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### 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

JUL 2 1 2014

Subject:

Label amendment to: add California-specific restrictions; add chickpea and wheat directions for enhanced burndown; add southern pea use directions, extend the use period of supplemental labels for the desiccation for dry edible beans, dry peas and oilseed canola (rapeseed) subgroup 20A, and other minor revisions

Product Name: Sharpen Powered by KIXOR Herbicide

EPA Reg. No: 7969-278

Decision Number(s):489316 & 492302

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.

NOTE: Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

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Page 2 of 2 EPA Reg. No. 7969-278 Decision No. 489316 & 492302

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. The next label printing of this product must use this labeling unless subsequent changes have been approved. You must submit one (1) copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3. 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)



# Sharpen

## Powered by Kixor® Herbicide

### ACCEPTED

JUL 2 1 2014

Under the Vederal Insecticide, Fundicide, sand Rodenticide Act, or amended, for the posticide registered under TPA Ref. No. 7969-278

#### For use in selected agricultural crops

**Active Ingredient:** 

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

EPA Reg. No. 7969-278

EPA Est. No.

# CAUTION/PRECAUCION

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

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.

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

#### **Net Contents:**

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

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FIRST AID				
<ul> <li>Call a poison control center or doctor immediately for treatment advice.</li> <li>DO NOT induce vomiting unless told to do so by a poison control center or docto</li> <li>DO NOT give any liquid to the person.</li> <li>DO NOT give anything to an unconscious person.</li> </ul>				
If in eyes	<ul> <li>Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes.</li> <li>Remove contact lenses, if present, after first 5 minutes; then continue rinsing eyes.</li> <li>Call a poison control center for treatment advice.</li> </ul>			
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 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 by mouth to mouth, if possible.</li> <li>Call a poison control center or doctor for further treatment advice.</li> </ul>			
	HOTLINE 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 at 1-800-832-HELP (4357).

#### **Precautionary Statements**

#### **Hazards to Humans and Domestic Animals**

**CAUTION.** Harmful if swallowed. Causes moderate eye irritation. Avoid contact with eyes or clothing.

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

#### Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Chemical-resistant gloves (such as natural rubber)
- Protective eyewear such as face shield, goggles, or safety glasses

Follow the manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. **DO NOT** reuse them.

#### **Engineering Controls**

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

**IMPORTANT:** When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for **applicators and other handlers** and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

#### **USER SAFETY RECOMMENDATIONS**

#### **Users should:**

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

#### **Environmental Hazards**

For terrestrial uses, **DO NOT** apply directly to water, areas where surface water is present, or intertidal areas below the mean high water mark. **DO NOT** contaminate water when disposing of equipment washwaters or rinsate.

**Groundwater Advisory.** Saflufenacil has properties and characteristics associated with chemicals detected in groundwater. This chemical may leach into groundwater if used in areas where soils are permeable, particularly where the water table is shallow.

Surface Water Advisory. Saflufenacil may impact surface water due to runoff of rainwater. This is especially true for poorly draining soils and soils with shallow groundwater. This product is classified as having high potential for reaching surface water via runoff for several weeks after application. A level, well-maintained buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of this chemical from runoff water and sediment. Runoff of this product will be reduced by avoiding application when rainfall is forecast to occur within 48 hours.

#### Endangered Species Protection Requirements

This product may have effects on federally listed threatened or endangered plant species or their critical habitat. When using this product, you must follow the measures contained in the Endangered Species Protection Bulletin for the county or parish in which you are applying the pesticide. To determine whether your county or parish has a Bulletin, and to obtain that Bulletin, consult http://www.epa.gov/espp/, or call 1-800-447-3813 no more than 6 months before using this product. Applicators must use Bulletins that are in effect in the month in which the pesticide will be applied. New Bulletins will generally be available from the above sources 6 months prior to their effective dates.

#### **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 time of herbicide 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.

Observe all precautions and limitations in this label and the labels of products used in combination with **Sharpen® herbicide**. The use of **Sharpen** not consistent with this label can result in injury to crops, animals or persons. Keep containers closed to avoid spills and contamination.

Unless otherwise directed in supplemental labeling, all applicable directions, restrictions, precautions and **Conditions of Sale and Warranty** are to be followed.

BASF Corporation does not recommend or authorize the use of this product in manufacturing, processing or preparing custom blends with other products for application in crops.

#### **AGRICULTURAL USE REQUIREMENTS**

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Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

**DO NOT** enter or allow worker entry into treated areas during the restricted-entry interval (REI) of **12 hours**.

**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 natural rubber
   ≥ 14 mils<sup>\(\circ\)</sup>
- Shoes plus socks
- Protective eyewear

#### STORAGE AND DISPOSAL

DO NOT contaminate water, food, or feed by storage or disposal. Open dumping is prohibited.

#### **Pesticide Storage**

**DO NOT** use or store near heat or open flame. Store in original container in a well-ventilated area separately from fertilizer, feed, or foodstuffs. Avoid cross-contamination with other pesticides.

#### **Pesticide Disposal**

Wastes resulting from this product may be disposed of on-site or at an approved waste disposal facility. Improper disposal of excess pesticide, spray mix, or rinsate is a violation of federal law. If these wastes cannot be disposed of according to label instructions, contact the state agency responsible for pesticide regulation or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

#### **Container Handling**

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.

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.

#### In Case of Emergency

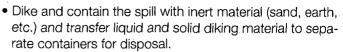
In case of large-scale spill of this product, call:

- 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)

#### Steps to take if ma\_rial is released or spilled:



- Remove contaminated clothing and wash affected skin. areas with soap and water.
- Wash clothing before reuse.
- Keep the spill out of all sewers and open bodies of water.

#### **Product Information**

Sharpen® herbicide provides both contact burndown and rate-dependent residual preemergence broadleaf weed control (refer to Table 1 and Table 2 for lists, respectively). It can be used in select field and row crops [chickpea (garbanzo beans), corn (field, pop, seed, silage, and sweet), cotton, edible bean, edible pea, field pea, lentils. rice, small grains, sorghum, southern pea, soybean. vegetable soybean (edamame)], fallow and postharvest croplands, for harvest aid/desiccation, and in noncropland areas. Sharpen does not control grass weeds and must be used sequentially or tank mixed with a grass herbicide for a complete weed control program. Refer to **Crop-specific Information** section for recommendations on herbicide tank mixtures or sequential programs.

Make burndown applications of Sharpen when broadleaf weeds are small and actively growing. An adjuvant is required with Sharpen for optimum burndown activity (refer to Additives section for details). Burndown activity may be slowed or reduced under cloudy and/or foggy or cooler weather conditions, or when weeds are growing under drought or other stress conditions. When targeting dense weed populations and/or larger broadleaf weeds, use a higher application rate within an application rate range and/or higher spray volumes. Angling nozzles forward (to 45 degrees) may improve penetration of denser weed canopies.

Residual preemergence applications of **Sharpen** must be activated by at least 1/2 inch of rainfall or sprinkler irrigation before weed seedling emergence. When Sharpen is not activated, a labeled postemergence herbicide or cultivation may be needed to control weed escapes.



Table 1. Broadleaf Weeds Contre...ed by a Burndown Application of Sharpe... herbicide

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Common Name	Scientific Name	C = Control S = Suppression	Maximum Height or Diameter (inches)
Amaranth, Palmer	Amaranthus palmeri	C	6
Bedstraw, catchweed	Galium aparine	C	. 3
Beggarticks, hairy	Bidens pilosa	<u>C</u>	6
Beggarweed, Florida	Desmodium tortuosum	. C	6
Bindweed, field	Convolvulus arvensis	S <sup>1</sup>	6
Buckwheat, wild	Polygonum convolvulus	C	3
Canola, volunteer (rapeseed)	Brassica spp.	C	6
Carpetweed	Mollugo verticillata	C_	6
Chickweed, common	Stellaria media	S	3
Cocklebur, common	Xanthium strumarium	C	6
Cotton, volunteer <sup>2</sup>	Gossypium hirsutum	С	growing from seed, ≤ 12 leaves
Cowcockle	Vaccaria pyramidata	С	4
Dandelion	Taraxacum officinale	S¹	6
Eveningprimrose, cutleaf	Oenothera laciniata	С .	4
Falseflax, smallseed	Camelina microcarpa	C	4
Filaree, broadleaf	Erodium botrys	С	4
Filaree, redstem	Erodium cicutarium	S	3
Filaree, whitestem	Erodium moschatum	C	4
Fleabane, hairy	Conyza bonariensis	C	 6
Flixweed	Descurainia sophia	C	6
Goosefoot, nettleleaf	Chenopodium murale	C	3
Groundcherry, cutleaf	Physalis angulata	C	6
Groundsel, common	Senecio vulgaris	C	4
Hawksbeard, narrowleaf <sup>2</sup>	Crepis tectorum	C	6
	Conium maculatum	<u>C</u>	6
Hemlock, poison <sup>2</sup>		S	3
Henbit	Lamium amplexicaule	S C	
Horseweed (marestail)	Conyza canadensis		6
Knotweed, prostrate	Polygonum aviculare	C	3
Kochia	Kochia scoparia	. C	1 to 3 Suppression of button/puffball stage at < 1-inch tall
Ladysthumb	Polygonum persicaria	C	6
Lambsquarters, common	Chenopodium album	С	6
Lambsquarters, narrowleaf	Chenopodium pratericola	С	6
Lettuce, miner's	Claytonia perfoliata	C	6
Lettuce, prickly	Lactuca serriola	С	6
Mallow, common	Malva neglecta	С	6
Mallow, little (cheeseweed)	Malva parviflora	C	6
Mallow, Venice	Hibiscus trionum	C	6
Marestail (horseweed)	Conyza canadensis	C	6
Morningglory, entireleaf	Ipomoea hederacea var. integriuscula		6
	Ipomoea hederacea	<u> </u>	6
Morningglory, ivyleaf Morningglory, palmleaf	Ipomoea wrightii	C	6
		C	
Morningglory, pitted	Ipomoea lacunosa		6
Morningglory, tall	Ipomoea purpurea	<u> </u>	6
Mustard, black	Brassica nigra	С	6
Mustard, tumble	Sisymbrium altissimum	<u>C</u>	. 6
Mustard, wild	Sinapis arvensis	<u>C</u>	6.
Needles, Spanish <sup>2</sup>	Bidens pilosa	C	6

