



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

OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

Craig D. Kleppe, Ph.D. BASF Corporation 26 Davis Drive, PO Box 13528 Research Triangle Park, NC 27709

SEP 1 6 2014

Subject:

Label amendment to add new uses for harvest aid/desiccation applications in

wheat, barley and triticale; associated with

Tolerance petition 3F8185

Product Name(s): Kixor Herbicide Technical, & Sharpen powered by Kixor Herbicide EPA Reg. Number(s): 7969-275 & 7969-278 Decision Number(s): 480697 & 480698

Dear Dr. Kleppe:

The labeling referred to above, submitted in connection with registration in accordance with FIFRA section 3(C)(5), as amended, is acceptable, provided that you submit and/or cite all data required for reregistration/registration review of your product under FIFRA when the Agency requires all registrants of similar products to submit such data.

Stamped copies of the approved labeling for these products are enclosed/attached for your records. At your next label printing, or within eighteen (18) months of the date of this letter, whichever comes first, you must incorporate this supplemental labeling into the main product labeling. If you have questions or concerns regarding this letter, please contact Beth Benbow at (703) 347-8072 or email at benbow.bethany@epa.gov.

Sincerely,

Kathryn V. Montague Product Manager 23

Herbicide Branch

Registration Division (7505P)

# Supplemental Label

# Sharpen

### Powered by Kixor® Herbicide

#### For harvest aid/desiccation in barley, wheat, and triticale

This supplemental label expires August 31, 2017, and must not be used or distributed after this date.

#### **Active Ingredient:**

Contains 2.85 pounds active ingredient saffufenacil per gallon formulated as a water-based suspension concentrate

#### EPA Reg. No. 7969-278

#### **Directions For Use**

- It is a violation of federal law to use this product in a manner inconsistent with its labeling.
- The supplemental labeling and the entire Sharpen® herbicide container label, EPA Reg.
   No. 7969-278, must be in possession of the user at the time of application.
- Read the label affixed to the container for **Sharpen** before applying.
- Use of Sharpen according to this labeling is subject to the use precautions and limitations imposed by the label affixed to the container for Sharpen.

#### **Use Information**

**Sharpen** may be used for harvest aid/desiccation in barley (including malting, spring, and winter), wheat (including durum, spring, and winter), and triticale to desiccate the crop and weeds and to facilitate crop harvest.

#### **Application Information**

#### **Application Rates and Timings**

Uniformly apply **Sharpen** at 1.0 to 2.0 fl ozs/A as a broadcast spray over the top of barley, wheat, and triticale that have reached physiological maturity

(hard-dough stage; grain contains less than 30% moisture) or according to Extension Service recommendations in the use area. Allow up to 7 days for optimum desiccation effect depending on environmental conditions.

Thorough spray coverage and methylated seed oil (MSO) plus ammonium-based adjuvant system (refer to **Additives** section on the product container label for details) are required for optimum desiccation activity and weed control.

Make ground application at a minimum spray volume of 10 gallons per acre, and make aerial application at a minimum spray volume of 5 gallons per acre.

A single application or sequential applications may be made, but **DO NOT** apply more than a maximum cumulative amount of 2.0 fl ozs/A of **Sharpen** per cropping season from desiccation uses.

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

- DO NOT apply Sharpen on barley (all types), wheat (all types), or triticale grown for seed production.
- Barley, wheat, and triticale grain can be harvested 3 or more days after application.
- Desiccation-treated barley, wheat, and triticale straw may be grazed or fed to livestock.

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#### **Tank Mixtures**

Apply **Sharpen<sup>®</sup> herbicide** with a labeled rate of glyphosate (e.g. **Roundup<sup>®</sup> herbicide**) for additional preharvest weed desiccation.

Ensure the glyphosate tank mix partner is labeled for harvest aid/desiccation in barley, wheat, and triticale. Read and follow applicable restrictions, limitations, and directions for use on the glyphosate product label.

