continued)

#### **Application Rate**

	Raptor Postemergence Alone	Prowl 3.3 EC or Prowl H₂O Soil Applied followed by Raptor¹ Postemergence
	4 fl ozs/A	4 fl ozs/A
		n Weed Size ches)
Knotweed, prostrate	3	3
Lettuce, miner's	3	3
Mallow, Venice		1 to 4
Morningglory,		
Entireleaf	3	3
lvyleaf	3	3
Smallflower	3	3
Tall	3	3
Rocket,		
London	3	3
Yellow	3	3
Spurge, prostrate	3	
Sowthistle, annual	2 to 4	2 to 4
Thistle,		
Canada	2 to 5	2 to 5
Russian (non-ALS-resistant) <sup>2</sup>	3	3

Soil-applied grass herbicide, such as Prowl 3.3 EC and Prowl H<sub>2</sub>O, is followed by a postemergence application of Raptor at a broadcast rate of 4 fl ozs/acre.

<sup>2</sup> Control of light-to-moderate populations of ALS-susceptible biotypes only.

# Grass Weeds Controlled by Raptor Alone or in a Sequential! Program in CLEARFIELD Sunflower

### **Application Rate**

	Raptor Postemergence Alone	Prowl 3.3 EC and Prowl H <sub>2</sub> O Soil Applied followed by Raptor' Postemergence
	4 fl ozs/A	4 fl ozs/A
		of Leaves m tillers)
Barley, wild	2 to 4	2 to 4
Barnyardgrass	3²	3 to 5
Blackgrass	1 to 4 (1)	1 to 4 (1)
Brome,		
Cheat	1 to 5 (2)	1 to 5 (2)
Downy	1 to 5 (2)	1 to 5 (2)
Japanese	1 to 5 (2)	1 to 5 (2)

# Grass Weeds Controlled by Raptor<sup>®</sup> herbicide Alone or in a Sequential<sup>®</sup> Program in CLEARFIELD<sup>®</sup> Sunflower (continued)

	Application Rate	
	Raptor Postemergence Alone	Prowl* 3.3 EC herbi- cide and Prowl* H <sub>2</sub> O herbicide Soil Applied followed by Raptor' Postemergence
	4 fl ozs/A	4 fl ozs/A
		of Leaves um tillers)
Canarygrass, littleseed	1 to 5 (2)	1 to 5 (2)
Crabgrass,		
Large		1 to 4
Smooth		1 to 4
Cupgrass, woolly <sup>3</sup>		1 to 4
Darnel, Persian	1 to 5 (2)	1 to 5 (2)
Foxtail,		
Giant	1 to 6 (2)	1 to 6 (2)
Green	1 to 6 (1)	1 to 6 (1)
Yellow	1 to 6 (1)	1 to 6 (1)
Goosegrass		1 to 4 (1)
Goatgrass, jointed	1 to 5 (2)	1 to 5 (2)
Millet, wild proso	2 to 42	2 to 4
Oats, wild	1 to 5 (2)	1 to 5 (2)
Panicum,		
Fall	1 to 5	1 to 5
Texas		1 to 5
Sandbur, field <sup>3</sup>		2 to 5
Shattercane	2 to 8	2 to 8
Signalgrass, broadleaf	2 to 52	2 to 5
Stinkgrass		2 to 4
Volunteer cereals (non-CLEARFIELD)	1 to 6 (3)	1 to 6 (3)
NA/Stab annon		2 += F

<sup>&</sup>lt;sup>1</sup> Soll-applied grass herbickle, such as **Prowi 3.3 EC** and **Prowi H<sub>2</sub>O**, is followed by a postemergence application of **Raptor** at a broadcast rate of 4 fl ozs/acre.

2 to 5

Witchgrass

# Grass Weeds and Sedges Suppressed by Raptor Alone or in a Sequential Program in CLEARFIELD Sunflower

	Application Rate	
	Raptor Postemergence Alone	Prowl 3.3 EC and Prowl H <sub>2</sub> O Soil Applied followed by Raptor' Postemergence
	4 fl ozs/A	4 fl ozs/A
	Number of Leaves (maximum tillers)	
GRASSES		
Crabgrass, large	1 to 4 (1)	
Crabgrass, smooth	1 to 4 (1)	
Cupgrass, woolly	1 to 3	
Goosegrass	1 to 3	
Itchgrass		2 to 5
Quackgrass		4 to 8
Stinkgrass	2 to 4	
SEDGES		
Nutsedge, purple	1 to 3	1 to 3
Nutsedge, yellow	1 to 3	1 to 3
<sup>1</sup> Soil-applied grass herbicide	, such as Prowl 3.3 EC ar	nd Prowl H2O, is followed

# by a postemergence application of **Raptor** at a broadcast rate of 4 fl ozs/acre.

### **CLEARFIELD SPRING WHEAT**

### **DIRECTIONS FOR USE**

Raptor can be applied postemergence on CLEARFIELD wheat (imidazolinone-tolerant wheat) varieties. Apply only on selected spring wheat varieties labeled "CLEARFIELD" and warranted by the seed supplier to possess tolerance to direct application of certain imidazolinone herbicides. DO NOT apply Raptor to wheat varieties that lack resistance/tolerance to imidazolinone herbicides. Contact your seed supplier, chemical dealer or BASF to obtain information regarding CLEARFIELD wheat varieties.

Apply Raptor as an early postemergence treatment when weeds are actively growing and before broadleaf weeds exceed a height of 3 inches and grasses exceed 4 to 5 leaves (unless otherwise indicated). Under conditions of cold temperatures (less than 40°F maximum daytime temperature), weed control may be less than optimal. A thin stand of wheat may result in unacceptable weed control. Raptor is effective in controlling weeds in conservation tillage and conventional tillage wheat production systems. Delay application until the majority of the weeds are at the specified growth stage. When a mixture of grasses and broadleaf weeds are present, time the application to the grass weeds for optimum control.

When adequate soil moisture is present, **Raptor** will provide residual activity of susceptible germinating weeds.

<sup>&</sup>lt;sup>2</sup> Control of light-to-moderate populations only. For control of heavier populations, use a sequential application with a soll-applied grass herbicide, as described above.

<sup>&</sup>lt;sup>3</sup> For control, a dinitroaniline (DNA) herbicide, such as **Prowl 3.3 EC** and **Prowl H<sub>2</sub>O**, must be soll-applied at a full labeled rate.

Activity on established weeds will depend on the weed species and the location of its root system in the soil.

Occasionally, reduction in plant height or temporary yellowing of crop plants may occur following **Raptor®** herbicide applications. These effects can be more pronounced in spray overlap areas and/or if crops are growing under stressful environmental conditions (such as, but not limited to, drought, excessive moisture, improper fertility, improper varietal adaptation, poor planting conditions, etc.). To avoid possible crop injury, **DO NOT** apply **Raptor** to **CLEARFIELD®** wheat when extreme cold temperatures (less than 40°F maximum daytime temperature) are expected within 1 week of application. Crop response associated with stress conditions and overlaps shall be the responsibility of the user.

Weed control is optimized when **Raptor** is applied to actively growing wheat. Plant a locally adapted **CLEARFIELD** variety at the normal seeding rate for your geography. Apply to wheat after tiller initiation has begun and prior to the jointing stage of growth (and when the weeds are at the appropriate size). See **WEEDS CONTROLLED** tables.

#### **APPLICATION TIMING**

Apply **Raptor** to **CLEARFIELD** spring wheat at 4-leaf to prior-to jointing. See following tables for specific weed growth stages.

### **Use Rate**

Apply 0.031 to 0.039 lb imazamox ae/acre (4 to 5 fl ozs **Raptor**/acre). See **WEEDS CONTROLLED** section for detailed use rate specifications.

### **ADJUVANTS AND SPRAY CARRIER**

A nonionic surfactant **and** nitrogen-based fertilizer **must** be added to the spray solution for optimum weed control. For improved weed control, a crop oil concentrate (COC) or a methylated seed oil (MSO) may be substituted for the nonionic surfactant. The use of COC or MSO in place of the nonionic surfactant in **CLEARFIELD** spring wheat may increase crop response. When **Raptor** is tank mixed with another herbicide, using COC or MSO in **CLEARFIELD** spring wheat is only recommended when the **Raptor** tank mix partner allows the use of COC or

the **Raptor** tank mix partner allows the use of COC or MSO. See the **ADJUVANTS** section under **Mixing Instructions** for specific instructions.

Liquid Fertilizer as a Carrier. Raptor may be applied to CLEARFIELD spring wheat in a water/liquid fertilizer solution with at least 50% water. Add a nonionic surfactant at the rate of 1 quart/100 gallons of spray solution (0.25% v/v). Some crop leaf burn from the fertilizer may occur. The use of a COC, HSOC or MSO in place of the nonionic surfactant may increase crop response.

Crop-specific Restrictions and Limitations
DO NOT apply more than 0.039 lb imazamox ae/acre
(5 fl ozs Raptor/acre) during the growing season.

There are no restrictions following an application of **Raptor** for feeding or grazing of wheat forage and hay.

#### **WEEDS CONTROLLED**

**Raptor** will control or suppress listed weeds when applied postemergence at the specified rates listed as follows.

# Broadleaf Weeds Controlled by Raptor in CLEARFIELD Spring Wheat (4 to 5 fl ozs/A)

	Weed Size	
	Maximum Size (inches)	
Canola, volunteer (non-CLEARFIE	<b>:LD</b> ) 5	
Chickweed, common	3	
Cocklebur, common	3	
Flixweed	3	
Henbit	3	
Knotweed, prostrate	3	
Lambsquarters, common¹	1	
Mallow,		
Common	3	
Venice	1.	
Mustard,		
Black	4	
Blue	4	
Tumble	3	
Wild	4	
Nightshade,		
Black	5	
Eastern black	5	
Hairy	5	
Pennycress, field	3	
Pigweed,		
Redroot	5	
Smooth	4	
Spiny	3	
Purslane, common	3	
Radish, wild	3	
Rocket,		
London	5	
Yellow	5 .	
Shepherdspurse	5	
Smartweed,		
Ladysthumb	3	
Pennsylvania	3	
Spurge, prostrate	3	
Tansymustard, green	4	
Thistle, Russian (non-ALS resistant)	3	
Velvetleaf	3	

Raptor provides suppression of common lambsquarters at 4 fl ozs/A west of the Rocky Mountains.