Table 1. Broadleaf Weeds Controlicid by a Burndown Application of Sharpen nerbicide (continued)

**Scientific Name** 

Solanum nigrum

Solanum triflorum

Thlaspi arvense

Solanum ptycanthum

Solanum saccharoides

Parthenium hysterophorus

Urtica urens

**Common Name** 

Nightshade, black

Nightshade, hairy

Pennycress, field

Parthenium

Nightshade, cutleaf

Nightshade, Eastern black

Nettle, burning

C = Control

S = Suppression

С

С

 $\overline{\mathsf{c}}$ 

С

С

С

С

Pigweed, prostrate <u>Amaranthus blitoides</u>		С	6
Pigweed, redroot Amaranthus retroflexus		С	6 .
Pigweed, smooth Amaranthus hybridus		С	6
Puncturevine Tribulus terrestris		С	6
Purslane, common	Portulaca oleracea	С	. 3
Pusley, Florida	Richardia scabra	S	3
Ragweed, common <sup>3</sup>	Ambrosia artemisiifolia	С	6
Ragweed, giant	Ambrosia trifida	С	6
Rocket, London	Sisymbrium irio	С	6
Sesbania, hemp	Sesbania exaltata	С	4
Shepherd's-purse	Capsella bursa-pastoris	С	6 .
Sida, prickly	Sida spinosa	С	6
Smartweed, Pennsylvania	Polygonum pensylvanicum	С	6
Sowthistle, annual	Sonchus oleraceus	С	6
Sowthistle, spiny	Sonchus asper	С	6
Spurge, garden	Chamaesyce hirta	C	6
Spurge, prostrate	Chamaesyce humistrata	C	6
Spurge, spotted	Chamaesyce maculata	С	6
Sunflower, common	Helianthus annuus	C	6
Tansymustard, green <sup>2</sup>	Descurainia incana	С	6
Tansymustard, pinnate	Descurainia pinnata	С	6
Texasweed	Caperonia palustris	С	6
Thistle, Canada	Cirsium arvense	S¹	6
Thistle, Russian	Salsola kali	C	3
Velvetleaf	Abutilon theophrasti	С	6
Waterhemp <sup>3</sup>	Amaranthus tuberculatus	C .	4
Willowweed	Epilobium adenocaulon	C · ·	3
¹Control of seedling stage and suppres	sion of perennial growth stage.		
<sup>2</sup> Not controlled in California.	3 - 3	,	
	are known to be resistant to burndown applications o	of Group 14/Group E herbici	des and will not be controlled

<sup>&</sup>lt;sup>3</sup>Populations of noted weeds exist that are known to be resistant to burndown applications of **Group 14/Group E** herbicides and will not be controlled by herbicides like **Sharpen**. See the **Resistance Management** section for practices to manage and minimize the impact of resistant weeds (e.g. tank mixes or alternation with other herbicide modes of action, crop rotation, and mechanical control).

Table 2. Broadleaf Weeds Controlled with a Residual Preemergence Application of Sharpen® herbicide

Common Name	Scientific Name	C = Control S = Suppression¹
Annual Broadleaf Weeds		
Amaranth, Palmer	Amaranthus palmeri	С
Amaranth, Powell	Amaranthus powellii	·C
Beggarweed, Florida	Desmodium tortuosum	C
Buckwheat, wild	Polygonum convolvulus	C
Buffalobur	Solanum rostratum	C
Burcucumber	Sicyos angulatus	S
Canola, volunteer (rapeseed), all types	Brassica spp.	С

Table 2. Broadleaf Weeds Controlled with a Residual Preemergence Application of Sharpen® herbicide

(continued)

C = Control **Common Name** Scientific Name S = Suppression<sup>1</sup> **Annual Broadleaf Weeds** С Mollugo verticillata Carpetweed Chamomile, mayweed Anthemis cotula C C Stellaria media Chickweed, common Cocklebur, common Xanthium strumarium С С Copperleaf, Virginia Acalypha virginica Devil's-claw Proboscidea louisiana С С Eclipta prostrata Eclipta Fleabane, hairy Convza bonariensis С C Galinsoga, smallflower Galinsoga parviflora Groundcherry, cutleaf Physalis angulata С Horseweed (marestail) С Conyza canadensis Jimsonweed Datura stramonium С Kochia ' Kochia scoparia С Ladysthumb Polygonum persicaria-С Lambsquarters, common Chenopodium album С Mallow, Venice Hibiscus trionum C Marestail (horseweed) Conyza canadensis C Morningglory, entireleaf Ipomoea hederacea var. integriuscula C Morningglory, ivyleaf Ipomoea hederacea C Morningglory, palmleaf Ipomoea wrightii C Morningglory, pitted C Ipomoea lacunosa Morningglory, tall Ipomoea purpurea С С Mustard, wild Sinapis arvensis Nightshade, black Solanum nigrum Ċ Solanum triflorum С Nightshade, cutleaf Nightshade, Eastern black Solanum ptycanthum С Solanum saccharoides С Nightshade, hairy Pennycress, field Thlaspi arvense С Pigweed, prostrate Amaranthus blitoides С Amaranthus retroflexus Pigweed, redroot С С Pigweed, smooth Amaranthus hybridus Pigweed, tumble Amaranthus albus С Tribulus terrestris Puncturevine S C Purslane, common Portulaca oleracea S Pusley, Florida Richardia scabra С Ragweed, common Ambrosia artemisiifolia С Ragweed, giant Ambrosia trifida С Sesbania, hemp Sesbania exaltata С Sida, prickly Sida spinosa Smartweed, Pennsylvania С Polygonum pensylvanicum С Spurge, nodding Chamaesyce nutans С Spurge, spotted Chamaesyce maculata Starbur, bristly Acanthospermum hispidum С Helianthus annuus С Sunflower, common Texasweed Caperonia palustris С Salsola kali C Thistle, Russian Velvetleaf Abutilon theophrasti С Amaranthus rudis С Waterhemp, common Amaranthus tuberculatus Waterhemp

<sup>&</sup>lt;sup>1</sup>Use **Sharpen** in tank mixes or sequential applications with other labeled herbicides that provide additional control of noted weeds.

#### **Mode of Action**

Sharpen® herbicide is a potent inhibitor of protoporphyrinogen-oxidase belonging to herbicide mode of action Group 14 (WSSA)/Group E (HRAC). Sharpen is rapidly absorbed by roots and foliage. Following inhibition of protoporphyrinogen-oxidase, plant death is the result of membrane damage. Under active growing conditions, susceptible emerged weeds usually develop chlorotic and necrotic injury symptoms within hours and die within a few days. Susceptible emerging weed seedlings will usually die as they reach the soil surface or shortly after emergence.

#### **Resistance Management**

While weed resistance to protoporphyrinogen-oxidase inhibiting herbicides is relatively infrequent, populations of resistant biotypes are known to exist. Resistance management practices include:

- 1. Following labeled application rate and weed growth stage recommendations
- 2. Avoiding repeated applications of herbicides with the same mode of action
- Utilizing tank mixes and sequential applications with other effective herbicides possessing different modes of action
- Using crop rotation so that crop competition, tillage or herbicides with alternative modes of action can be used to control weed escapes

Proactively implementing diversified weed control strategies to minimize selection for weed populations resistant to one or more herbicides is recommended.

#### **Crop Tolerance**

Crops listed on this label are tolerant to **Sharpen** when applied according to label directions as a preplant to preemergence treatment and under normal environmental conditions. Crop injury may occur under stressful growing conditions (e.g. low soil fertility, seedling disease, extreme hot or cold weather, excessive moisture, high soil pH, high soil salt concentration, or drought).