The most restrictive labeling applies to tank mixes.

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#### **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.

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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.

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**Roundup** is a registered trademark of Monsanto Technology LLC.

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007969-00278.20130515b.**NVA 2013-04-322-0089** 





# Sharpen<sup>®</sup>

### Powered by Kixor® Herbicide

#### For broadleaf weed control in grasses grown for seed production

This supplemental label expires August 31, 2017, and must not be used or distributed after this date.

**Active Ingredient:** 

Contains 2.85 pounds active ingredient saflufenacil per gallon formulated as a water-based suspension concentrate

EPA Reg. No. 7969-278

#### **Directions For Use**

- It is a violation of federal law to use this product in a manner inconsistent with its labeling.
- The supplemental labeling and the entire Sharpen® herbicide container label, EPA Reg.
   No. 7969-278, must be in possession of the user at the time of application.
- Read the label affixed to the container for Sharpen before applying.
- Use of Sharpen according to this labeling is subject to the use precautions and limitations imposed by the label affixed to the container for Sharpen.

#### **Use Information**

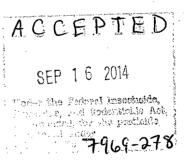
**Sharpen** may be applied for broadleaf weed control (refer to **Table 1** and **Table 2** on the product container label for list of weeds controlled) in perennial coolseason and warm-season grasses grown in fields for seed production.

Before applying **Sharpen** to grasses grown for seed production, verify the selectivity of **Sharpen** on your variety with your local seed company (supplier) to help avoid potential injury to sensitive varieties.

#### **Application Timings and Rates**

**Sharpen** may be applied to new establishment seedling fields and to established fields (stands defined as planted in the fall, spring, or summer that have gone through a first cutting/mowing) of perennial cool-season and warm-season grasses grown for seed production.

**Sharpen** may cause transitory injury to seed grasses (leaf necrosis) under certain conditions, but new growth is normal and vigor is not reduced. Disease, extremely cold weather, drought, extensive frost heaving, low or high pH, salinity, and other environmental pressures may weaken grass stands and make the crop more susceptible to herbicidal injury.





#### **Cool-season Grasses**

#### New Establishment Seedling Grass Seed Fields

Apply **Sharpen**® **herbicide** at 1.0 to 2.0 fl ozs/A as a broadcast burndown spray to emerged broadleaf weeds in new establishment seedling grass fields after the first tiller of the grass is fully established in the fall or spring. If the seedling grass field was established in the fall, **Sharpen** may also be applied sequentially in the spring before greenup as a burndown spray. A maximum of two applications may be applied. Applications must be separated by at least 14 days; **DO NOT** apply more than 2.0 fl ozs/A of **Sharpen** during this period.

Burndown applications require the addition of an adjuvant system (see adjuvant section below).

#### **Established Grass Seed Fields**

Apply **Sharpen** at 1.0 to 2.0 fl ozs/A as a broadcast postemergence spray to control emerged broadleaf weeds anytime in season (i.e. actively growing grass in the spring after greenup until 1 week before boot stage).

**Sharpen** may be applied as a single application or sequentially in season. A maximum of two applications may be applied. Sequential applications must be separated by at least 14 days; **DO NOT** apply more than 2.0 fl ozs/A of **Sharpen** in season.

Postemergence applications require the addition of an adjuvant system (see adjuvant section below).

## Sequential Applications in Grass Seed Fields

**Sharpen** may be applied as a sequential or split program where the initial application(s) are made during the period after a fully established first tiller in the fall until spring greenup, and the subsequent application(s) are made postemergence in season.