### Broadleaf Weeds Suppressed by Raptor® herbicide Applications in CLEARFIELD® Spring Wheat (4 to 5 fl ozs/A)

•	Weed Size	
·	Maximum Size (inches)	
Bedstraw -	3	
Buckwheat, wild1	3	
Dandelion	3	
Ragweed,		
Common	3	
Giant	3	
Thistle, Canada	3	

<sup>&</sup>lt;sup>1</sup> See Specific Weed Problems section for more information.

## Grass Weeds Controlled by Raptor in CLEARFIELD Spring Wheat (4) to 5 fl ozs/A)

	Weed Size
	Number of Leaves (maximum tillers)
Barnyardgrass	1 to 5 (1)
Brome,	
California	1 to 5 (2)
Cheat	1 to 5 (2)
Downy	1 to 5 (2)
Japanese	1 to 5 (2)
Canarygrass, littleseed	1 to 5 (2)
Cereals, volunteer	
Barley	1 to 6 (1)
Oat	1 to 6 (1)
Wheat (non-CLEARFIELD)	1 to 4 (1)
Corn, volunteer (non-CLEARFIELD)	1 to 4
Crabgrass, large	1 to 4 (1)
Darnel, Persian	1 to 5 (2)
Foxtail,	
Giant	1 to 6 (2)
Green	1 to 4 (1)
Yellow	1 to 4 (1)
Jointed goatgrass	1 to 5 (2)
Oats, wild¹	1 to 5 (2)
Rescuegrass	1 to 4 (1).
Ryegrass, Italian <sup>1, 2</sup>	1 to 4 (1)
Rye, feral or cereal <sup>1, 2</sup>	1 to 4 (1)
See Specific Weed Problems section.	

### Specific Weed Problems in CLEARFIELD Spring Wheat

Feral rye (cereal, volunteer rye). Raptor suppresses emerged feral rye only. Apply to feral rye before the first tiller forms. When feral rye develops tillers, suppression is significantly reduced.

Italian ryegrass. Raptor suppresses emerged Italian ryegrass only. Under favorable growing conditions, ryegrass may germinate over several weeks.

Kochia. Naturally occurring ALS/AHAS-resistant biotypes of kochia are common in wheat fields. In many cases, a tank mixture with Raptor will be required for acceptable control. Apply Raptor in a tank mixture with a herbicide(s) labeled to control kochia (e.g. Clarity® herbicide + 2,4-D). Apply to kochia 2 inches in size or less.

Wild buckwheat. For enhanced control of wild buckwheat, add Starane® herbicide or Clarity to the tank mixture. Apply to wild buckwheat with no more than 2 true leaves.

Wild oats. Raptor controls emerged wild oats only. Under favorable growing conditions, wild oats may germinate over several weeks. Raptor does not provide residual control of wild oats.

### TANK MIX HERBICIDE COMBINATIONS WITH **RAPTOR**

Recommended tank mixes for postemergence applications of Raptor on CLEARFIELD wheat varieties are the following herbicides:

Banvel®	Clarity	
Bronate®	Curtail® M	
(bromoxynil +	2,4-D Ester	
MCPA)	MCPA	
Buctril®	Starane	

Limit bromoxynil applications (Bronate or Buctril) to 0.5 lb/acre active ingredient when tank mixed with Raptor.

When broadleaf herbicides are tank mixed with Raptor, there may be some reduction in weed control, particularly grass weeds.

ALS-inhibiting herbicides should not be tank mixed with Raptor. Raptor tank mixes with ALS-inhibiting herbicides may result in unacceptable crop response.

When Raptor is used in combination with another herbicide, refer to the respective label for rates, methods and proper timing of application, weeds controlled, restrictions and precautions. Always use in accordance with the more restrictive label use directions and precautions.

# CLEARFIELD WINTER WHEAT

### **DIRECTIONS FOR USE**

Raptor can be applied postemergence on CLEARFIELD wheat (imidazolinone-tolerant wheat) varieties. Apply only on selected winter wheat varieties labeled CLEARFIELD and warranted by the seed supplier to possess tolerance to direct application of certain imidazolinone herbicides. DO NOT apply Raptor to wheat varieties that lack resistance/tolerance to imidazolinone herbicides. Contact your seed supplier, chemical dealer or BASF to obtain information regarding CLEARFIELD wheat varieties.

<sup>&</sup>lt;sup>2</sup> Suppression only.

Apply Raptor® herbicide as an early postemergence treatment when weeds are actively growing and before broadleaf weeds exceed a height of 3 inches and grasses exceed 4 to 5 leaves (unless otherwise indicated). Under conditions of cold temperatures (less than 40°F maximum daytime temperature), weed control may be less than optimal. A thin stand of wheat may result in unacceptable weed control.

Raptor is effective in controlling weeds in conservation tillage and conventional tillage wheat production systems. Raptor can be applied in the fall/winter or spring for winter or spring annual weed control, respectively. Delay application until the majority of the weeds are at the specified growth stage. When a mixture of grasses and broadleaf weeds are present, time the application to the grass weeds for optimum control.

When adequate soil moisture is present, **Raptor** will provide residual activity of susceptible germinating weeds. Activity on established weeds will depend on the weed species and the location of its root system in the soil.

Occasionally, reduction in plant height or temporary yellowing of crop plants may occur following **Raptor** applications. These effects can be more pronounced in spray overlap areas and/or if crops are growing under stressful environmental conditions (such as, but not limited to, drought, excessive moisture, improper fertility, improper varietal adaptation, poor planting conditions, etc.). To avoid possible crop injury, **DO NOT** apply **Raptor** to **CLEARFIELD®** wheat when extreme cold temperatures (less than 40°F maximum daytime temperature) are expected within 1 week of application. Crop response associated with stress conditions and overlaps shall be the responsibility of the user.

Weed control is optimized when **Raptor** is applied to actively growing wheat. Plant a locally adapted **CLEARFIELD** variety at the normal seeding rate for your geography. Apply to wheat after tiller initiation has begun and prior to the jointing stage of growth (and when the weeds are at the appropriate size). See the **WEEDS CONTROLLED** tables.

### **Application Timing in CLEARFIELD Winter Wheat**

Apply **Raptor** to **CLEARFIELD** winter wheat after tiller initiation but prior to jointing. See following tables for specific weed growth stages.

### Use Rate

Apply 0.031 to 0.047 lb imazamox ae/A (4 to 6 fl ozs **Raptor**/acre). See **WEEDS CONTROLLED** section for detailed use rate specifications.

#### ADJUVANTS AND SPRAY CARRIER

A nonionic surfactant **and** nitrogen-based fertilizer **must** be added to the spray solution for optimum weed control. See the **ADJUVANTS** section under **Mixing Instructions** for specific instructions.

**2-gene Winter Wheat:** For improved weed control, a crop oil concentrate or a methylated seed oil may be

substituted for the nonionic surfactant. The use of a COC or MSO in place of the nonionic surfactant in 2-gene winter wheat may increase crop response. When **Raptor** is tank mixed with another herbicide, using COC or MSO in 2-gene winter wheat is only recommended when a **Raptor** tank mix partner allows the use of a COC or MSO. Apply only on **CLEARFIELD** winter wheat varieties that possess 2-gene tolerance. Contact your winter wheat seed supplier to confirm that the variety you are about to treat contains 2-gene tolerance.

**Liquid Fertilizer as a Carrier. Raptor** may be applied to **CLEARFIELD** winter wheat in a water/liquid fertilizer solution with at least 50% water. Add a nonionic surfactant at the rate of 1 quart/100 gallons of spray solution (0.25% v/v). Some crop leaf burn from the fertilizer may occur. The use of a COC, HSOC or MSO in place of the nonionic surfactant in 2-gene winter wheat may increase crop response.

Crop-specific Restrictions and Limitations

DO NOT apply more than 0.062 lb imazamox ae/acre
(8 fl ozs Raptor/acre) during the growing season.

There are no restrictions following an application of **Raptor** for feeding or grazing of wheat forage and hay.

Application of **Raptor** to weeds that have been grazed may result in reduced weed control. For optimum weed control, allow a period of 7 days between the end of grazing and **Raptor** application for weed regrowth to occur. Under cold conditions, wait until new growth of weeds is evident before applying **Raptor** in fields that have been grazed.

WEEDS CONTROLLED in CLEARFIELD Winter Wheat Raptor will control or suppress listed weeds when applied postemergence at the specified rates listed as follows.

# Broadleaf Weeds Controlled by Raptor in CLEARFIELD Winter Wheat

	Application Rate	Weed Size	
	fl ozs/A	Maximum Size (inches)	
Wild beet	4 to 6	3	
Canola, volunteer (non-CLEARFIELD)	4 to 6	5	
Chickweed, common	4 to 6	3	
Cocklebur, common	4 to 6	3	
Filaree,			
Redstem	5 to 6	3	
Whitestem	5 to 6	3	
Flixweed	4 to 6	3	
Henbit	5 to 6	3	
Knotweed, prostrate	5 to 6	3	
Lambsquarters, commor	1 4 to 6¹	1	
Lettuce, miner's	5 to 6	3	
Jimsonweed	4 to 6	3	

# Broadleaf Weeds Controlled by Raptor herbicide in CLEARFIELD Winter Wheat (continued)

	Application Rate	Weed Size
	fl ozs/A	Maximum Size (inches)
Mallow,		
Common	5 to 6	. 3
Venice	5 to 6	1
Morningglory,		
Entireleaf	5 to 6	3
lvyleaf	5 to 6	3
Smallflower	5 to 6	3
Tall	5 to 6	3
Mustard,		
Black	4 to 6	3
Blue	4 to 6	4
Tumble	4 to 6	4
Wild	4 to 6	4
Nightshade,		
Black	4 to 6	5
Eastern black	4 to 6	5
Hairy	4 to 6	5
Pennycress, field	4 to 6	3
Pigweed,		
Redroot	4 to 6	5
Smooth	4 to 6	4
Spiny	4 to 6	. 3
Purslane, common	4 to 6	3
Radish, wild	4 to 6	3
Rocket,	5 to 6	5
London	5 to 6	5
Yellow	5 to 6	5
Shepherdspurse	4 to 6	5
Smartweed,		
Ladysthumb	. 4 to 6	3
Pennsylvania	4 to 6	3
Swamp	5 to 6	3
Spurge, prostrate	5 to 6	3
Tansymustard, green	4 to 6	4
Thistle, Russian		
(non-ALS-resistant)	5 to 6	3
Velvetleaf	4 to 6	3

<sup>\*</sup>Raptor controls common lambsquarters at 4 fl ozs/A east of the Rocky Mountains. Apply 5 to 6 fl ozs/A west of the Rocky Mountains.