Severe crop injury will result if **Sharpen** is applied postemergence (over the top) to any crop.

#### **Application Instructions**

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**Sharpen** may only be applied before crop emergence, except for harvest aid/desiccation uses and postemergence in rice.

#### **Application Rates**

Application rates of **Sharpen** may vary depending on soil texture and organic matter. Refer to **Table 3** for soil texture groups used in this label.

**Table 3. Soil Texture Groups** 

Coarse	Medium	Fine
Sand	Silt	Sandy clay
Loamy sand	Silt loam	Silty clay
Sandy loam	Loam	Silty clay loam
-	Sandy clay loam	Clay loam
		Clay

Refer to the **Crop-specific Information** section for specific application rates, timings, and the restrictions and limitations by crop and use pattern.

In California, **DO NOT** apply more than 2.0 fl ozs/A of **Sharpen** in a single application.

#### **Application Methods and Equipment**

**Sharpen** may be applied by ground or air. Thorough spray coverage is required for optimum broadleaf weed control and can be improved with proper adjuvant, nozzle and spray volume selection.

Use and configure application equipment to provide an adequate spray volume, an accurate and uniform distribution of spray droplets over the treated area, and to avoid spray drift to nontarget areas. Equipment should be adjusted to maintain continuous agitation during spraying with good mechanical or bypass agitation. Avoid overlaps that will increase rates above the use rates specified in this label.

**Sharpen** may be applied using either water or sprayable fluid nitrogen fertilizer solutions as the spray carrier. Additionally, **Sharpen** may be impregnated on and applied with dry bulk fertilizer.

#### Aerial Application Requirements

**Water Volume.** Use 3 or more gallons of water per acre for weed control applications. Use a minimum of 5 gallons of water per acre for harvest aid/desiccation applications.

DO NOT apply aerially in California.

The following measures must be followed to reduce the potential of spray drift to nontarget areas from aerial applications:

- 1. The distance of the outermost nozzles on the boom must not exceed 3/4 the length of the fixed wingspan or 90% of rotor blade diameter.
- Use low-drift nozzles such as straight-stream nozzles (D-8 or larger). DO NOT use nozzles producing a mist droplet spray.
- 3. Nozzles must always point backward parallel with the airstream and never be pointed downward more than 45 degrees.
- 4. Without compromising aircraft safety, applications should be made at a height of 10 feet or less above the crop canopy or tallest plants.
- DO NOT apply during periods of temperature inversions or stable atmospheric conditions.
- 6. Avoid potential adverse effects to nontarget areas by maintaining a (160)<sup>a</sup> foot buffer between the point of direct application and the **closest downwind edge** of sensitive terrestrial habitats (such as grasslands, forested areas, shelter belts, woodlots, hedgerows, riparian areas, shrub lands, and crop lands).
- <sup>a</sup>The buffer zone size is determined by use rate. Refer to the table below for the minimum buffer zone distance required for the intended use rate. Utilize the appropriate buffer zone distance from the table below in the buffer zone statement above.

**NOTE:** This footnote and table will only appear on master label. It will be removed from the final print container label after the appropriate buffer zone distance is selected.

Sharpen® herbicide Use Rate (fl ozs/A)	Saflufenacil Use Rate (lb ai/A)	Saflufenacil Use Rate (g ai/ha)	Buffer Zone Distance (feet)
1	0.022	. 25	26
2	0.045	50	66
3	0.067	75	100
4	0.089	100	100
5	0.111	125	120
6	0.134	150	160

#### **Ground Application Requirements**

**Spray Carrier Volume.** Use 5 or more gallons of water per treated acre or 20 or more gallons of sprayable fluid nitrogen fertilizer per treated acre for weed control applications. Thorough spray coverage is required for control of emerged broadleaf weeds. High populations and/or variations in size can prevent adequate spray coverage. Controlling fall-germinated weeds in the spring (e.g. horseweed/marestail) will also require thorough spray

coverage. Use higher-spray volumes (e.g. 15 to 20 gallons of water per acre) in these situations to increase spray coverage and optimize burndown activity. Use a minimum of 5 to 10 gallons of water per acre for harvest aid/desiccation applications.

The following measures must be followed to reduce the potential of spray drift to nontarget areas from ground applications:

- 1. Apply this product using nozzles which deliver medium-to-coarse spray droplets as defined by ASAE standard S-572 and as shown in nozzle manufacturer's catalogs. Flat-fan nozzles are recommended for burndown applications while flood-jet type nozzles are recommended for residual soil surface applications. Nozzles that deliver coarse spray droplets may be used to reduce spray drift provided spray volume per acre (GPA) is increased to maintain coverage of target (i.e. weeds or soil surface). DO NOT use nozzles that produce fine (e.g. cone) spray droplets. In California, nozzles must be affixed to spray no higher than 20 inches above the spray target (e.g. top of weed foliage).
- Apply this product only when the potential for drift to adjacent nontarget areas is minimal (e.g. when the wind is 10 MPH or less and is blowing away from sensitive areas). DO NOT apply during periods of temperature inversions or stable atmospheric conditions.
- 3. Avoid potential adverse effects to nontarget areas by maintaining a (75)<sup>a</sup> foot buffer (**NOTE:** A different buffer length may be required in California, based on a 2.0 fl ozs/A maximum use rate in the state. "X-foot" to be determined by CA-DPR. If so, add the text "X-foot buffer in California") between the application area and the **closest downwind edge** of sensitive terrestrial habitats (such as grasslands, forested areas, shelter belts, woodlots, hedgerows, riparian areas, shrub lands, and crop lands).

<sup>a</sup>The buffer zone size is determined by use rate. Refer to the table below for the minimum buffer zone distance required for the intended use rate. Utilize the appropriate buffer zone distance from the table below in the buffer zone statement above.

**NOTE:** This footnote and table will only appear on master label. It will be removed from the final print container label after the appropriate buffer zone distance is selected.

Sharpen Use Rate (fl ozs/A)	Saflufenacil Use Rate (lb ai/A)	Saflufenacil Use Rate (g ai/ha)	Buffer Zone Distance (feet)
1	0.022	25	13
2	0.045	50	33
3	0.067	·75	50
4	0.089	100	50
5 .	0.111	125	60
6	0.134	150	75

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#### Ground Application (dry buin fertilizer)

**Sharpen® herbicide** may be impregnated or coated onto dry bulk granular fertilizer carriers for residual soil surface applications. Impregnation or coating may be conducted by either in-plant bulk or on-board systems. Perform the mixing operation in well-ventilated areas.

Addition of a drying agent may be necessary if the fertilizer and herbicide blend is too wet for uniform application due to high humidity, high urea concentration, or low fertilizer use rate. Slowly add the drying agent to the blend until a flowable mixture is obtained. Drying agents are not recommended for use with on-board impregnation systems.

Under some conditions, fertilizer impregnated with **Sharpen** may clog air tubes or deflector plates on pneumatic application systems. Mineral oil may be added to **Sharpen** before blending with fertilizer to reduce plugging. **DO NOT** use drying agents when mineral oil is used. To avoid separation of **Sharpen** and mineral oil mixes in cold temperatures, keep mixture heated or agitated before blending with fertilizer. Mineral oil may be used with in-plant blending stations or with on-board injection systems.

Generally, fertilizer application rates of at least 200 lbs to 700 lbs per acre of herbicide and fertilizer blend will provide adequate distribution or coverage of **Sharpen** across the soil surface. Application must be made uniformly to the soil to prevent possible crop injury and offer satisfactory weed control. Impregnated fertilizer spread at half rate and overlapped to obtain a full rate will offer a more uniform distribution. A shallow (< 2 inches) incorporation is desirable for improved weed control. Deeper incorporation will dilute the herbicide layer near the soil surface and may result in unsatisfactory weed control.

Use the following formula to determine the herbicide rate when using dry bulk fertilizer applications:

 $\frac{\text{fl ozs herbicide per acre}}{\text{pounds fertilizer per acre}} \ \ \text{X} \quad 2000 \ = \frac{\text{fl ozs herbicide}}{\text{per ton of fertilizer}}$ 

#### **Cleaning Spray Equipment**

Clean application equipment thoroughly by using a strong detergent or commercial sprayer cleaner according to the manufacturer's directions, followed by triple rinsing the equipment before and after applying this product.

#### **Spray Drift Management**

It is the responsibility of the applicator to avoid spray drift at the application site, especially onto nontarget areas. 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 applicator should be familiar with and take into account the information covered in the following spray drift reduction advisory information.

**Controlling Drople**: size. The most effective way to reduce drift potential is to apply the largest droplets that provide sufficient coverage and control.

**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 Type.** Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets.

**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 application equipment (e.g. aircraft, ground) upwind. Swath adjustment distance should increase with increasing drift potential (higher wind, smaller droplets, etc.).

**Wind.** Drift potential is lowest between wind speeds of 3 to 10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. If applying at wind speeds less than 3 mph, the applicator must determine if:

- 1. Conditions of temperature inversion exist, or
- 2. Stable atmospheric conditions exist at or below nozzle height.