#### Specific Adjuvant Requirements for Burndown and Postemergence Applications

For optimum postemergence control of emerged broadleaf weeds, the following adjuvant is required for use with **Sharpen**:

 Methylated seed oil (MSO) at 1% volume/volume (v/v)

#### Warm-season Grasses

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#### New Establishment Seedling Grass Seed Fields

Apply **Sharpen** at 1.0 to 2.0 fl ozs/A as a broadcast burndown spray to emerged broadleaf weeds in new establishment seedling grass fields after the first rhizome or stolon of the grass is fully established. A sequential application of **Sharpen** may be made until 1 week before boot stage. A maximum of two applications may be applied. Applications must be separated by at least 14 days; **DO NOT** apply more than 2.0 fl ozs/A of **Sharpen** during this period.

Burndown applications require the addition of an adjuvant system (see adjuvant section below).

#### **Established Grass Seed Fields**

Apply **Sharpen** at 1.0 to 2.0 fl ozs/A as a broadcast postemergence spray to control emerged broadleaf weeds anytime in season (i.e. actively growing grass in the spring after greenup until 1 week before boot stage).

**Sharpen** may be applied as a single application or sequentially in season. A maximum of two applications may be applied. Sequential applications must be separated by at least 14 days; **DO NOT** apply more than 2.0 fl ozs/A of **Sharpen** in season.

Postemergence applications require the addition of an adjuvant system (see adjuvant section below).

#### Specific Adjuvant Requirements for Burndown and Postemergence Applications

For optimum postemergence control of emerged broadleaf weeds, the following adjuvant is required for use with **Sharpen**:

- MSO at 1% v/v
- DO NOT add nitrogen-containing fertilizers when applying Sharpen to seedling or established stands of warm-season grasses.

#### Cool-season and Warm-season Grasses

Dormant-season Applications in Established Grass Seed Stands for Burndown and Residual Weed Control

Apply **Sharpen**® **herbicide** at 1.0 to 2.0 fl ozs/A as a broadcast burndown spray to emerged broadleaf weeds in the dormant season [i.e. when grasses are not actively growing in the fall (postharvest), during the winter dormancy period, or in the early spring before greenup]. An adjuvant system is required for optimum broadleaf burndown activity (see adjuvant section below).

For additional residual broadleaf weed control in established stands, apply **Sharpen** anytime in the dormant season (as described above) at rates of 3.0 to 4.0 fl ozs/A.

Specific Adjuvant Requirements for
Dormant-season Applications in
Cool-season and Warm-season Grasses. For
optimum postemergence control of emerged broadleaf
weeds, the following adjuvants are required for use
with Sharpen:

 MSO at 1% v/v plus ammonium sulfate (AMS) at 8.5 to 17.0 lbs/100 gallons

#### Crop-specific Restrictions and Limitations

- DO NOT apply more than a maximum cumulative amount of 6.0 fl ozs/A of Sharpen per cropping season on established grass seed stands and 4.0 fl ozs/A on seedling grass seed stands.
- In Sharpen-treated fields of both cool-season and warm-season perennial grasses, the preharvest interval for seed is 50 days after application.
- DO NOT apply Sharpen to bahiagrass or buffalograss.
- Sharpen-treated grass forage or hay may be grazed by or fed to livestock; there is no preharvest or pregrazing interval.
- The grass straw remaining after seed harvest may be used as livestock bedding and/or grazed by or fed to livestock.
- The grass seed screenings remaining after seed harvest and processing may be fed to livestock.
- Refer to the product container label for crop rotation intervals.

#### **Tank Mixtures**

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Broad-spectrum control of grasses and/or additional broadleaf weeds will require a tank mix with another herbicide. Read and follow the applicable restrictions and limitations and directions for use on the other product label. The most restrictive labeling applies to tank mixes.

**Sharpen** may be tank mixed or applied sequentially with other herbicide products, such as but not limited to:

Prowl<sup>®</sup> H₂O herbicide Outlook<sup>®</sup> herbicide

#### **Conditions of Sale and Warranty**

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007969-00278.20130607b.NVA 2013-04-322-0114



# Supplemental Label

# Sharpen<sup>\*</sup>

### Powered by Kixor® Herbicide

# For broadleaf weed control in perennial forage grasses grown in pastures and rangeland, or in fields grown for forage, silage, and hay production

This supplemental label expires August 31, 2017, and must not be used or distributed after this date.