# Broadleaf Weeds Suppressed by Raptor in CLEARFIELD Winter Wheat

	<b>Application Rate</b>	Weed Size
	fl ozs/A	Maximum Size (inches)
Bedstraw	5 to 6	3
Buckwheat, wild¹	5 to 6	3
Dandelion	5 to 6	3
Fiddleneck	5 to 6	3
Primrose,		
Cutleaf	5 to 6	3
Evening	5 to 6	3
Ragweed,	5 to 6	
Common	5 to 6	3
Giant	5 to 6	3
Thistle, Canada	5 to 6	3

See Specific Weed Problems section for more information.

# Grass Weeds Controlled by Raptor in CLEARFIELD Winter Wheat

	Application Rate	Weed Size
	fl ozs/A	Number of Leaves (maximum tillers)
Barnyardgrass	5 to 6	1 to 5 (1)
Brome,		
California	4 to 6	1 to 5 (2)
Cheat¹	4 to 6	1 to 5 (2)
Downy¹	4 to 6	1 to 5 (2)
Japanese	4 to 6	1 to 5 (2)
Canarygrass, littleseed	4 to 6	1 to 5 (2)
Cereals, volunteer		
Barley	4 to 6'	1 to 6 (1)
Oat	4 to 61	1 to 6 (1)
Wheat		
(non-CLEARFIELD)	4 to 61	1 to 4 (1)
Corn, volunteer		
(non-CLEARFIELD)	4 to 6	1 to 4
Crabgrass, large	5 to 6	1 to 4 (1)
Darnel, Persian	4 to 6	1 to 5 (2)
Foxtail,		
Giant	4 to 6	1 to 6 (2)
Green	4 to 6	1 to 4 (1)
Yellow	4 to 6	1 to 4 (1)
Johnsongrass, seedling	5 to 6	1 to 5 (1)
Jointed goatgrass	4 to 6	1 to 5 (2)
Oats, wild¹	4 to 6	1 to 5 (2)
Rescuegrass	4 to 6	1 to 4 (1)
See Specific Weed Problems	section for more inform	ation

<sup>&#</sup>x27; See Specific Weed Problems section for more information

# Grass Weeds and Sedges Suppressed by Raptor herbicide in CLEARFIELD Winter Wheat

	Application Rate	Weed Size
	fl ozs/A	Number of Leaves (maximum tillers)
GRASSES		
Brome,		
California	4 to 6	6+ (3+)
Cheat	4 to 6	6+ (3+)
Downy	4 to 6	6+ (3+)
Japanese	4 to 6	6+ (3+)
Fescue, rattail	4 to 6	1 to 3
Johnsongrass, rhizome	6	1 to 5
Jointed goatgrass	4 to 6	6+ (3+)
Rye, feral or cereal	4 to 6	1 to 4 (1)
Ryegrass, Italian¹	4 to 6	1 to 4 (1)
SEDGES		
Nutsedge		
Purple	6	1 to 3
Yellow	6	1 to 3
Quackgrass	6	1 to 5

See Specific Weed Problems section.

# Specific Weed Problems in CLEARFIELD Winter Wheat

Raptor is most effective for grass control when applied in the fall. If summer annual broadleaf weeds germinate in the spring (following a fall application of Raptor), a broadleaf herbicide may need to be applied. If the Raptor application is made in the spring, the broadleaf herbicide may be tank mixed with Raptor. For improved control of grasses, such as feral rye (suppression), Italian ryegrass (suppression), cheat and downy brome, use higher rates of nitrogen fertilizer (up to 50% of the spray solution). Higher rates of nitrogen can improve weed control with Raptor, especially under drought stress conditions, but additional crop response may be observed. AMS/nitrogen substitutes are not recommended when targeting hard-to-control weeds.

**Cheat and Downy brome.** Sequential applications of **Raptor** may be needed to control subsequent germination flushes.

Feral rye (cereal, volunteer rye). Raptor suppresses emerged feral rye only. Apply to feral rye before the first tiller forms. When feral rye develops tillers, suppression is significantly reduced. If feral rye germinates in the fall, an application of **Raptor** in the fall will provide the best suppression. If feral rye germinates following an application of **Raptor** in the fall, a spring application may be necessary for suppression of subsequent germination flushes. Two applications of **Raptor** will provide the best suppression of feral rye.

Italian ryegrass. Raptor suppresses emerged Italian ryegrass only. Under favorable growing conditions, ryegrass may germinate over several weeks (especially in the

southern U.S.). Raptor DOES NOT provide residual control of Italian ryegrass. Because of the potential for multiple germination flushes, Italian ryegrass suppression in New Mexico, Oklahoma, and Texas may not be satisfactory. Optimum application timing is to ryegrass with 3 to 4 leaves and before the first tiller. Suppression is reduced when tillers develop. In the Pacific Northwest, a spring application of 6 fl ozs/A of Raptor is specified to achieve the most consistent suppression. If Italian ryegrass germinates following a fall application, a spring application may be necessary. Apply the higher specified rate when Italian ryegrass is at the maximum specified size, or to heavy grass populations.

**Kochia.** Naturally occurring ALS/AHAS-resistant biotypes of kochia are common in wheat fields. In many cases, a tank mixture with **Raptor** will be required for acceptable control. If **Raptor** is applied in the spring, apply **Raptor** in a tank mixture with a herbicide(s) labeled to control kochia (i.e. **Clarity® herbicide** + 2,4-D). Apply to kochia 2 inches in size or less.

**Wild buckwheat.** For enhanced control of wild buckwheat, add **Starane®** herbicide or **Clarity** to the tank mixture. Apply to wild buckwheat with no more than 2 true leaves.

Wild oats. Raptor controls emerged wild oats only. Under favorable growing conditions, wild oats may germinate over several weeks (especially in the southern U.S.). Raptor does not provide residual control of wild oats. Because of the potential for multiple germination flushes, wild oat control in New Mexico, Oklahoma, and Texas may not be satisfactory.

# TANK MIX HERBICIDE COMBINATIONS WITH RAPTOR

Recommended tank mixes for postemergence applications of Raptor on CLEARFIELD wheat varieties are the following herbicides:

Banvel®	Clarity
Bronate®	Curtail® M
(bromoxynil +	2,4-D ester
MCPA)	MCPA
Buctril®	Starane

Limit bromoxynil applications (**Bronate** or **Buctril**) to 0.5 lb/acre of active ingredient when tank mixed with **Raptor**.

When broadleaf herbicides are tank mixed with **Raptor**, there may be some reduction in weed control, particularly grass weeds.

Sulfonylurea herbicides should not be tank mixed with Raptor. Raptor tank mixes with sulfonylurea herbicides may result in unacceptable crop response.

When **Raptor** is used in combination with another herbicide, refer to the respective label for rates, methods and proper timing of application, weeds controlled, restrictions and precautions. Always use in accordance with the more restrictive label use directions and precautions.

# CRIMSON, RED, AND WHITE CLOVER GROWN FOR SEED

### **DIRECTIONS FOR USE**

For use only in Oregon and Washington.

### **Application Timing**

Apply **Raptor®** herbicide as an early postemergence treatment in a tank mix, as described below, when the crimson, red, and white clover have a minimum of 2 trifoliate leaves and when the majority of the weeds are 1 to 3 inches. **Raptor** applications must be made prior to clover bloom.

#### **Use Rate**

Apply **Raptor** at a broadcast rate of 0.04 lb imazamox ae/acre (5 fl ozs **Raptor**/acre) postemergence only.

Applications of Raptor in clover grown for seed require the addition of an adjuvant, nitrogen fertilizer and Basagran® herbicide.

#### 1. ADJUVANTS

Nonionic surfactant. Use a nonionic surfactant containing at least 80% active ingredient. Apply the surfactant at the rate of 0.25% v/v (1 quart/100 gallons of spray solution)

#### OR

• Crop Oil Concentrate. Use a crop oil concentrate at 1 pint/acre (0.5 gallon/100 gallons of spray solution).

#### OR

 High Surfactant Oil Concentrate (HSOC). Use an HSOC at 0.5% v/v (0.5 gallon/100 gallons of spray solution).

### 2. NITROGEN FERTILIZER

Recommended nitrogen-based fertilizers include liquid fertilizers (such as 28% N, 32% N or 10-34-0) at the rate of 2.5 gallons/100 gallons of spray solution. Instead of a liquid fertilizer, spray-grade ammonium sulfate may be used at the rate of 12 to 15 pounds/100 gallons of spray solution.

### 3. Basagran

Add **Basagran** at 8 to 16 fl ozs/acre to minimize crop response. **Basagran** applications at rates higher than 16 fl ozs/acre may reduce grass control. **Basagran** may only be applied to clover grown for seed.

**Raptor** plus **Basagran** tank mix should be applied a minimum of 4 hours before rainfall or overhead irrigation.

Crop-specific Restrictions and Limitations DO NOT make more than 1 Raptor application (0.04 lb ae/acre imazamox) per growing season.

If arid conditions occur during the year of application, rotational crop injury may occur.

**DO NOT** apply to clover subjected to stress conditions, such as hail damage, flooding, drought, injury from other herbicides, or widely fluctuating temperatures, as crop injury may result.

**DO NOT** apply to weeds under stress, such as lack of moisture, previous herbicide injury, mechanical injury or cold temperatures, as unsatisfactory control could result.

**DO NOT** apply more than a total of 4 pints of **Basagran**/acre per calendar year or 2.0 pounds of bentazon active ingredient (ai) from all sources per acre per calendar year.

#### **WEEDS CONTROLLED**

**Raptor** will control or suppress listed weeds when applied postemergence to 1-inch to 3-inch weeds (unless otherwise indicated) at the specified rates listed as follows.