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

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

**Wind Erosion.** Avoid treating powdery, dry or light sandy soils when conditions are favorable for wind erosion. Under these conditions, the soil surface should first be settled by rainfall or irrigation.

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#### Additives

For optimum burndown or harvest aid/desiccation activity with **Sharpen® herbicide**, an adjuvant system must be used that includes the following:

Adjuvant	Rate
methylated seed oil1 (MSO)	1 gal/100 gals² (1% v/v)
PLUS	PLUS
ammonium sulfate (AMS)	8.5 to 17 lbs/100 gals (1% to 2% w/v)
or	or
urea ammonium nitrate (UAN)	1.25 to 2.5 gals/100 gals (1.25% to 2.5% v/v)

<sup>&</sup>lt;sup>1</sup>MSO-based adjuvant **MUST** contain at least 60% methylated seed oil. Poor performance may occur with adjuvants containing less than 60% methylated seed oil.

Refer to the **Crop-specific Information** section for specific adjuvant requirements for certain crop uses.

The use of AMS fertilizer is highly recommended when mixing **Sharpen** with glyphosate-based herbicides.

**DO NOT** use a nonionic surfactant (NIS) as a substitute for MSO, or poor performance on broadleaf weeds or for desiccation will occur.

When an adjuvant is to be used with this product, BASF recommends the use of a Chemical Producers and Distributors Association (CPDA) certified adjuvant.

**DO NOT** add acidifying agents to the spray tank when applying **Sharpen**.

#### **Tank Mixing Information**

**Sharpen** may be tank mixed with 1 or more registered herbicide products according to the specific tank mixing instructions in this label and respective product labels. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Always follow the most restrictive label use directions. Refer to **Crop-specific Information** section for tank mixing details.

Tank mixtures with contact herbicides (e.g. carfentrazone, paraquat) may reduce the burndown activity of **Sharpen**.

### Compatibility hest for Mix Components

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Before mixing components, always perform a compatibility iar test.

- For 20 gallons per acre spray volume, use 3.3 cups (800 mL) of water. For other spray volumes, adjust rates accordingly. Only use water from the intended source at the source temperature.
- 2. Add components in the sequence indicated in the mixing order using 2 teaspoons for each pound or 1 teaspoon for each pint of label rate per acre.
- 3. Always cap the jar and invert 10 cycles between component additions.
- 4. When the components have all been added to the jar, let the solution stand for 15 minutes.
- 5. Evaluate the solution for uniformity and stability. The spray solution should not have free oil on the surface, or fine particles that precipitate to the bottom, or thick (clabbered) texture. If the spray solution is not compatible, repeat the compatibility test with the addition of a suitable compatibility agent. If the solution is then compatible, use the compatibility agent as directed on its label. If the solution is still incompatible, **DO NOT** mix the ingredients in the same tank.

#### **Mixing Order**

- Water Fill tank 1/2 to 3/4 full with clean water and start agitation.
- 2. Agitation Maintain agitation throughout mixing.
- 3. **Inductor** If an inductor is used, rinse it thoroughly after each component has been added.
- 4. Products in PVA bags Place any product contained in water-soluble PVA bags into the mixing tank. Wait until all water-soluble PVA bags have fully dissolved and the product is evenly mixed in the spray tank before continuing.
- 5. **Water-soluble additives** (including dry and liquid fertilizers such as ammonium sulfate or urea ammonium nitrate)
- Water-dispersible products (such as dry flowables, wettable powders, suspension concentrates, or suspoemulsions)
- 7. Water-soluble products
- 8. **Emulsifiable concentrates** (including methylated seed oil adjuvants)
- 9. Remaining quantity of water

Maintain agitation throughout application until spraying is completed. If the spray mixture is allowed to settle for any period of time, thorough agitation is essential to resuspend the mixture before spraying is resumed. Continue agitation while spraying.

<sup>&</sup>lt;sup>2</sup>DO NOT use less than 1 pint/A of MSO with low-volume (< 12.5 gallons per acre) aerial or ground applications.

## Use Precautions /

- Maximum seasonal use rate Refer to Crop-specific Information section for maximum cropping seasonal application use rates for each crop and use pattern. A cropping season is defined as the period following harvest of the preceding crop through the harvest of the planned or current crop.
- Except for labeled harvest aid/desiccation uses, DO NOT apply Sharpen® herbicide after crop emergence or severe crop injury will occur.
- Rainfastness Sharpen is rainfast 1 hour after application. Burndown activity may be reduced if rain or irrigation occurs within 1 hour of application.
- **DO NOT** contaminate irrigation ditches or water used for domestic purposes.
- **DO NOT** apply **Sharpen** through any type of irrigation system (e.g. chemigation).
- Sharpen is not for sale, distribution, or use in Nassau and Suffolk counties in New York State.

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#### **Crop Rotation and Emergency Replanting Intervals**

Use **Table 4** to determine the proper interval between **Sharpen® herbicide** application and planting of rotational crops or replanting after crop failure (because of environmental factors such as drought, frost, or hail, etc.). Be sure to determine the rotational crop interval for tank mix products and utilize the most restrictive interval of all products applied.

Table 4. Rotational Crop Planting and Emergency Replanting Intervals by Sharpen Application Rate

		;		en Rate zs/A)		
Crop	1.0	2.0	3.0	4.0	5.0	6.0
	Rotational Crop Interval (months after application) <sup>1</sup>					
Corn .	0 .	0	. 0	. 0	0	0
Corn, sweet	0.5	1	2	. 3	4	4
Sorghum	0	0	0	0	1	1
Small grains <sup>2</sup>	0	0	0	0	3	. 3
Rice	.0	0	4	4	4	4
Chickpea	0 .	0	. 2*	4	6	6
Edible pea	0	1	3	4	6	6
Field pea, dry	0	0	2	4	6	6
Edible bean <sup>3</sup>	0	1	3	4	. 6	6
Soybean⁴	0 to 1	1 to 1.5	2 to 3	4	6	6
Soybean⁴, <b>Kixor® Selected</b>	0	0	2 to 3	4	6	6
Lentil	0	1	3	4	6	6
Cotton <sup>4</sup>	1.5	3	4	6	6	9
Sugarbeet	4	5	6	7	8	9
Sunflower	4	5	6	7 .	8	9
Other Crops	4	5	6	7	8	9

DO NOT include time when the soil is frozen.

<sup>&</sup>lt;sup>2</sup>Small grains are defined in **Crop-specific Information** section of this label. For other small grains, use the rotational crop interval for **Other Crops**.

<sup>3</sup>Edible bean refers to blackeyed pea, crowder pea, cowpea, southern pea. Use the **Other Crops** rotational crop planting interval for beans not specifically listed in this table.

<sup>&</sup>lt;sup>4</sup>The planting interval for these crops and rates is further defined in the respective **Crop-specific Information** section of this label. Use the longer interval within listed ranges for indicated crops grown on coarse-texture soils with organic matter less than 2.0%.

<sup>\*</sup>Interval is 0 months in Idaho, Oregon, and Washington.

#### **Crop-specific Information**

This section provides use directions for **Sharpen® herbicide** in specific crops. Be sure to read product information, mixing, application, weeds controlled and adjuvant instructions in preceding sections of the label. Read and follow tank mix product labels for restrictions, precautions, instructions, and rotational crop restrictions.

Depending on specific crop application directions, **Sharpen** may be applied for burndown control of emerged broadleaf weeds and/or residual control of germinating broadleaf weeds (refer to **Table 1** and **Table 2** for lists of weeds controlled) before crop planting (preplant and/or preseed) or after planting but before crop emergence (preemergence).

Thorough spray coverage is required for control of emerged broadleaf weeds. High populations and/or variations in size can prevent adequate spray coverage. Controlling fall-germinated weeds in the spring (e.g. horseweed/marestail) will also require thorough spray coverage. Use higher spray volumes (e.g. 15 to 20 gallons of water per acre) in these situations to increase spray coverage and optimize burndown activity.

## Field Corn (grain, seed, silage). Popcorn, and Sweet Corn

Sharpen may be applied preplant surface, preplant incorporated, or preemergence to corn for broadleaf weed control (refer to **Table 1** and **Table 2** for lists of weeds controlled). Corn in this label refers to field corn (grown for grain, seed, or silage), popcorn, and sweet corn (not including sweet corn grown for seed). Before applying **Sharpen** to seed corn, sweet corn, or popcorn, verify the selectivity of **Sharpen** on your inbred line or hybrid with your local seed company (supplier) to help avoid potential injury to sensitive inbreds or hybrids.

#### **Application Rates**

**Sharpen** can be applied as part of a one-pass or planned sequential (two-pass) weed control program. A one-pass weed control program should be used where no cultivation or postemergence herbicide application is anticipated. One-pass application rates for **Sharpen** when applied alone, in tank mix, or sequentially are provided in **Table 5** for field corn and **Table 6** for popcorn and sweet corn.