**Active Ingredient:** 

Contains 2.85 pounds active ingredient saflufenacil per gallon formulated as a water-based suspension concentrate

EPA Reg. No. 7969-278

#### **Directions For Use**

- It is a violation of federal law to use this product in a manner inconsistent with its labeling.
- The supplemental labeling and the entire Sharpen® herbicide container label, EPA Reg. No. 7969-278, must be in possession of the user at the time of application.
- Read the label affixed to the container for **Sharpen** before applying.
- Use of Sharpen according to this labeling is subject to the use precautions and limitations imposed by the label affixed to the container for Sharpen.

#### **Use Information**

Sharpen may be applied for broadleaf weed control (refer to Table 1 and Table 2 on the product container label for list of weeds controlled) in perennial coolseason and warm-season forage grasses grown in pastures or rangeland for livestock grazing, or grown in fields for forage (green chop), silage, or hay production.

Before applying **Sharpen** to forage grasses, verify the selectivity of **Sharpen** on your variety with your local seed company (supplier) to help avoid potential injury to sensitive varieties.

#### **Application Timings and Rates**

Apply **Sharpen** only to established (defined as planted in fall or spring which has gone through a first cutting/mowing) stands of perennial cool-season and warm-season forage grasses.

**Sharpen** may cause transitory injury to forage grasses (leaf necrosis) under certain conditions, but new growth is normal and vigor is not reduced.

Disease, extremely cold weather, drought, extensive frost heaving, low or high pH, salinity, and other environmental pressures may weaken grass stands and make the crop more susceptible to herbicidal injury.

#### Dormant-season Applications for Burndown and Residual Weed Control in Warm-season and Cool-season Grasses

Apply **Sharpen** at 1.0 to 2.0 fl ozs/A as a broadcast burndown spray to emerged broadleaf weeds in the dormant season [i.e. when grasses are not actively growing in the fall (postharvest), during the winter dormancy period, or in the early spring before greenup]. An adjuvant system is required for optimum broadleaf burndown activity.

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For additional residual broadleaf weed control, **Sharpen® herbicide** can be applied anytime in the dormant season (as described above) at rates of 3.0 to 4.0 fl ozs/A.

Sequential applications of **Sharpen** may be made within the dormant season as long as the maximum cumulative amount does not exceed 4.0 fl ozs/A of **Sharpen**. Apply dormant-season burndown applications sequentially where the first burndown application is made fall (postharvest) or during the winter dormancy period, and the second application is made in the early spring before greenup. Separate sequential dormant-season burndown applications by at least 14 days.

Specific Adjuvant Requirements for Dormantseason Applications in Warm-season and Cool-season Grasses. For optimum postemergence control of emerged broadleaf weeds, the following adjuvants are required for use with Sharpen:

 Methylated seed oil (MSO) at 1% volume/volume (v/v) plus ammonium sulfate (AMS) at 8.5 to 17.0 lbs/100 gallons

## In-season Postemergence Applications for Weed Control in Cool-season Grasses

Apply **Sharpen** at 1.0 to 2.0 fl ozs/A as a broadcast postemergence spray to control emerged broadleaf weeds in season (i.e. actively growing cool-season forage grasses). Make in-season applications before weeds reach the maximum size listed in **Table 1** on the product container label. Postemergence applications require the addition of an adjuvant system.