# Broadleaf Weeds Controlled by Raptor in Crimson, Red, and White Clover Grown for Seed

Raptor at 5 fl ozs/A with surfactant or a crop oil, nitrogen-based fertilizer and Basagran

	Maximum Weed Size (inches)
Bedstraw	3
Beet, wild	3
Buttercup	3
Chickweed, common	3
Cocklebur, common	3
Flixweed	3
Jimsonweed	3
Mustard,	
Black	3
Tumble	3
Wild	3
Nightshade,	
Black	3
Eastern black	3
Hairy	3
Pennycress, field	3
Pigweed,	
Redroot	3
Smooth	3
Spiny	3
Puncturevine	3
Radish, wild	3
Shepherdspurse	3
Tansymustard, green	3
Velvetleaf	3

# Broadleaf Weeds Suppressed by Raptor®herbicide in Crimson, Red, and White Clover Grown for Seed

Raptor at 5 fl ozs/A with surfactant or crop oil, nitrogen-based fertilizer and Basagran® herbicide

	Maximum Weed Size (inches)
Buckwheat, wild	3
Chickweed, common	3
Knotweed, prostrate	3
Kochia <sup>1</sup>	3
Lambsquarters, common	3
Lettuce, miner's	3
Morningglory,	
Entireleaf	3
lvyleaf	3
Smallflower	3
Tall	3
Purslane, common	3
Rocket,	
London	3
Yellow	3
Smartweed,	_
Ladysthumb	3
Pennsylvania	3
Spurge, prostrate	3
Baptor controls non-Al S-resistant kochia only	

<sup>1</sup> Raptor controls non-ALS-resistant kochia only.

## Grass Weeds Controlled by Raptor in Crimson, Red, and White Clover Grown for Seed

Raptor at 5 fl ozs/A with surfactant or crop oil, nitrogen-based fertilizer and Basagran

	Maximum Weed Size (inches)
Blackgrass	3
Brome,	
Cheat	3
Downy	3
Japanese	3
Canarygrass, littleseed	3
Cereals, volunteer	
Barley	3
Oat	3
Wheat (non-CLEARFIELD®)	3
Darnel, Persian	3_
Foxtail,	
Giant	. 3
Green	3
Yellow	3

# Grass Weeds Controlled by Raptor in Crimson, Red, and White Clover Grown for Seed (continued)

Raptor at 5 fl ozs/A with surfactant or crop oil, nitrogen-based fertilizer and Basagran

	Maximum Weed Size (inches)	
Jointed goatgrass	3	
Oats, wild	3	
Ryegrass, Italian	3	
Shattercane	3	
Volunteer corn¹	2 to 8	
<sup>1</sup> Except imidazolinone-tolerant corn.		

### Grass Weeds and Sedges Suppressed by Raptor Applications in Crimson, Red, and White Clover for Seed

Raptor at 5 fl ozs/A with surfactant or crop oil, nitrogen-based fertilizer and Basagran

	and basagran		
	Maximum Weed Size (inches)		
GRASSES			
Barnyardgrass	3		
Johnsongrass, rhizome	3		
Crabgrass,			
Large	3		
Smooth	3		
SEDGES			
Nutsedge,			
Purple	3		
Yellow	3		
Quackgrass	3		

# DRY BEANS AND DRY PEAS [other than English Peas, Lima Beans (Succulent), Snap Beans, and CLEARFIELD® Lentils]

### **DIRECTIONS FOR USE**

DO NOT APPLY Raptor® herbicide TO DRY BEANS AND DRY PEAS IN CALIFORNIA.

Raptor may be applied to the following dry beans and dry peas:

Dry	Beans)	Dry Peas
Adzuki	Navy	Dry edible peas
Anasazi	Pink	(field peas)
Black	Pinto	Southern peas
Black turtle	Red kidney	(cow peas)
Cranberry	Small red	, ,
Great Northern	Small white	
Lima (dry)		

DO NOT apply Raptor to succulent peas, snap beans or fresh limas (except as specifically directed below).

DO NOT apply Raptor to chickpeas (garbanzo beans) or lentils other than CLEARFIELD lentils.

Reduced crop growth, quality and yield, temporary yellowing and/or delayed maturity may result from a **Raptor** application to dry beans and dry peas crop listed on this label. Because crop maturity may be delayed, timing of harvest may need to be adjusted accordingly. **DO NOT** apply **Raptor** if planting is delayed and chance of frost prior to maturity is likely. Some varieties of dry beans and dry peas are more sensitive to **Raptor** than other varieties. Growers should check with the seed company regarding the safety of **Raptor** to their variety.

**USE RAPTOR ONLY** if proper agronomic practices have been utilized, including good soil fertility, proper crop rotation, disease and insect management and tillage practices that eliminate compaction and hardpans.

Raptor is effective in controlling weeds in conservation tillage and conventional production systems. Apply Raptor postemergence prior to bloom stage but after dry beans have at least 1 fully expanded trifoliate leaf and dry peas have at least 3 pairs of leaves. Delay application until the majority of the weeds are at the specified growth stage. Application timing should be based on weed size and crop growth stage. Apply Raptor to crop and weeds that are actively growing.

THIS PRODUCT WHEN USED ON DRY BEANS AND DRY PEAS MAY LEAD TO CROP INJURY, LOSS, OR DAMAGE. BASF RECOMMENDS THAT THE USER AND/OR GROWER TEST THIS PRODUCT TO DETERMINE ITS SUITABILITY FOR SUCH INTENDED USE.

#### **Use Rate**

Apply 0.031 lb imazamox ae/acre (4 fl ozs **Raptor**/acre). At this application rate, 1 gallon will treat 32 acres of dry beans and dry peas.

# NOTE: ADDITIONAL MIXING INSTRUCTIONS FOR DRY BEANS AND DRY PEAS

Raptor applications may be made to dry beans and dry peas either with or without the addition of a fertilizer. The addition of nitrogen-based fertilizer, such as ammonium sulfate or liquid fertilizers (such as 28-0-0), may improve weed control but also increases the likelihood of dry bean response. When nitrogen and/or crop oils are added to the mixture, add Basagran® herbicide (at a rate of 6 fl ozs to 16 fl ozs/A) or Rezult® herbicide (at a rate of 12 fl ozs to 24 fl ozs/A) as tank mix partner to minimize crop response.

For applications to dry peas, always add Basagran or Rezult to the spray mixture, regardless of additives used. For enhanced grass activity, add a crop oil concentrate instead of surfactant. Basagran at 16 fl ozs/A and Rezult at 24 fl ozs/A will enhance control of common lambsquarters. Basagran applications at rates higher than 16 fl ozs/A may reduce grass control.

### **Crop-specific Restrictions and Limitations**

Only 1 application of **Raptor** may be made during the season.

A maximum of 0.031 lb imazamox ae/acre (4 fl ozs Raptor/acre) per season may be applied to dry beans.

Raptor applications must be made before dry beans and dry peas bloom.

#### **WEEDS CONTROLLED**

Raptor will control or suppress the listed weeds when applied postemergence to 1-inch to 3-inch weeds (unless otherwise indicated) at the specified rates listed as follows.

Broadleaf Weeds Controlled by Raptor.
in Dry Beans and Dry Peas [other than English Peas,
Lima Beans (Succulent), Snap Beans,
and CLEARFIELD Lentils]

#### **Application Rate**

4 fl ozs/A with nonionic surfactant 4 fl ozs/A with nonionic surfactant or crop oil, nitrogen-based fertilizer and Basagran or Rezult

	Maximum Weed Size (inches)	
Bedstraw		3
Beet, wild	3	3
Buttercup		3
Chickweed, common		3

Broadleaf Weeds Controlled by Raptor® herbicide in Dry Beans and Dry Peas (other than English Peas, Lima Beans (Succulent), Snap Beans, and CLEARFIELD® Lentils] (continued)

### **Application Rate**

4 fl ozs/A with nonionic surfactant 4 fl ozs/A with nonionic surfactant or crop oil, nitrogenbased fertilizer and Basagran® herbicide or Rezult® herbicide

,	Maximum Weed Size (inches)	
Cocklebur, common		3
Flixweed	3	3
Jimsonweed	3	3
Lambsquarters, common <sup>1</sup>	3	3
Mustard,		
- Black	3	3
Tumble	3	3
Wild	3	3
Nightshade,		
Black	3	3
Eastern black	3	3
Hairy	3	3
Pennycress, field	3	3
Pigweed,		
Redroot	3	3
Smooth	3	3
Spiny	3	3
Puncturevine		3
Radish, wild	3	3
Shepherdspurse	3	3
Tansymustard, green	3	3
Velvetleaf		3

Raptor controls common lambsquarters at 4 fl ozs/A east of the Rocky Mountains.

# Broadleaf Weeds Suppressed by Raptor in Dry Beans and Dry Peas (other than English Peas, Lima Beans (Succulent), Snap Beans, and CLEARFIELD Lentils)

### **Application Rate**

4 fl ozs/A with nonionic surfactant 4 fl ozs/A with nonionic surfactant or crop oil, nitrogen-based fertilizer and Basagran or Rezult

	fertilizer and Basagran or Rezult
Maximum Weed Size (inches)	
	3
3	
	3
	3 .
	3

### Broadleaf Weeds Suppressed by Raptor in Dry Beans and Dry Peas [other than English Peas, Lima Beans (Succulent), Snap Beans, and CLEARFIELD Lentils] (continued)

### **Application Rate**

4 fl ozs/A with nonionic surfactant 4 fl ozs/A with nonlonic surfactant or crop oil, nitrogenbased fertilizer and Basagran or Rezult

W----

	Maximum Weed Size (inches)
Morningglory,	
Entireleaf	. 3
lvyleaf	3
Smallflower	3
Tall	3
Purslane, common	3
Rocket,	
London	33
Yellow	3
Smartweed,	
Ladysthumb	. 3
Pennsylvania	3
Spurge, prostrate	3
1 Raptor controls non-ALS-resistant kochia	only.

Grass Weeds Controlled by Raptor
In Dry Beans and Dry Peas (other than English Peas,
Lima Beans (Succulent), Snap Beans,
and CLEARFIELD Lentils)

### **Application Rate**

4 fl ozs/A with nonionic surfactant 4 fl ozs/A with nonionle surfactant or crop oil, nitrogenbased fertilizer and Basagran or Rezult

	Maximum Weed Size (inches)	
Blackgrass		3 ·
Brome,		
Cheat	3	3
Downy	3	3
Japanese	3	3
Canarygrass, littleseed		3
Cereals, volunteer		
Barley	3	3
Oat	3	3
Wheat (non-CLEARFIELD)	3	3
Darnel, Persian	3	3
oxtail,	•	
Giant	3	.3
Green	3	3
Yellow	3	3

Grass Weeds Controlled by Raptor® herbicide in Dry Beans and Dry Peas [other than English Peas, Lima Beans (Succulent), Snap Beans, and CLEARFIELD® Lentils] (continued)

### **Application Rate**

4 fl ozs/A with nonlonic surfactant

4 fi ozs/A with nonionic surfactant or crop oil, nitrogenbased fertilizer and Basagran<sup>e</sup> herbicide or Rezult<sup>e</sup> herbicide

Jointed goatgrass	Maximum Weed Size (inches)	
	3	3
Oats, wild	3	3
Ryegrass, Italian		3
Shattercane	3	3
Volunteer corn¹		2 to 8

<sup>&#</sup>x27;Except imidazolinone-tolerant corn.