Table 5. Residual . eemergence Rates of Sharpen in Field Corn

Rate by Soil Texture and Organic Matter Content (fl ozs/A)				
Soil Texture <sup>1</sup>	Organio	Matter		
Soil Texture	≤ 1.5%	> 1.5%		
Coarse²	2.0	2.5		
Medium	3.5	4.0		
Fine	4.0	5.0		

<sup>&</sup>lt;sup>1</sup>Refer to **Table 3** for definition of soil texture groups.

Table 6. Residual Preemergence Rates of Sharpen in Popcorn and Sweet Corn

Rate by Soil Texture and Organic Matter Content  (fl ozs/A)					
Soil Texture¹ Organic Matter					
≤ 1.5%	> 1.5%				
2.0	2.5				
2.5	3.0				
3.0	4.0				
	(fl ozs/A)  Organio  ≤ 1.5%  2.0  2.5				

<sup>&#</sup>x27;Refer to Table 3 for definition of soil texture groups.

**Sharpen** use rates applied as the residual component of a planned sequential (two-pass) program (see **Table 7**) will provide control or suppression of listed weeds (**Table 1**) through early to mid-season. For full-season weed control, apply a labeled postemergence treatment such as **Status® herbicide** plus glyphosate as the sequential component.

Table 7. Residual Preemergence Rates of Sharpen in a Planned Sequential Program¹ in Field Corn and Popcorn

Soil Texture <sup>2</sup>	Rate by Soil Texture (fl ozs/A)
Coarse	2.0 to 2.5
Medium	2.5 to 3.0
Fine	3.0 to 3.5

<sup>&</sup>lt;sup>1</sup>Application rates in **Table 7** will eliminate early season broadleaf weed interference until cultivation or a labeled postemergence herbicide is applied. However, application rates in **Table 5** should be applied if **Sharpen** is being used to control weeds resistant to another herbicide in the tank mix or sequential weed control program.

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<sup>&</sup>lt;sup>2</sup>Use on coarse soils with less than 1.5% organic matter may result in crop injury.

<sup>&</sup>lt;sup>2</sup>Refer to **Table 3** for definition of soil texture groups.

#### **Application Timings**

## Early Preplant Surface Application (15 to 30 days before planting)

Application rates in **Table 5** should be used when making early preplant surface applications, using the highest application rate for a given soil texture. Early preplant surface applications are not recommended on coarse soils, in areas where average annual rainfall (or rainfall plus irrigation) typically exceeds 40 inches, or for popcorn or sweet corn. Cultivation or a labeled postemergence herbicide application may still be required under certain conditions for complete weed control.

Early preplant surface applications may be applied as part of a split application program where applications are made as part of the application timings described in this label. However, the cumulative total of sequential application rates must not exceed the maximum labeled rate for a given soil texture.

## Preplant Surface and Preplant Incorporated Applications

#### (up to 14 days before planting)

**Sharpen® herbicide** can be applied at use rates specified in **Table 5**, **Table 6**, or **Table 7** to the soil surface or incorporated up to 14 days before planting on all soil types. For preplant incorporated applications, apply **Sharpen** and incorporate into the upper soil surface (1 to 2 inches). Use a harrow, rolling cultivator, field cultivator or other implement capable of providing uniform shallow incorporation. Avoid deeper incorporation or reduced weed control may result.

#### Preemergence Surface Application

Apply **Sharpen** at use rates specified in **Table 5**, **Table 6**, or **Table 7** as a broadcast spray to the soil surface after planting and before crop emergence. **Sharpen** must be applied before crop emergence or injury will occur.

#### **Burndown plus Residual Weed Control**

In addition to residual broadleaf weed control obtained at any of the application timings described above, **Sharpen** will also provide burndown of emerged broadleaf weeds listed in **Table 1**. An adjuvant system (refer to **Additives** section for details) is required for optimum burndown activity. Burndown control of emerged grasses and/or additional broadleaf weeds not listed on the label will require a tank mix with another herbicide (such as glyphosate).

#### **Burndown Weed Control Only**

If limited or no residual broadleaf weed control is desired, **Sharpen** can be applied at 1.0 fl oz/A (all soil types) with an adjuvant system any time before corn emergence to provide burndown of broadleaf weeds listed in **Table 1**. A burndown application of **Sharpen** can be followed by residual rates of **Sharpen** (**Table 5** or **Table 7**) or **Verdict® herbicide**. Separate sequential applications by at least 14 days. However, **DO NOT** exceed the cropping seasonal maximum cumulative amount per acre of saflufenacil from all product sources per cropping season.

Enhanced burndown in seed corn. Apply Sharpen preplant surface or preemergence at 1.0 to 2.0 fl ozs/A with an adjuvant system for enhanced burndown broadleaf weed control in seed corn before crop emergence.

DO NOT exceed 1.0 fl oz/A on coarse soils. A sequential application of Sharpen may be made with a minimum of 30 days between applications. DO NOT apply more than a maximum cumulative amount of 4.0 fl ozs/A of Sharpen per cropping season in seed corn.

**State-specific Use in California.** Apply **Sharpen** early preplant through preemergence at 1.0 to 2.0 fl ozs/A with an adjuvant system for enhanced burndown broadleaf weed control before crop emergence. Separate sequential applications by at least 14 days. **DO NOT** apply greater than 2.0 fl ozs/A in a single application.

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

- DO NOT apply Sharpen after corn emergence or severe crop injury will occur.
- Sharpen use may result in delayed corn emergence and stunting under certain environmental conditions including cool temperatures, excessive rainfall/irrigation, and/or persistent wet soil conditions occurring after application.
- Ensure that the corn seed row is closed. Soil conditions that cause poor seed furrow closure and coverage may result in delayed corn emergence or stunting.
- DO NOT apply Sharpen at greater than 1.0 fl oz/A
  where an at-planting application of an organophosphate
  (OP) or carbamate insecticide(s) is planned and/or has
  occurred because severe injury may result.

EXCEPTION: Sharpen may be applied when Aztec® 2.1% granular insecticide, Aztec® 4.67 G granular insecticide, Fortress® 5G granular insecticide, or SmartChoice™ 5G granular insecticide is applied at planting as a band, T-band, or in-furrow. Sharpen may be applied with all other classes of at-planting insecticides including pyrethroids, neonicotinoids, and fipronil.

- DO NOT apply more than a maximum cumulative amount of 6:0 fl ozs/A of Sharpen (0.134 lb ai/A of saflufenacil) per cropping season.
- DO NOT apply more than a maximum cumulative amount of 0.134 lb ai/A of saflufenacil per cropping season in corn from all product sources.
- Corn forage and silage can be harvested, fed, or grazed 80 or more days after application.
- Refer to **Table 4** for rotational crop planting intervals.



#### **Tank Mixtures**

**Sharpen® herbicide** may be tank mixed or applied sequentially with one or more of, but not limited to, the following herbicide products:

- Clarity® herbicide
- Outlook® herbicide
- Prowl® H₂O herbicide
- Status® herbicide
- Verdict® herbicide
- Zidua® herbicide
- atrazine
- glyphosate (e.g. Roundup® herbicide)
- Harness® herbicide
- Harness® Xtra herbicide

#### Cotton

Use **Sharpen** as an early preplant burndown treatment before planting cotton.

Not for use in cotton in California.

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

Apply **Sharpen** as a broadcast spray at 1.0 fl oz/A plus recommended adjuvants (refer to **Additives** section for details) for the control of actively growing broadleaf weeds (refer to **Table 1** for list of weeds controlled). Wait to plant cotton until at least **21 to 42 days** and an accumulation of 1 inch of rainfall and/or irrigation occurring after application to avoid crop injury. In geographic areas with average annual rainfall less than 25 inches, the 42-day preplant interval is required after the accumulation of 1 inch of rainfall and/or irrigation. **DO NOT** apply to coarse soils classified as sand with less than 1.5% organic matter or cotton injury may occur.

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

- DO NOT apply more than a maximum cumulative amount of 2.0 fl ozs/A of Sharpen per cropping season.
- DO NOT apply Sharpen with other Group 14/Group E
  herbicides (such as flumioxazin) as a tank mix or sequential application within 30 days of planting because crop
  injury may result.
- Use the most restrictive preplant interval with tank mixes of other cotton burndown herbicides.
- Cotton gin byproducts may be fed to livestock.
- Refer to Table 4 for rotational crop planting intervals.

#### **Tank Mixtures**



Broad-spectrum burndown control of grasses and/or additional broadleaf weeds will require a tank mix with a herbicide such as glyphosate. **Sharpen** may be tank mixed or applied sequentially with one or more of, but not limited to, the following cotton burndown herbicide products:

- Clarity
- Distinct® herbicide
- Prowl H<sub>2</sub>O
- glyphosate (e.g. Roundup)

#### Fallow and Postharvest

**Sharpen** may be used as a burndown treatment to control broadleaf weeds at any time of the year during the fallow period following crop harvest and before the following crop is planted. **Sharpen** may also be used for specific postharvest uses to burndown the remaining foliage after crop harvest.