Specific Adjuvant Requirements for In-season Postemergence Applications in Cool-season Grasses. For optimum postemergence control of emerged broadleaf weeds, the following adjuvant is required for use with Sharpen:

MSO at 1% v/v

## In-season Postemergence Applications for Weed Control in Warm-season Grasses

Apply **Sharpen** at 1.0 to 2.0 fl ozs/A as a broadcast postemergence spray to control emerged broadleaf weeds in season (i.e. actively growing warm-season forage grasses). In-season postemergence applications can be made in the spring after greenup. Make in-season applications before weeds reach the maximum size listed in **Table 1** on the product container label. Postemergence applications require the addition of an adjuvant system.

**DO NOT** apply **Sharpen** in-season postemergence on Bahiagrass, buffalograss, and switchgrass.

**DO NOT** exceed 1.0 fl oz/A of **Sharpen** in forage Bermudagrass and switchgrass applied in-season postemergence (i.e. after greenup) because higher rates may cause unacceptable grass injury.

Specific Adjuvant Requirements for Postemergence Applications in Warm-season Grasses. For optimum postemergence control of emerged broadleaf weeds, the following adjuvant is required for use with Sharpen:

- MSO at 1% v/v
- DO NOT add nitrogen-containing fertilizers when applying Sharpen to warm-season grasses.

## **Sequential Applications in Warm-season and Cool-season Grasses**

**Sharpen** may be applied as a sequential or split program where application(s) is made in the dormant season and subsequent application(s) is made postemergence in-season after greenup. **DO NOT** apply more than a maximum cumulative amount of 6.0 fl ozs/A of **Sharpen** per cropping season.

In-season postemergence applications of **Sharpen** may also be applied sequentially; separate sequential applications by at least 14 days. The maximum cumulative amount for in-season postemergence applications must not exceed 2.0 fl ozs/A of **Sharpen**.

#### **Tank Mixtures**

Broad-spectrum control of grasses and/or additional broadleaf weeds will require a tank mix with another herbicide. Read and follow the applicable restrictions and limitations and directions for use on the other product label. The most restrictive labeling applies to tank mixes. **Sharpen** may be tank mixed or applied sequentially with other herbicide products.

#### **Leafy Spurge Control**

Sharpen applied in tank mixture with Plateau® herbicide will control leafy spurge when applied late spring/early summer. This tank mixture will also control additional weeds listed on the respective Sharpen and Plateau labels.

Apply **Sharpen** at 1.0 to 2.0 fl ozs/A plus **Plateau** at 4.0 to 6.0 fl ozs/A to leafy spurge when it reaches the yellow bract (pre-bloom) stage in late spring/early summer. **DO NOT** apply this tank mix as a fall application because resultant control may not be satisfactory.

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Spray Additives. Sharpen® herbicide plus Plateau® herbicide tank mix requires the use of an effective adjuvant system. For best results, use nonionic surfactant (NIS) at 0.25% v/v plus AMS at 8.5 to 17.0 lbs/100 gallons [1% to 2% weight/volume (w/v)]. Crop oil concentrate (COC) or MSO may also be used with this tank mixture when injury (stunting, necrosis) to grasses is acceptable.

**Sharpen** plus **Plateau** tank mix may be applied by ground or air.

Water Volume. For ground application, use 10 or more gallons of water per acre. Thorough coverage of weeds is essential, and higher spray volumes may be necessary for better performance on a heavy population of leafy spurge. For aerial application, use 5 or more gallons of water per acre.

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

- DO NOT apply more than a maximum cumulative amount of 6.0 fl ozs/A of Sharpen per cropping season.
- For a mixed stand of cool-season and warm-season grasses, follow use directions for warm-season grasses when applying **Sharpen** in-season postemergence.
- DO NOT apply Sharpen to mixed stands of grass and forage legumes or to grass stands containing other desirable broadleaf species. Sharpen application will kill or cause severe injury to alfalfa, clover, other legumes, and most broadleaf species.
- There is no preharvest or pre-grazing interval for Sharpen-treated grass forage, hay, or pasture.
- **DO NOT** apply **Sharpen** to stands of annual forage (e.g. forage sorghum, Sudangrass).
- Refer to Table 4 on the product container label for crop rotation intervals.