Grass Weeds and Sedges Suppressed by
Raptor in Dry Beans and Dry Peas Jother than English
Peas, Lima Beans (Succulent), Snap Beans,
and CLEARFIELD Lentils]

### **Application Rate**

4 fl ozs/A with nonionic surfactant 4 fl ozs/A with nonionic surfactant or crop oil, nitrogenbased fertilizer and Basagran or Rezult

Maximum Weed Size (inches)	
	3
	3
3	3
3	3
3	3
3	3
3	3
	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3

# **ENGLISH PEAS**

### **DIRECTIONS FOR USE**

For postemergence use on English Peas in Delaware, Illinois, Indiana, Iowa, Maryland, Minnesota, New York and Wisconsin only.

Use Raptor ONLY if proper agronomic practices have been utilized, including good soil fertility,

proper crop rotation, disease and insect management and tillage practices that eliminate compaction and hardpans.

Reduced crop growth, quality and yield, temporary yellowing and/or delayed maturity may result from a Raptor application to English peas. Because crop maturity may be delayed, timing of harvest may need to be adjusted accordingly. DO NOT apply Raptor if planting is delayed and a chance of frost prior to maturity is likely. Growers should check with the seed company regarding the safety of Raptor to their variety.

THIS PRODUCT WHEN USED ON ENGLISH PEAS MAY LEAD TO CROP INJURY, LOSS, OR DAMAGE. BASF RECOMMENDS THAT THE USER AND/OR GROWER TEST THIS PRODUCT TO DETERMINE ITS SUITABILITY FOR SUCH INTENDED USE.

#### **Use Rate**

**Early Postemergence Applications.** Apply **Raptor** at the broadcast rate of 0.023 lb imazamox ae/acre (3 fl ozs **Raptor**/acre). Application timing should be based on weed size and crop growth stage. Apply **Raptor** to crop and weeds that are actively growing.

Apply **Raptor** postemergence to English peas at least 3 inches in height but prior to 5 nodes before flowering. The use of trifluralin prior to a **Raptor** application may increase the likelihood and severity of crop injury.

A nonionic surfactant must be added to the spray solution. The nonionic surfactant must contain at least 80% active ingredient and should be used at a rate of 1 quart/100 gallons of spray solution.

The addition of a nitrogen-based fertilizer, such as ammonium sulfate, or liquid fertilizers (such as 28-0-0) may improve weed control but also increases the likelihood of English pea response.

When nitrogen-based fertilizer is added to the mixture, add **Basagran** as a tank mix partner at the rate of 6 fl ozs to 16 fl ozs/acre to minimize crop response.

Recommended nitrogen-based fertilizers include liquid fertilizers (such as 28% N, 32% N or 10-34-0) at the rate of 2.5 gallons/100 gallons of spray solution.

Instead of a liquid fertilizer, spray-grade ammonium sulfate may be used at the rate of 12 to 15 pounds/100 gallons of spray solution.

For enhanced grass activity, add a crop oil concentrate at the rate of 1 gallon/100 gallons/acre instead of a nonionic surfactant. Always add **Basagran** at the rates indicated above when crop oil concentrate and/or a nitrogen-based fertilizer are used in the spray mixture. **Basagran** applications at rates higher than 16 fl ozs/acre may reduce grass control.

**Raptor** may be applied a minimum of 1 hour before rainfall or overhead irrigation.

**Crop-specific Restrictions and Limitations**Only 1 application of **Raptor® herbicide** may be made during the season.

A maximum of 0.023 lb imazamox ae/acre (3 fl ozs of **Raptor**/acre) per season may be applied to English peas.

Weeds Controlled by Raptor in English Peas			
- в подраждения применя описких жих з боредии и	Application Rate		
	Raptor at 3 fl ozs/A	Raptor at 3 fl ozs/A + Basagran <sup>e</sup> herbicide at 6 to 16 fl ozs/A	
	Maximum Weed Size (inches)		
Nightshade,			
Black	3	3	
Eastern black	3	3	
Hairy	3	3	
Mustard			
Black	3	3	
Tumble	3	3	
Wild	3	3	
Pennycress, field	3	3	
Pigweed,			
Redroot	3	3	

# **LIMA BEANS (Succulent)**

3

3

3

3

3

3

### **DIRECTIONS FOR USE**

Smooth

Shepherdspurse

Spiny

For postemergence use in Lima Beans (succulent) in Arkansas, Delaware, Illinois, Indiana, Iowa, Kentucky, Maryland, Minnesota, Missouri (bootheel), Tennessee, Virginia and Wisconsin only.

**Use Raptor ONLY** if proper agronomic practices have been utilized, including good soil fertility, proper crop rotation, disease and insect management and tillage practices that eliminate compaction and hardpans.

Occasionally, internode shortening and/or temporary yellowing of crop plants may occur following **Raptor** applications in lima beans. These effects can be more pronounced if crops are growing under stressful environmental or hot and humid conditions. These effects occur infrequently and are temporary. Normal growth and appearance should resume within days.

THIS PRODUCT WHEN USED ON LIMA BEANS (SUCCULENT) MAY LEAD TO CROP INJURY, LOSS, OR DAMAGE. BASF RECOMMENDS THAT THE USER AND/OR GROWER TEST THIS PRODUCT TO DETERMINE ITS SUITABILITY FOR SUCH INTENDED USE.

#### **Use Rate**

Early Postemergence Applications. Apply Raptor at the broadcast rate of 0.031 lb imazamox ae/acre (4 fl ozs Raptor/acre) tank mixed with Basagran at 6 fl ozs to 16 fl ozs/acre. When used in lima beans, Raptor must be applied with Basagran to minimize crop response. Basagran applications at rates higher than 16 fl ozs/acre may reduce grass control.

Application timing should be based on weed size and crop growth stage. Apply to crop and weeds that are actively growing. Apply **Raptor** + **Basagran** postemergence to lima beans in the first to second trifoliate leaf stage and to weeds that are less than 3 inches tall. Applications before the first trifoliate leaf stage may result in increased crop response. **DO NOT** apply **Raptor** + **Basagran** to lima beans during flowering.

A nonionic surfactant must be added to the spray solution. The nonionic surfactant must contain at least 80% active ingredient and should be used at the rate of 1 quart/100 gallons of spray solution.

**Raptor** tank mixes with any pesticide other than **Basagran** are not recommended. Certain insecticide and herbicide tank mixes with **Raptor** in lima beans have shown unacceptable crop response.

**Raptor** may be applied a minimum of 1 hour before rainfall or overhead irrigation.

**Crop-specific Restrictions and Limitations**Only 1 application of **Raptor** may be made during the season.

A maximum of 0.031 lb imazamox ae/acre (4 fl ozs **Raptor**/acre) per season may be applied to lima beans (succulent) in Arkansas, Delaware, Illinois, Indiana, Iowa, Kentucky, Maryland, Minnesota, Missouri (bootheel), Tennessee, Virginia and Wisconsin only.

# Broadleaf Weeds Controlled by Raptor in Lima Beans (Succulent)

**Application Rate** Raptor at 4 fl ozs/A + Basagran at 6 to 16 fl ozs/A Maximum Weed Size (inches) Bedstraw 3 Beet, wild 3 Buttercup 3 Chickweed, common 3 Jimsonweed 3 Mustard, 3 Black Tumble 3 Wild 3

# Broadleaf Weeds Controlled by Raptor® herbicide in Lima Beans (Succulent) (continued)

### **Application Rate**

	Raptor at 4 fl ozs/A + Basagran <sup>e</sup> herbicide at 6 to 16 fl ozs/A
	Maximum Weed Size (inches)
Nightshade,	
Black	3
Eastern black	3
Hairy	3
Pennycress, field	3
Pigweed,	
Redroot	3
Smooth	3
Spiny	3
Puncturevine	3
Radish, wild	3

# Broadleaf Weeds Suppressed by Raptor in Lima Beans (Succulent)

Shepherdspurse

Tansymustard, green

### **Application Rate**

3

3

# Raptor at 4 fl ozs/A + Basagran at 6 to 16 fl ozs/A

Maximum Weed Size (inches)
3
3
3
3
3
3
3
3
3
3
3
3
-3
3
3
3

<sup>1</sup> Raptor controls non-ALS-resistant kochla only.

# Grass Weeds Controlled by Raptor in Lima Beans (Succulent)

### Application Rate

	Raptor at 4 fl ozs/A + Basagran at 6 to 16 fl ozs/A
	Maximum Weed Size (inches)
Barnyardgrass	3
Blackgrass	3
Brome,	
Cheat	3
Downy	3
Japanese	3
Canarygrass, littleseed	3
Cereals, volunteer	
Barley	3
Oat	3
Wheat (non-CLEARFIELD®	3
Darnel, Persian	3
Foxtail,	
Giant	3
Green	3
Yellow	3
Jointed goatgrass	. 3
Oats, wild	3
Ryegrass, Italian	3
Shattercane	3
Volunteer corn¹	2 to 8

¹ Except Imidazolinone-tolerant corn.

### Grass Weeds and Sedges Suppressed by Raptor in Lima Beans (Succulent)

### **Application Rate**

	Raptor at 4 fl ozs/A + Basagran at 6 to 16 fl ozs/A
	Maximum Weed Size (inches)
GRASSES	
Johnsongrass, rhizome	3
Crabgrass,	
Large	3
Smooth	3
SEDGES	
Nutsedge	•
Purple	3
Yellow	3
Quackgrass	3

### SNAP BEANS

#### **DIRECTIONS FOR USE**

Raptor® herbicide may be applied to snap beans in the states of Delaware, Idaho, Illinois, Indiana, Iowa, Maryland, Michigan, Minnesota, New York, Oregon, Pennsylvania, Virginia, Washington and Wisconsin only.

Occasionally, internode shortening and/or temporary yellowing of snap beans may occur following **Raptor** application. These effects can be more pronounced if snap beans are growing under stressful environmental or hot and humid conditions. These effects occur infrequently and are temporary. Normal growth and appearance should resume within days.