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

Apply **Sharpen** as a broadcast burndown spray at 1.0 to 2.0 fl ozs/A plus recommended adjuvants (refer to **Additives** section for details). Best product performance is obtained when broadleaf weeds are small and actively growing (refer to **Table 1** for list of weeds controlled). Thorough coverage of existing weeds is essential and higher spray volumes may be needed for best performance.

Sequential applications may be made with a minimum of 14 days between applications; but **DO NOT** exceed a maximum seasonal cumulative amount of 6.0 fl ozs/A of **Sharpen** per cropping season.

For residual broadleaf weed control, **Sharpen** may be applied at 2.0 to 4.0 fl ozs/A.

Specific rotational crop planting intervals must be observed between an application of **Sharpen** and planting of the following crop (see **Table 4** for rotational crop planting intervals).

**State-specific Use in California.** Apply **Sharpen** as a broadcast burndown spray at 1.0 to 2.0 fl ozs/A with the recommended adjuvants. **DO NOT** apply greater than 2.0 fl ozs/A in a single application.

**Postharvest use on tomato vines.** Apply **Sharpen** as a broadcast burndown spray at 1.0 to 2.0 fl ozs/A plus recommended adjuvants (refer to **Additives** section for details). Thorough spray coverage of existing tomato vines is essential and higher spray volumes may be needed for best performance. **DO NOT** apply before or during tomato fruit harvest. Not for use on tomato vines in California.

#### **Tank Mixtures**

Broad-spectrum burndown control of grasses and/or additional broadleaf weeds will require a tank mix with another herbicide. **Sharpen® herbicide** may be tank mixed or applied sequentially with one or more of, but not limited to, the following herbicide products:

- Clarity® herbicide
- Distinct® herbicide
- glyphosate (e.g. Roundup® herbicide)

#### Harvest Aid/Desiccation

**Sharpen** may be used for harvest aid/desiccation in the crops listed in the table following. Uniformly apply **Sharpen** as a broadcast spray by air or ground. Ground application is recommended at a minimum spray volume of 10 gallons/A. Aerial application is recommended at a minimum spray volume of 5 gallons/A. Thorough spray coverage and an MSO plus ammonium-based adjuvant system (refer to the **Additives** section) are required for optimum desiccation activity.

**Sharpen** may be applied in a single application or sequential applications.

Refer to **Table 4** for rotational crop planting intervals.

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Crop	Application Timing	Sharpen® herbicide Use Rate (fl ozs/A)	PHI* (days)	Crop-specific Restrictions and Limitations
Dry Edible Beans including:  Phaseolus spp. (all types) Lupinus spp. (all types)	Spray over the top of dry edible beans that have reached physiologi- cal maturity (beans have at least 80% yellow/brown pods and no	Single application: 1.0 to 2.0	2 (dry edible beans)	DO NOT apply on dry edible beans grown for seed production.
Vigna spp. (all types)  Broad bean (Fava bean) Garbanzo bean (Chickpea) Guar	more than 30% of leaves still green for vine-type beans and lentils, and no more than 40% of leaves still green for bush-type beans; or according to Extension Service	Maximum cumulative amount per cropping		<b>DO NOT</b> graze or feed desiccation-treated hay or straw to livestock.
Lablab bean (Hyacinth bean) Lentils	recommendations in the use area for other crops).  Allow up to 7 days for optimum	season for desiccation uses: 2.0		DO NOT apply harvest aid/desiccation to green lentil varieties.
	desiccation effect depending on environmental conditions.			Not for use for garbanzo bean (chickpea) and lentils desiccation in California.
Dry Peas including: Dry field peas	Spray over the top of dry peas that have reached physiological maturity (peas with at least 80% yellow/brown pods and no more than	Single application: 1.0 to 2.0	3 (dry peas)	DO NOT apply on dry peas grown for seed production.
Pisum spp. (all other types) Pigeon Pea	30% of leaves still green for vine- type peas, and no more than 40% of leaves still green for bush-type peas; or according to Extension Service	Maximum cumulative amount per cropping		Desiccation-treated pea vines may be grazed or fed to livestock.
	recommendations in the use area for other crops).  Allow up to 10 days for optimum desiccation effect depending on environmental conditions.	season for desiccation uses: 2.0	: 	Not for use for dry peas desiccation in California.
Oilseeds Canola (Rapeseed) Subgroup 20A including:	Spray over the top of crop(s) that have reached physiological maturity [70% to 80% bolls turn to brown for	Single application: 1.0 to 2.0	3 (seed)	DO NOT apply on oilseed crops grown for seed production.
Borage Crambe Cuphea Echium Flax Gold-of-pleasure (Camelina)	flax; seeds in the middle pods have started to turn in color for canola (rapeseed), Juncea, and mustard; or according to Extension Service recommendations in the use area for other crops].	Maximum cumulative amount per cropping season for		Not for use for oilseeds canola (rapeseed) desiccation in California.
Hare's ear mustard Juncea Lesquerella Lunaria	Allow up to 7 days for optimum desiccation effect depending on environmental conditions.	desiccation uses: 2.0		,
Meadowfoam Milkweed Mustard seed Oil radish				,
Poppy seed Rapeseed (Canola) Sesame Sweet rocket				

Table 8. Crops for Harvest Aid/Lusiccation (continued)

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Crop	Application Timing	Sharpen® herbicide Use Rate (fl ozs/A)	PHI* (days)	Crop-specific Restrictions and Limitations
Oilseeds Cottonseed Subgroup 20C including:	Spray over the top of cotton that has reached physiological maturity (according to local State Agricultural Extension Service guidelines, such	Single application: 0.5 to 2.0	5 (cotton)	<b>DO NOT</b> apply on cotton grown for seed production.
Cotton (Cottonseed) including: Spindle pick harvested cotton	as nodes above cracked boll, accumulated heat units after cutout, or at least 60% to 70% boll opening).	Maximum cumulative amount per		Sharpen-treated gin trash may be fed to livestock.
Stripper harvested cotton	Allow up to 10 days for optimum desiccation and defoliation effect depending on environmental conditions.	cropping season for defoliation/ desiccation uses:		Not for use for cotton desiccation in California.
	Large plant size, dense canopy, and environmental conditions not conducive for defoliation may require a second defoliation application 5 to 7 days later.	2.0		
Oilseeds Sunflower Subgroup 20B including:	Spray over the top of crop(s) that has reached physiological maturity (seed moisture less than 36% for sunflower; when heads are fully	Single application: 1.0 to 2.0	7 (seed)	<b>DO NOT</b> apply on oilseed crops grown for seed production.
Calendula Castor oil plant Chinese tallowtree Euphorbia	mature for safflower; or according to Extension Service recommendations in the use area for other crops). For many sunflower varieties, the back	Maximum cumulative amount per cropping		<b>DO NOT</b> use after multiple minor frosts or single significant frost event.
Evening primrose Jojoba Niger seed Rose hip	of the sunflower heads are yellow and the bracts are turning brown at this timing.	season for desiccation uses: 4.0		Not for use for safflower desiccation in California.
Safflower Stokes' aster Sunflower Tallowwood Tea oil plant	Allow up to 7 days for optimum desiccation effect depending on environmental conditions.			
Veronica Soybean	Spray over the top of soybeans that have reached physiological maturity (all pods and seeds have no more green color).	Single application: 1.0 to 2.0	3 (soybean seed)	DO NOT apply on soybean grown for seed production.
	Indeterminate Varieties Greater than 65% brown pods and greater than 70% leaf drop or when seed moisture is 30% or less.	Maximum cumulative amount per cropping season for		<b>DO NOT</b> graze or feed desiccation-treated hay or straw to livestock.
	Determinate Varieties Beans are fully developed, greater than 50% leaf drop, and remaining leaves are yellowing.	desiccation uses: 2.0		
* PHI = preharvest interval	Allow up to 10 days for optimum desiccation effect depending on environmental conditions.			

<sup>\*</sup> PHI = preharvest interval

#### **Tank Mixtures**

#### Cotton

Sharpen® herbicide may be tank mixed with other cotton defoliant products including, but not limited to: ethephon (such as Prep™ brand Ethephon for cotton and tobacco), ethephon plus AMADS (such as CottonQuik® cotton harvest aid/defoliant), ethephon plus cyclanilide (Finish® 6 Pro harvest aid for cotton), sodium chlorate, thidiazuron (such as Dropp® SC cotton defoliant), thidiazuron plus diuron (such as Ginstar® EC cotton defoliant), tribufos (such as Def® 6 emulsifiable defoliant or Folex® 6 EC cotton defoliant), or glyphosate (e.g. Roundup® herbicide), or paraquat (e.g. Gramoxone® herbicide). Refer to the other product's label for restrictions on tank mixing, precautions, and rotational restrictions. The most restrictive labeling applies to tank mixes.

#### **All Other Crops**

Apply **Sharpen** with a labeled rate of glyphosate (e.g. **Roundup**) for additional preharvest weed control. **Sharpen** also may be tank mixed with other registered harvest aid/desiccant products. Read and follow the applicable restrictions and limitations and directions for use on the glyphosate and other tank mix product labels, and to confirm they are labeled for the specific crop to be desiccated. The most restrictive labeling applies to tank mixes.