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#### **Conditions of Sale and Warranty**

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TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BASF AND THE SELLER DISCLAIM ANY LIABILITY FOR CONSEQUENTIAL, EXEMPLARY, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT.

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# Sharpen

### Powered by Kixor® Herbicide

# For preemergence broadleaf weed control while establishing cool-season forage grasses or grasses grown for seed production

This supplemental label expires August 31, 2017, and must not be used or distributed after this date.

**Active Ingredient:** 

Contains 2.85 pounds active ingredient saflufenacil per gallon formulated as a water-based suspension concentrate

EPA Reg. No. 7969-278

#### **Directions For Use**

- It is a violation of federal law to use this product in a manner inconsistent with its labeling.
- The supplemental labeling and the entire Sharpen® herbicide container label, EPA Reg.
   No. 7969-278, must be in possession of the user at the time of application.
- Read the label affixed to the container for Sharpen before applying.
- Use of Sharpen according to this labeling is subject to the use precautions and limitations imposed by the label affixed to the container for Sharpen.

#### **Use Information**

**Sharpen** may be applied for preemergence broadleaf weed control (refer to **Table 1** and **Table 2** on the product container label for list of weeds controlled) in fields when establishing stands of cool-season grasses grown for forage purposes (in pastures or rangeland for livestock grazing); or for forage (green chop), silage, or hay production; or grown for seed production.

Before applying **Sharpen** preemergence to cool-season grasses, verify the selectivity of **Sharpen** on your species and/or variety with your local seed company (supplier) to help avoid potential injury to sensitive varieties.

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

#### **Application Information**

**Sharpen** may be applied preplant, preplant incorporated, or preemergence in the fall or spring while establishing stands of cool-season grasses.

**Sharpen** may cause transitory injury to cool-season grasses under certain conditions. Disease, extremely cold weather, drought, extensive frost heaving, low or high pH, salinity, and other environmental pressures may weaken grass stands and make the crop more susceptible to herbicidal injury.

#### **Burndown and Residual Weed Control**

Apply **Sharpen** at 1.0 to 2.0 fl ozs/A as a broadcast spray to the soil surface before grasses emerge. If burndown of emerged broadleaf weeds is desired, an adjuvant system (refer to **Additives** section on the product container label for details) is required for optimum broadleaf burndown activity.

For additional residual broadleaf weed control, **Sharpen** can be applied at rates of 3.0 to 4.0 fl ozs/A.

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#### **Sequential Applications**

Sharpen® herbicide may be applied as a sequential or split program where the initial application is made preplant or preemergence while establishing the stand, and the subsequent application(s) are made postemergence in-season after establishment. However, DO NOT apply more than a maximum cumulative amount of 6.0 fl ozs/A of Sharpen per cropping season.

#### **Tank Mixtures**

Broad-spectrum control of grasses and/or additional broadleaf weeds will require a tank mix with another herbicide. Read and follow the applicable restrictions and limitations and directions for use on the other product label. The most restrictive labeling applies to tank mixes. **Sharpen** may be tank mixed or applied sequentially with other herbicide products.

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

- DO NOT apply more than a maximum cumulative amount of 6.0 fl ozs/A of Sharpen per cropping season.
- DO NOT apply Sharpen when establishing solid stands of warm-season grasses or mixed stands of cool-season and warm-season grasses.
- DO NOT apply Sharpen when establishing mixed stands of cool-season grasses and forage legumes or other desirable broadleaf species. Sharpen application will kill or cause severe injury to emerging alfalfa, clovers, other legumes, and most broadleaf species.
- There is no preharvest or pre-grazing interval for Sharpen-treated grass harvested as forage or hay.
- Refer to Table 4 on the product container label for crop rotation intervals.

#### **Conditions of Sale and Warranty**

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