Use **Raptor ONLY** if proper agronomic practices have been utilized, including good soil fertility, proper crop rotation, disease and insect management and tillage practices that eliminate compaction and hardpans. **DO NOT** apply to snap beans that have been injured from applications of soil-applied herbicides.

Apply Raptor postemergence to snap beans with at least 1 fully expanded trifoliate and before the bloom stage. For use in Idaho, Oregon and Washington, apply Raptor to snap beans at first or second trifoliate leaf stage. Delay application until the majority of the weeds are at the specified growth stage. Application timing should be based on weed size and crop growth stage. Apply Raptor to crop and weeds that are actively growing. DO NOT apply Raptor to snap beans during flowering.

THIS PRODUCT WHEN USED ON SNAP BEANS MAY LEAD TO CROP INJURY, LOSS, OR DAMAGE. BASF RECOMMENDS THAT THE USER AND/OR GROWER TEST THIS PRODUCT TO DETERMINE ITS SUITABILITY FOR SUCH INTENDED USE.

### **Use Rate**

Apply Raptor at the broadcast rate of 0.031 lb imazamox ae/acre (4 fl ozs Raptor/acre) tank mixed with Basagran® herbicide at 6 fl ozs to 16 fl ozs/acre. When used in snap beans, Raptor must be applied with Basagran to minimize crop response. Basagran applications at rates higher than 16 fl ozs/acre may reduce grass control.

# NOTE: ADDITIONAL MIXING INSTRUCTIONS FOR SNAP BEANS

For use in Delaware, Illinois, Indiana, Iowa, Maryland, Michigan, Minnesota, New York, Pennsylvania, Virginia, and Wisconsin, a nonionic surfactant MUST be added to the spray solution. The nonionic surfactant must contain at least 80% active ingredient and should be used at a rate of 1 quart/100 gallons of spray solution. DO NOT use a COC, MSO or HSOC.

For use in Idaho, Oregon and Washington, a nonionic surfactant and nitrogen fertilizer must be added to the spray solution. The nonionic surfactant MUST contain at

least 80% active ingredient and should be used at a rate of 1 quart/100 gallons of spray solution. Alternatively, a crop oil concentrate (COC), methylated seed oil (MSO) or HSOC can be used. Use COC at a rate of 1 gallon/100 gallons of spray solution. Use MSO at a rate of 1 to 2 gallons/100 gallons of spray solution. Use HSOC at 0.5 gallon/100 gallons of spray solution.

Recommended nitrogen-based fertilizers include liquid fertilizers, such as 28-0-0, 32-0-0, or 10-34-0, at the rate of 2.5 gallons per 100 gallons of spray solution. Instead of a liquid fertilizer, spray-grade ammonium sulfate may be used at the rate of 12 to 15 pounds per 100 gallons of spray solution.

**Raptor** tank mixes with any pesticide other than **Basagran** are not recommended. Certain insecticide and herbicide tank mixes with **Raptor** in snap beans have shown unacceptable crop response.

**Crop-specific Restrictions and Limitations**Only 1 application of **Raptor** may be made during the season.

A maximum of 0.031 lb imazamox ae/acre (4 fl ozs **Raptor**/acre) per season may be applied to snap beans.

Raptor applications must be made before snap beans bloom.

### **WEEDS CONTROLLED**

**Raptor** will control or suppress listed weeds when applied postemergence to 1-inch to 3-inch weeds (unless otherwise indicated) at the specified rates listed as follows.

Broadleaf Weeds Cont	rolled by Raptor in Snap Beans
	Application Rate
	Raptor at 4 fl ozs/A + Basagran at 6 to 16 fl ozs/A
	Maximum Weed Size (inches)
Bedstraw	3
Beet, wild	3
Buttercup	3
Chickweed, common	3
Jimsonweed	3 .
Mustard,	
Black	3
Tumble	3
Wild	3
Nightshade,	
Black	3
Eastern black	. 3
Hairy	3
Pennycress, field	3

# Broadleaf Weeds Controlled by Raptor herbicide in Snap Beans *(continued)*

#### **Application Rate**

Raptor at 4 fl ozs/A +
Basagran <sup>e</sup> herbicide at 6 to
16 fl ozs/A
Maximum Weed Size

	10 II 025/A
	Maximum Weed Size (inches)
Pigweed,	
Redroot	3
Smooth	3
Spiny	3
Puncturevine	3
Radish, wild	3
Shepherdspurse	3
Tansymustard, green	3

# Broadleaf Weeds Suppressed by Raptor in Snap Beans

### **Application Rate**

<del></del>	Raptor at 4 fl ozs/A +
	Basagran at 6 to 16 fl ozs/A
	Maximum Wood Size

Basagran at 6 to 16 fl ozs/A
Maximum Weed Size (inches)
3
3
3
3
3
3
3
3
3
3
3
3
3
3
3
3

<sup>&#</sup>x27; Raptor controls non-ALS-resistant kochia only.

# Grass Weeds Controlled by Raptor in Snap Beans

### Application Rate

Raptor at 4 fl ozs/A +
Basagran at 6 to 16 fl ozs/A

•	buoughan at o to 10 il 025/A
	Maximum Weed Size (inches)
Barnyardgrass	3 .
Blackgrass	3
Brome,	
Cheat	3
Downy	3
Japanese	3
Canarygrass, littleseed	3
Cereals, volunteer	
Barley	3
Oat	3
Wheat (non-CLEARFIELD®)	3
Darnel, Persian	3
Foxtail,	
Giant	3
Green	3
Yellow	3
Jointed goatgrass	3
Oatş, wild	3
Ryegrass, Italian	3
Shattercane	3
Volunteer corn¹	2 to 8

<sup>\*</sup> Except imidazolinone-tolerant corn.

# Grass Weeds and Sedges Suppressed by Raptor in Snap Beans

# **Application Rate**

### Raptor at 4 fl ozs/A + Basagran at 6 to 16 fl ozs/A

Basagran at 6 to 16 fl ozs/A
Maximum Weed Size (inches)
3
3
3
3
3
3

### SOYBEANS

#### **DIRECTIONS FOR USE**

Raptor® herbicide is effective in controlling weeds in conservation tillage and conventional production systems. Raptor can be applied early postemergence in soybeans but before the bloom stage. Refer to the specific treatment under the Application Information section of the label.

Unusually cool temperatures (50°F or less) reduce photosynthesis and transpiration and, thus, reduce uptake, translocation, and efficacy of **Raptor** in weeds. Delaying a **Raptor** application for 48 hours from the time the temperature increases to above 50°F, if air temperature has been below 50°F for 10 or more hours, will improve weed control and reduce crop response.

# NO-TILL/MINIMUM TILLAGE AND DOUBLE-CROP SOYBEANS

Raptor controls existing weeds and provides residual activity on some weeds when applied early postemergence to soybeans in no-till or minimum tillage and double-crop soybean production systems. The application must be applied after emergence of the crop. (Refer to the WEEDS CONTROLLED chart for weeds controlled and specified weed size).

To ensure thorough coverage, use a minimum of 20 gallons of water/acre in no-till or minimum tillage systems. Use higher gallonage for fields with dense vegetation or heavy crop residues.

Prior to planting or emergence of soybeans, any glyphosate-containing product registered for that use may be applied to control emerged weeds. See specific product labeling for rates, use directions, precautions and restrictions.

### **Use Rates**

APPLY 0.031 LB IMAZAMOX AE/ACRE (4 FL OZS OF Raptor/ACRE) WHEN PRECEDED BY A FULL RATE OF A REGISTERED SOIL-APPLIED GRASS HERBI-CIDE LIKE Prowl® 3.3 EC herbicide OR Prowl® H<sub>2</sub>O herbicide.

### OR

APPLY 0.040 LB IMAZAMOX AE/ACRE (5 FL OZS OF Raptor/ACRE) IN A TOTAL POSTEMERGENCE HER-BICIDE PROGRAM.

Raptor may be applied postemergence at a broadcast rate of 4 fl ozs/acre when it is preceded with a full labeled rate of a soil-applied grass herbicide such as Prowl 3.3 EC or Prowl H<sub>2</sub>O. At this rate 1 gallon of Raptor will treat 32 acres of soybeans. Raptor may be applied postemergence at a broadcast rate of 5 fl ozs/acre (including minimum and no-till). At this broadcast rate, 1 gallon of Raptor will treat 25.6 acres of soybeans.

Crop-specific Restrictions and Limitations
Raptor applications must be made before soybean

Only 1 application of **Raptor** may be made during the season. **DO NOT** apply more than 0.04 lb ae imazamox (5 fl ozs **Raptor**) per acre per season.

If soybeans are furrow irrigated, till the soil prior to planting winter wheat or barley. The beds should be broken up and the soil mixed with tillage equipment set to cut 4 to 6 inches deep.

### **WEEDS CONTROLLED**

When applied as directed, **Raptor** will control or suppress listed weeds as follows. Refer to the **Application Information** section for use directions when weeds are at the maximum specified growth stage or are under stress.

# Broadleaf Weeds Controlled by Raptor Alone or in a Sequential' Program in Soybeans

**Application Rate** 

	Application Rate		
	Raptor Postemergence Alone	Prowl 3.3 EC or Prowl H₂O Soil Applied followed by Raptor Postemergence	
	5 fl ozs/A	4 fl ozs/A	
		d Size :hes)	
Artichoke, Jerusalem	3 to 8	3 to 8	
Carpetweed		2 to 4	
Chickweed, common	2 to 5	2 to 5	
Cocklebur, common	2 to 8	2 to 8	
Jimsonweed	2 to 6	2 to 6	
Kochia <sup>2</sup>	1 to 4	1 to 4	
Lambsquarters, commor	2 to 5	2 to 5	
Marshelder	2 to 4	2 to 4	
Mallow, Venice	1 to 4		
Morningglory,			
Entireleaf	2 to 4		
lvyleaf	2 to 4		
Smallflower	2 to 4		
Tall	2 to 4		
Mustard spp.	2 to 8	2 to 8	
Nightshade,			
Black	2 to 5	2 to 5	
Eastern black	2 to 5	2 to 5	
Hairy	2 to 5	2 to 5	
Pigweed,			
Palmer amaranth <sup>3</sup>	2 to 4	2 to 4	
Prostrate	2 to 5	2 to 5	
Redroot	2 to 8	2 to 8	
Smooth	2 to 8	2 to 8	
Spiny	2 to 5	2 to 5	

### Broadleaf Weeds Controlled by Raptor® herbicide Alone or in a Sequential Program in Soybeans (continued)

### **Application Rate**

Raptor Postemergence Aione

Prowl® 3.3 EC herbicide or Prowi® H<sub>2</sub>O herbicide Soil Applied followed by Raptor

		Postemergence
	5 fl ozs/A	4 fl ozs/A
	Weed (inch	J
Puncturevine	1 to 3	
Purslane, common	1 to 3	1 to 3
Pusley, Florida		2 to 4
Radish, wild	2 to 4	2 to 4
Ragweed,		
Common³	2 to 5	
Giant <sup>3</sup>	2 to 5	2 to 5
Smartweed,		
Ladysthumb	2 to 5	2 to 5
Pennsylvania	2 to 5	2 to 5
Spurge, annual		2 to 4
Sunflower	2 to 8	2 to 8
Velvetleaf	2 to 8	2 to 8
1 Soil-applied grass herbicide	such as Browd 3.3 FC or F	Provid H_O is followed by

1 Soil-applied grass herbicide, such as Prowl 3.3 EC or Prowl H2O, is followed by a posternergence application of Raptor at a broadcast rate of 4 fl ozs/acre.