Legume Vegetables
[chickpea, edible bean, edible pea,
field pea (dry), lentil, southern pea,
and vegetable soybean (edamame)]

**Sharpen** may be applied preplant surface, preplant incorporated, and/or preemergence in legume crops specified in this section for broadleaf weed control (refer to **Table 1** and **Table 2** for lists of weeds controlled).

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

See the specific application rates and timings recommendations as they vary by legume crop. With burndown applications, an adjuvant system (refer to **Additives** section for details) is required for optimum burndown activity.

Before applying **Sharpen** to any of the specified legume crops, verify the selectivity of **Sharpen** on your variety with your seed company (supplier) to help avoid potential injury to sensitive varieties.

Use of **Sharpen** may result in delayed crop emergence and stunting under certain environmental conditions including cool temperatures, excessive rainfall/irrigation, and/or persistent wet soil conditions occurring after application.

#### Chickpea (garbanzo bean)

**Sharpen** is for use in all types of chickpeas.

**Burndown.** Apply **Sharpen** early preplant through preemergence at 1.0 fl oz/A for burndown broadleaf weed control before crop emergence. Sequential applications

may be made with a minimum of 14 days between applications.

**Enhanced Burndown.** Apply **Sharpen** early preplant through preemergence at 2.0 fl ozs/A for enhanced burndown broadleaf weed control before crop emergence. Ensure that the seed row is closed. Soil conditions that cause poor seed furrow closure and coverage may result in delayed crop emergence or stunting. A sequential application of **Sharpen** may be made with a minimum of 30 days between applications.

State-specific Use in Idaho, Oregon, and Washington. Apply Sharpen early preplant through preemergence at 3.0 fl ozs/A for enhanced burndown plus residual broadleaf weed control before crop emergence. Ensure that the seed row is closed. Soil conditions that cause poor seed furrow closure and coverage may result in delayed crop emergence and or stunting. A sequential application of Sharpen may be made with a minimum of 30 days between applications.

**DO NOT** apply more than a maximum cumulative amount of 4.0 fl ozs/A of **Sharpen** (0.089 lb ai/A saflufenacil) per cropping season in chickpeas.

#### **Edible Beans**

**Sharpen** is for use **ONLY** on the following edible bean types:

- Edible-podded *Vigna* beans (asparagus bean, Chinese longbean, moth bean, yardlong bean)
- Succulent Vigna beans (blackeyed pea, cowpea, southern pea)
- Dry Vigna beans (adzuki bean, moth bean, mung bean, rice bean)
- Dry Lupinus beans (grain lupin, sweet lupin, white lupin, white sweet lupin)

Apply **Sharpen** early preplant at 0.75 fl oz/A for burndown broadleaf weed control before crop emergence. For only limited residual activity on broadleaf weeds, **Sharpen** may also be applied preplant incorporated or preemergence at 0.75 to 2.0 fl ozs/A. Sequential applications may be made with a minimum of 14 days between applications.

**DO NOT** apply more than a maximum cumulative amount of 2.0 fl ozs/A of **Sharpen** (0.045 lb ai/A saflufenacil) per cropping season in edible beans.

#### **Edible Peas**

Sharpen is for use ONLY on the following edible peas:

- Edible-podded peas (dwarf pea, edible-pod pea, snow pea, sugar snap pea)
- Succulent peas (English pea, garden pea, green pea, marrowfat pea)

Apply **Sharpen** early preplant at 0.75 fl oz/A for burndown broadleaf weed control before crop emergence. For only limited residual activity on broadleaf weeds, **Sharpen** may also be applied preplant incorporated or preemergence at 0.75 to 2.0 fl ozs/A. Sequential applications may be made with a minimum of 14 days between applications. Not for use in edible peas in California.

12/ |56 State-specific Use in Idaho, Illinos, Iowa, Michigan, Minnesota, New York, Oregon, Washington, and Wisconsin. Apply Sharpen® herbicide preplant incorporated or preemergence at 0.75 fl.oz/A in English or sugar snap peas for residual suppression of the following broadleaf weeds:

- Black nightshade
- Common lambsquarters
- Redroot pigweed
- Velvetleaf

**Preplant incorporated** - Apply **Sharpen** up to one week before planting. **DO NOT** incorporate deeper than 3 inches.

**Preemergence** - Apply **Sharpen** up to 3 days after planting but before cracking stage or emergence, or severe crop injury will occur. Ensure that the seed row is closed. Soil conditions that cause poor seed furrow closure and coverage may result in delayed crop emergence or stunting.

A sequential application of **Sharpen** may be made with a minimum of 30 days between applications. **DO NOT** apply more than a maximum cumulative amount of 2.0 fl ozs/A of **Sharpen** (0.045 lb ai/A saflufenacil) per cropping season in edible peas.

#### **Field Peas**

**Sharpen** is for use **ONLY** on dry field peas including Austrian winter peas.

**Burndown.** Apply **Sharpen** early preplant through preemergence at 1.0 fl oz/A for burndown broadleaf weed control before crop emergence. Sequential applications may be made with a minimum of 30 days between applications.

**Enhanced Burndown.** Apply **Sharpen** early preplant through preemergence at 2.0 fl ozs/A for enhanced burndown broadleaf weed control before crop emergence. Ensure that the seed row is closed. Soil conditions that cause poor seed furrow closure and coverage may result in delayed crop emergence or stunting. A sequential application of **Sharpen** may be made with a minimum of 30 days between applications.

**DO NOT** apply more than a maximum cumulative amount of 4.0 fl ozs/A of **Sharpen** (0.089 lb ai/A saflufenacil) per cropping season in dry field peas.

#### Lentils

**Sharpen** may be applied to green-type and red-type lentils. **DO NOT** apply **Sharpen** to Spanish brown lentils.

State-specific Use in Minnesota, Montana,
North Dakota, South Dakota, and Wyoming. Apply
Sharpen early preplant to preemergence at 0.75 fl oz/A for
burndown broadleaf weed control before crop emergence.
For only limited residual activity on broadleaf weeds,
Sharpen may also be applied preplant incorporated or
preemergence at 0.75 to 2.0 fl ozs/A. Sequential applications may be made with a minimum of 14 days between
applications. DO NOT apply more than a maximum

cumulative amount or 2.0 fl ozs/A of **Sharpen** (0.045 lb ai/A saflufenacil) per cropping season in lentils.

**DO NOT** use **Sharpen** for lentils grown in any other state including California.

Use Advisory for Lentils. Lentil injury may be observed depending on factors including rainfall, soil type, seeding depth, and variety. Rainfall shortly after **Sharpen** application can result in slight injury to the crop. Lentils will be more susceptible to injury from **Sharpen** on coarse-texture and low-organic matter soils. Injury will usually appear as leaf tissue necrosis on the outer edges of the leaves. Lentils will grow out of injury symptoms, and yield will not be impacted at labeled rates. Soil residual herbicides may increase the sensitivity of lentils to **Sharpen** and should not be combined as a tank mix or sequential treatment within 30 days of planting in a lentil weed control program.

**DO NOT** apply **Sharpen** with any other soil-applied residual herbicide as a tank mix partner or sequential application within 30 days of planting. The addition of other soil-applied herbicides can increase the sensitivity of lentils to **Sharpen** and crop injury could result.

## Southern pea (blackeyed pea, cowpea, Crowder pea)

**Sharpen** is for use only in the dry shelled types of southern pea (blackeyed pea, cowpea, Crowder pea). Not for use in southern pea in California.

**Burndown.** Apply **Sharpen** early preplant through preemergence at 1.0 fl oz/A for burndown broadleaf weed control before crop emergence. Sequential applications may be made with a minimum of 30 days between applications.

**Enhanced Burndown.** Apply **Sharpen** early preplant through preemergence at 2.0 fl ozs/A for enhanced burndown broadleaf weed control before crop emergence. Ensure that the seed row is closed. Soil conditions that cause poor seed furrow closure and coverage may result in delayed crop emergence and/or stunting. A sequential application of **Sharpen** may be made with a minimum of 30 days between applications.

**DO NOT** apply more than a maximum cumulative amount of 4.0 fl ozs/A of **Sharpen** (0.089 lb ai/A saflufenacil) per cropping season in southern pea.

#### Vegetable Soybean (edamame)

**Burndown.** Apply **Sharpen** early preplant through preemergence at 1.0 fl oz/A for burndown broadleaf weed control before crop emergence. Sequential applications may be made with a minimum of 14 days between applications.

**Enhanced Burndown.** Apply **Sharpen** early preplant through preemergence at 2.0 fl ozs/A for enhanced burndown broadleaf weed control before crop emergence. Ensure that the seed row is closed. Soil conditions that cause poor seed furrow closure and coverage may result in delayed crop emergence or stunting. A sequential application of **Sharpen** may be made with a minimum of 30 days between applications.