# Broadleaf Weeds Suppressed by Raptor Alone or in a Sequential Program in Soybeans

### Application Rate

	Application Hate		
	Raptor Postemergence Alone	Prowl 3.3 EC or Prowl H₂O Soil Applied followed by Raptor¹ Postemergence	
	5 fl ozs/A	4 fl ozs/A	
		d Size hes)	
Bindweed,			
Field (seedling)	2 to 4	2 to 4	
Hedge (seedling)	2 to 4	2 to 4	
Buckwheat, wild	1.to 3	1 to 3	
Mallow, Venice <sup>2</sup>		1 to 4	
Morningglory,			
Entireleaf		2 to 4	
lvyleaf		2 to 4	
Pitted	2 to 4	2 to 4	
Smallflower <sup>2</sup>		2 to 4	

Tall<sup>2</sup>

### Broadleaf Weeds Suppressed by Raptor Alone or in a Sequential! Program in Soybeans (continued)

#### **Application Rate**

Raptor Postemergence Alone

Prowl 3.3 EC or Prowl H2O Soil Applied followed by Raptor' Postemergence

5 fl ozs/A

4 fl ozs/A

		d Size ches)
Ragweed, common <sup>2</sup>		2 to 5
Sida, prickly	2 to 4	2 to 4
Sowthistle, annual	2 to 4	2 to 4
Thistle, Canada	2 to 5	2 to 5

<sup>&#</sup>x27; Soll-applied grass herbicide, such as Prowl 3.3 EC or Prowl H2O, is followed by a posternergence application of Raptor at a broadcast rate of 4 fl ozs per acre.

#### <sup>2</sup> For control, see the 5 fl ozs rate and HERBICIDE COMBINATIONS section.

### Grass Weeds Controlled by Raptor Alone or in a Sequential Program in Soybeans

### **Application Rate**

Postemergence

Prowl 3.3 EC or Prowl H<sub>2</sub>O Soil

	Alone	Applied followed by Raptor' Postemergence
	5 fl ozs/A	4 fl ozs/A
		d Size hes)
Barley, wild	2 to 4	2 to 4
Barnyardgrass	2 to 5 <sup>2</sup>	2 to 5
Crabgrass,		
Large		2 to 4
Smooth		2 to 4
Crowfoot grass		2 to 5
Cupgrass, woolly		2 to 4
Foxtail,		
Giant	2 to 6	2 to 6
Green	2 to 6	2 to 6
Yellow	2 to 6	2 to 6
Goosegrass		2 to 5
Johnsongrass,		
Seedling	4 to 8	4 to 8
Millet, wild proso	2 to 4 <sup>2</sup>	2 to 4
Oats, wild	2 to 6	2 to 6
Panicum,		
Fall	2 to 6	2 to 6
Texas		2 to 6
Sandbur, field <sup>3</sup>		2 to 5
Shattercane	2 to 8	2 to 8

2 to 4

<sup>&</sup>lt;sup>2</sup> Control of light-to-moderate populations only. For control of heavier populations, use a sequential application with a soil-applied grass herbicide, as described

<sup>&</sup>lt;sup>a</sup> Control of light-to-moderate populations of ALS-susceptible biotypes only. For control of heavier populations of ALS-tolerant biotypes, see the HERBICIDE COMBINATIONS section.

# Grass Weeds Controlled by Raptor herbicide Alone or in a Sequential Program in Soybeans (continued)

Raptor Postemergence Alone	Prowi® 3.3 EC herbi- cide or Prowi® H <sub>2</sub> O herbicide Soil Applied followed by Raptor' Postemergence
E 41 /A	4.61 /4

**Application Rate** 

	5 fl ozs/A	4 fl ozs/A
	Weed (inc	l Size hes)
Signalgrass, broadleaf	2 to 5²	2 to 5
Volunteer corn⁴	2 to 8	2 to 8
Volunteer wheat (non-CLEARFIELD®)	2 to 4 <sup>3</sup>	2 to 4
Witchgrass		2 to 5

<sup>&</sup>lt;sup>3</sup> Soil-applied grass herbicide, such as Prowl 3.3 EC or Prowl H<sub>2</sub>O, is followed by a postemergence application of Raptor at a broadcast rate of 4 fl ozs per acre.

# Grass Weeds and Sedges Suppressed by Raptor Alone . Sor in a Sequential! Program in Soybeans!

	Applica	ation Rate
	Raptor Postemergence Alone	Prowl 3.3 EC or Prowl H <sub>2</sub> O Soil Applied followed by Raptor <sup>1</sup> Postemergence
	5 fl ozs/A	4 fl ozs/A
		d Size thes)
GRASSES		
Crabgrass,		
Large	2 to 4	<del>-</del>
Smooth	2 to 4	
Cupgrass, woolly	2 to 4	
Goosegrass	2 to 4	
Itchgrass		2 to 5
Johnsongrass, rhizome	6 to 12	6 to 12
Quackgrass		4 to 8
Red rice		2 to 5
Stinkgrass	2 to 4	
SEDGES		
Nutsedge,		
Purple	1 to 3	1 to 3
Yellow	1 to 3	1 to 3

<sup>&</sup>lt;sup>1</sup> Soil-applied grass herbicide, such as Prowl 3.3 EC or Prowl H<sub>2</sub>O, is followed by a posternergence application of Raptor at a broadcast rate of 4 fl ozs/acre.

#### HERBICIDE COMBINATIONS

#### **Grass Weeds**

Use a soil-applied grass herbicide (such as **Prowl 3.3 EC** or **Prowl H\_2O**) if heavy infestations of some grass weeds exist or if **Raptor** does not control the species present. Refer to the **Prowl 3.3 EC**, **Prowl H\_2O** or other grass herbicide label for specific use directions, rates and precautions.

Glyphosate may be tank mixed with Raptor to aid in control of certain grasses only in Roundup Ready® soybeans. DO NOT tank mix Raptor with Extreme® herbicide. If a selective postemergence grass herbicide, such as Poast Plus® herbicide, is mixed with Raptor to control species that are not controlled with Raptor alone, include a methylated seed oil or a crop oil concentrate (1 to 2 gallons/100 gallons) or an HSOC at 0.5 gallon/100 gallons AND liquid fertilizer (2.5 gallons/100 gallons) should be added to the tank mixture.

In some cases, the activity of the grass herbicide may be reduced when mixed with **Raptor**. The reduction in activity may be overcome by delaying the application of the postemergence grass herbicide 7 days following the application of **Raptor**. If the postemergence grass herbicide is applied first, wait 3 days before applying **Raptor**. Refer to the respective grass herbicide label for specific application rate, weed size and restrictions.

### **Broadleaf Weeds**

Glyphosate may be tank mixed with **Raptor** to aid in control of certain broadleaf weeds only in **Roundup Ready** soybeans.

Tank mixing **Raptor** and certain broadleaf herbicides (e.g. diphenylethers and **Basagran® herbicide**) can reduce grass control; therefore, a sequential program including a soil-applied grass herbicide, such as **Prowl 3.3 EC** or **Prowl H<sub>2</sub>O**, is recommended for optimal control.

# Enhanced Control of Ragweed Species, Palmer Amaranth, Waterhemp, and Kochia

Use a soil application of **Prowl 3.3 EC** or **Prowl H<sub>2</sub>O** followed by a postemergence application of **Raptor** at a broadcast rate of 4 fl ozs to 5 fl ozs/acre plus a diphenylether, such as **Ultra Blazer®** herbicide (acifluorfen) or glyphosate, for enhanced control of ragweeds, Palmer amaranth, waterhemp, and kochia. Refer to the **Prowl 3.3 EC**, **Prowl H<sub>2</sub>O** or **Ultra Blazer** labels for specific use directions, rates, restrictions and precautions.

When tank mixing **Raptor** and **Ultra Blazer**, apply **Raptor** at a broadcast rate of 5 fl ozs/acre or 4 fl ozs/acre when preceded by a full rate of a registered soil-applied grass herbicide. Apply **Ultra Blazer** at the following rates depending on weed height.

<sup>&</sup>lt;sup>2</sup> Control of light-to-moderate populations only. For control of heavier populations, use a **sequential application** with a soil-applied grass herbicide, as described above.

<sup>&</sup>lt;sup>3</sup> For control, a dinitroaniline (DNA) herbicide, such as Prowl 3.3 EC or Prowl H<sub>2</sub>O, must be soil-applied at a full-labeled rate.

Except imidazolinone-tolerant corn.

# Ultra Blazer® herbicide Rate (fl ozs/Acre)¹

Weed	8 to 10 fl ozs	12 to 14 fl ozs	16 to 20 fl ozs
Kochia	2 to 4"	4 to 6"	6 to 8"
Palmer amaranth	2 to 4"	4 to 6"	6 to 8"
Ragweed spp.	2 to 4"	4 to 6"	6 to 8"
Waterhemp spp.	2 to 4"	4 to 6"	6 to 8"

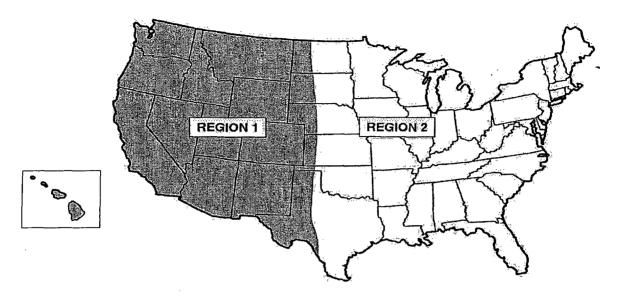
<sup>1</sup> Use the higher rate if common ragweed is present or the weed population is high.

# **Enhanced Control of Ragweed and Giant Ragweed**

FirstRate® herbicide may be tank mixed with Raptor® herbicide to aid in the control of common ragweed and giant ragweed. When tank mixing FirstRate with Raptor, apply 0.15 to 0.3 fl oz/acre of FirstRate. Use the higher rate when weeds approach maximum labeled size. See the FirstRate label for specific rates and precautions.

# **ROTATIONAL CROP RESTRICTIONS**

Rotational crops may be planted after applying the specified rate of **Raptor® herbicide** in the regions, as indicated on the map.



**Region 1** consists of states and parts of states WEST of US Highway 83 (Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming, and western parts of Kansas, Nebraska, North Dakota, Oklahoma, South Dakota, and Texas).

**Region 2** consists of states and parts of states to the EAST of US Highway 83 (includes the eastern parts of Kansas, Nebraska, North Dakota, Oklahoma, South Dakota, and Texas, and the states to the east of these states).

### Rotational Interval (months) Following an Application of Raptor® herbicide

PLANT-BACK INTERVAL (months)	REGION 1		REGION 2	
ANYTIME	CLEARFIELD® car CLEARFIELD lentil CLEARFIELD sunf CLEARFIELD whe Dry beans and dry p English peas Lima beans (succult Snap beans Soybeans	dower at peas	CLEARFIELD car CLEARFIELD ince CLEARFIELD sur CLEARFIELD who Dry beans and dry English peas Lima beans (succu Snap beans Soybeans	til e flower eat peas
3 MONTHS	Alfalfa Wheat <sup>5,6</sup> (non- <b>CLEA</b>	ARFIELD)	Alfalfa Wheat <sup>5</sup> (non- <b>CLEA</b>	ARFIELD)
4 MONTHS	Rye		Rye	
8 1/2 MONTHS	Corn (field, pop, see	ed, sweet, i non- <b>CLEARFIELD</b> )	Corn (field, pop, se	ed, sweet, nd non-CLEARFIELD)
9 MONTHS	Barley¹ Cantaloupe Cotton Grain sorghum Lettuce Millets Oat Onion	Peanut Pumpkin Rice Squash Sunflower Tobacco Watermelon	Barley¹ Broccoli Cabbage Cantaloupe Carrot Cotton Cucumber Grain sorghum Lettuce Millets Oat Onion	Peanut Pepper Potato² Pumpkin Rice Squash Sunflower Tobacco Tomato Turnip Watermelon
18 MONTHS	Barley¹ Broccoli Cabbage Carrot Cucumber All other crops not lis	Pepper Potato Tomato Turnip	Barley' Canola (non-CLEARFIELD) Condiment mustard All other crops no	t listed in the
26 MONTHS	Canola (non-CLEARFIELD) Condiment mustard	Sugar beet* Table beet	Sugar beet <sup>3</sup> Table beet <sup>3</sup>	or o resultations

<sup>&</sup>lt;sup>1</sup> In Region 1 and Region 2, refer to the following table for rotational intervals for planting barley following applications of Raptor.

When taking soil samples to determine soil pH, utilize a grid sampling technique, sampling to a depth of 3 to 4 inches.

<sup>&</sup>lt;sup>2</sup> In Region 2, refer to the following table for rotational intervals for planting potato following applications of Raptor.

<sup>&</sup>lt;sup>3</sup> In **Region 2**, sugar beets and table beets can be planted 18 months following an application of **Raptor** if the soil pH is uniformly 6.2 or greater. If the soil pH is less than 6.2, the rotational interval is 26 months. Sugar beet yields can be reduced when grown in soil conditions with a pH less than 6.2. If the soil is limed to adjust the soil pH, apply the lime at least 18 months prior to planting sugar beet or other rotational crops under the 18-month rotational interval.

<sup>&</sup>lt;sup>4</sup> For sugar beets grown in parts of Nebraska west of Highway 83, and Platte, Goshen and Laramie counties in Wyoming, follow the sugar beet rotational crop restrictions for **Region 2** for sprinkler-irrigated fields only. If fields are dryland, flood or furrow irrigated, follow restrictions for **Region 1**. A minimum of 10 inches of overhead irrigation must be applied each season to qualify for **Region 2** guidelines.

<sup>&</sup>lt;sup>5</sup> Planting non-CLEARFIELD spring or winter wheat in areas receiving less than 10 inches of precipitation from the time of Raptor application up until wheat planting may result in wheat injury. The possibility of injury increases if less than normal precipitation occurs from the time of application to planting and/or within the first 2 months after Raptor application.

In Region 1, refer to the following table for rotational intervals for planting non-CLEARFIELD wheat following applications of Raptor.

Barley Rotational Interval Based on pH, Moisture and Tillage (Region 1 and Region 2)		Moldboard Plowing	
		NO	YES
all and Dainfall Daminon and	>18" R+I AND pH >6.2	9 months	9 months
pH and Rainfall Requirements	<18" R+I OR pH <6.2	18 months	9 months

Potato Rotational Interval Based on pH and Moisture (Region 2)			
all and Dainfall Danwinsmants	>18" R+I AND pH >6.2	9 months	
pH and Rainfall Requirements	<18" R+I OR pH <6.2	18 months	

Non-CLEARFIELD® Wheat Rotational Interval based on pH, Moisture and Tillage (Region 1)		Moldboard Plowing	
		NO	YES
pH and Rainfall Requirements	>10" R+I AND pH >6.2	3 months	3 months
	<10" R+I OR pH <6.2	15 months	3 months

Non-CLEARFIELD Wheat Rotational Interval based on pH, Moisture and Tillage (WA and selected counties in ID* and OR**)		Moldboard Plowing	
		NO	YES
pH and Rainfall Requirements	>16" R+I AND pH >6.2	3 months	3 months
	<16" R+I OR pH <6.2	15 months	15 months

<sup>\*</sup>Selected counties in Idaho: Benewah, Bonner, Boundary, Clearwater, Idaho, Kootenai, Latah, Lewis, Nez Perce and Shoshone.

**R+I** = Rainfall and overhead irrigation from the time of **Raptor® herbicide** application up until time of barley, non-**CLEARFIELD** wheat, or potato planting. **Does not include furrow or flood irrigation.** 

If the rainfall or pH requirements are not fully met, and barley or non-**CLEARFIELD** wheat is planted prior to the specified rotation interval, injury may be reduced by tillage, such as deep disking (greater than 6 inches deep) after crop harvest but prior to November 1.

The possibility of injury to barley or non-CLEARFIELD wheat planted the next season increases if less than normal precipitation occurs from the time of application to planting and/or within the first two months after Raptor application.

### **FURROW-IRRIGATED AND FLOOD-IRRIGATED CROPS**

Following harvest of furrow-irrigated or flood-irrigated crops, the soil should be thoroughly mixed by plowing or deep disking to minimize the potential for herbicide carryover to the following crop.

Use of **Raptor** in accordance with label directions is expected to result in normal growth of rotational crops in most situations; however, various environmental and agronomic factors, such as arid conditions, make it impossible to eliminate all risks associated with the use of this product and, therefore, rotational crop injury is always possible.

# **GENERAL PRECAUTIONS**

In the event of a crop loss due to weather, dry beans, dry peas, **CLEARFIELD** canola, **CLEARFIELD** corn, **CLEARFIELD** lentil, **CLEARFIELD** sunflowers, **CLEARFIELD** wheat, peas (English), lima beans (succulent), snap beans, or soybeans can be replanted. **DO NOT** make an additional application of **Raptor**.

Application of products containing chlorimuron ethyl (herbicides such as **Canopy®**, etc.), metsulfuron-methyl (**Harmony® Extra**), imazaquin (**Scepter® 70 DG herbicide**) or imazethapyr (**Pursuit® herbicide**, **Pursuit® DG herbicide**) the same year as **Raptor** may increase the risk of injury to sensitive rotational crops. Consult all pertinent labels for use of these products in combinations.

If arid conditions occur during the year of application, rotational crop injury may occur.

<sup>\*\*</sup>Selected counties in Oregon: All but Malheur.

# **Conditions of Sale and Warranty**

The **Directions For Use** of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and must be followed carefully. However, it is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or use of the product in a manner inconsistent with its labeling, all of which are beyond the control of BASF CORPORATION ("BASF") or the Seller. To the extent consistent with applicable law, all such risks shall be assumed by the Buyer.

BASF warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the **Directions For Use**, subject to the inherent risks, referred to above.

To the extent consistent with applicable law, BASF makes no other express or implied warranty of fitness or merchantability or any other express or implied warranty.

To the extent consistent with applicable law, 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 the product.

To the extent consistent with applicable law, BASF and the seller disclaim any liability for consequential, special or indirect damages resulting from the use or handling of this product.

BASF and the Seller offer this product, and the Buyer and User accept it, subject to the foregoing **Conditions of Sale and Warranty** which may be varied only by agreement in writing signed by a duly authorized representative of BASF.

# USES WITH OTHER PRODUCTS (TANK MIXES)

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

Banvel, Basagran, Clarity, CLEARFIELD, Extreme, Poast Plus, Prowl, Pursuit, Raptor, Rezult, and Scepter are registered trademarks of BASF.

**Spra-Coupe** is a registered trademark of AGCO Corporation.

**Bronate** and **Buctril** are registered trademarks of Bayer CropScience USA, Inc.

**Curtail, FirstRate, Hornet, Lorsban, Starane,** and **Stinger** are registered trademarks of Dow AgroSciences LLC.

Furadan is a registered trademark of FMC Corporation.

Canopy, Finesse, Harmony, and Staple are registered trademarks of E.I. duPont de Nemours and Co., Inc.

Roundup Ready is a registered trademark of Monsanto.

**Blazer** is a registered trademark of United Phosphorus, Inc.

© 2008 BASF Corporation All rights reserved.

000241-00379.20080530b.**NVA 2007-04-133-0188** Supersedes: NVA 2006-04-133-0160

.

BASF Corporation
26 Davis Drive
Research Triangle Park, NC 27709



The Chemical Company