23/ |56 **DO NOT** apply more than a maximum cumulative amount of 4.0 fl ozs/A of **Sharpen® herbicide** (0.089 lb ai/A saflufenacil) per cropping season in vegetable soybean.

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

- DO NOT apply Sharpen if cold and/or wet conditions are present or predicted to occur within 1 week of application.
- Plant legumes at least 1/2-inch deep to reduce risk of crop injury from **Sharpen** application.
- DO NOT apply when legumes have reached the cracking stage or after emergence or severe crop injury will occur.
- DO NOT apply Sharpen with other products containing Group 14/Group E herbicides (such as sulfentrazone or flumioxazin) as a tank mix partner or sequential application within 30 days of planting because crop injury may result.

**EXCEPTION:** Sharpen at 1.0 fl oz/A in field pea and at 1.0 to 2.0 fl ozs/A in chickpea may be tank mixed or sequentially applied with other **Group 14/Group E** herbicides when grown in **Idaho**, **Montana**, **North Dakota**, **Oregon**, **South Dakota**, and **Washington**.

- DO NOT use Sharpen on any Phaseolus bean species.
- There is no required (preharvest) interval between a preplant or preemergence application of **Sharpen** and the harvest of mature legume pods or seeds.
- Legume forage may be fed or grazed 65 or more days after application.
- Refer to **Table 4** for rotational crop planting intervals.

#### **Tank Mixtures**

Broad-spectrum burndown control of grasses and/or additional broadleaf weeds will usually require a tank mix with another herbicide. **Sharpen** may be tank mixed or applied sequentially with one or more of, but not limited to, the following herbicide products:

- Prowl® H<sub>2</sub>O herbicide
- Pursuit® herbicide
- glyphosate (e.g. Roundup® herbicide)

#### Rice -

**Sharpen** may be applied preplant, preemergence, or postemergence in rice for broadleaf weed control (refer to **Table 1** and **Table 2** for lists of weeds controlled; refer to **Table 9** for additional rice-specific weeds controlled).

Rice in this label refers to drilled or dry-seeded, and waterseeded rice. Before applying **Sharpen** to rice, verify the selectivity of **Sharpen** on your variety or hybrid with your local seed company (supplier) and/or BASF representative to help avoid potential injury to sensitive varieties or hybrids.

#### Application Rates and Timings

## Preplant and Preemergence Burndown plus Residual Weed Control

Apply **Sharpen** as a broadcast burndown spray preplant through preemergence (0 to 3 days after rice planting) at 1.0 to 2.0 fl ozs/A. An adjuvant system including MSO and AMS (refer to **Additives** section for details) is required for optimum broadleaf burndown activity. Best product performance is obtained when broadleaf weeds are small and actively growing. Thorough spray coverage of emerged weeds is required; higher spray volumes may be needed for best performance.

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

#### **Postemergence Weed Control**

Apply **Sharpen** for postemergence control of small and actively growing emerged broadleaf weeds at 1.0 to 2.0 fl ozs/A. Postemergence applications can be made before or after flooding when rice has reached the 2-leaf stage up to internode elongation. **DO NOT** apply **Sharpen** to rice in the spike or 1-leaf stage.

Table 9. Additional Weeds Controlled in Rice by Postemergence Applications of Sharpen

		Maximum Height
Common Name	Scientific Name	(inches)
Dayflower	Commelina spp.	3
Ducksalad	Heteranthera limesa	3
Eclipta	Eclipta alba	4
Flat sedge	Cyperus iria	3
Jointvetch, Indian	Aeschynomene indica	3
Jointvetch, Northern	Aeschynomene virginica	3
Redstem	Ammannia spp.	4
Sesbania	Sesbania exaltata	8
Texasweed	Caperonia palustris	3
Water hyssop	Bacopa eisenii	3
Woolly croton	Croton capitatus	3

Adjuvant Requirements for Postemergence-specific Applications in Rice. For optimum postemergence control of emerged broadleaf weeds in rice, the following adjuvants are required with **Sharpen**:

- Use a crop oil concentrate (COC) at a rate of 1 pint/A to 1 quart/A.
- **DO NOT** use methylated seed oil (MSO) or severe crop injury may occur.
- DO NOT use a nonionic surfactant (NIS) as a substitute for COC or poor performance on broadleaf weeds will occur.

**Rice Crop Response.** Temporary lèar burn and/or speckling may occur after postemergence applications; new growth and development is unaffected with rapid recovery under good growing conditions. Severe leaf burn and/or stand loss may occur under stressful growing conditions (e.g. low soil fertility, seedling/foliar disease, extreme hot or cold weather, high soil pH, high soil salt concentration, or drought).

#### **Sequential Applications**

Sequential applications of **Sharpen® herbicide** may be made in rice, but **DO NOT** apply more than a maximum cumulative amount of 6.0 fl ozs/A of **Sharpen** per cropping season.

Separate all sequential applications by at least 14 days.

Preplant or preemergence burndown applications may be applied as part of a sequential application program where the first application is made preplant or preemergence, and the sequential application(s) is made postemergence. Postemergence applications may be sequentially made before or after flooding.

For postemergence applications, **DO NOT** apply more than a maximum cumulative amount of 2.0 fl ozs/A of **Sharpen** per cropping season.

State-specific Use in California. Apply Sharpen as a broadcast burndown spray at 1.0 to 2.0 fl ozs/A at least 15 days before rice planting and 45 days before a permanent flood is established. An adjuvant system (refer to Additives section for details) is required for optimum broadleaf burndown activity. DO NOT apply Sharpen after paddy flooding or postemergence to the crop. DO NOT apply more than 2.0 fl ozs/A in a single application. DO NOT apply within 45 days of permanent flooding in water-seeded rice paddies. DO NOT use released tailwater for irrigation of adjacent crops.

#### **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.
- Sharpen may be applied to rice fields used for crustacean (including crayfish) production and commercial fish production.
- DO NOT apply Sharpen to rice fields that will also be used for mollusk production during the treatment year.
- **DO NOT** release flood water from treated fields for 7 days after **Sharpen** application.
- Refer to **Table 4** for rotational crop planting intervals.

#### Tank Mixtures

Broad-spectrum burndown 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, but not limited to:

- Beyond® herbicide
- Clearpath® herbicide
- Facet® L herbicide
- Newpath® herbicide
- Prowl® H<sub>2</sub>O herbicide
- glyphosate (e.g. Roundup® herbicide)

Tank mixtures with products formulated as emulsifiable concentrates (EC) may enhance the crop injury potential of **Sharpen** in postemergence applications.

# Small Grains (barley, canaryseed, oats, pearl millet, proso millet, rye, triticale, and wheat)

**Sharpen** may be applied preplant surface, preplant incorporated, or preemergence to small grains for broadleaf weed control (refer to **Table 1** and **Table 2** for lists of weeds controlled). Small grains in this label refers to wheat (including durum, spring and winter), barley, canaryseed, oats, millet (pearl and proso), rye, and triticale. Before applying **Sharpen** to small grains, verify the selectivity of **Sharpen** on your variety with your seed company (supplier) to help avoid potential injury to sensitive varieties.

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

**Burndown.** Apply **Sharpen** for burndown and/or residual control of broadleaf weeds early preplant through preemergence at 1.0 to 2.0 fl ozs/A. **Sharpen** at 2.0 fl ozs/A will provide limited residual control of broadleaf weeds. Performance depends on amount of rainfall for activation, soil texture, and broadleaf species/population. An adjuvant system (refer to the **Additives** section for details) is required for optimum broadleaf burndown activity.

Enhanced Burndown plus Residual Control in Wheat. Apply Sharpen in winter wheat and spring wheat early preplant through preemergence at 3.0 to 4.0 fl ozs/A for enhanced burndown plus residual control of broadleaf weeds. Performance depends on amount of rainfall for activation, soil texture, and broadleaf species/populations. An adjuvant system (refer to the Additives section for details) is required for optimum broadleaf burndown activity. Not for use at these use rates in California.

**Sequential Applications. Sharpen** may be applied sequentially as needed before small grain emergence. Early preplant applications may be applied as part of a split application program where the first application is made early preplant and the second application is made preemergence. Separate sequential applications by at least

30 days in millet and by at least 14 aays in all other small grains.

Winter Wheat Dormancy Application. For residual broadleaf weed control, apply **Sharpen® herbicide** at 1.0 to 2.0 fl ozs/A to dormant winter wheat only. **DO NOT** apply until dormant period or during and/or after spring greenup (dormancy break). Water or liquid fertilizer may be used as the spray carrier.

#### **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 after small grain emergence or crop injury will occur.
- Small grain forage and hay can be fed or grazed 30 or more days after application.
- Ensure that the seed row is sufficiently covered with soil to avoid washing and concentration of the herbicide in the seed zone.
- DO NOT apply to other types of millet (e.g. foxtail millet) or severe crop injury may occur.
- **DO NOT** apply to millet grown in soils with a pH of 7.8 or above or crop injury may occur.
- Refer to **Table 4** for rotational crop planting intervals.

#### **Tank Mixtures**

Broad-spectrum burndown control of grasses and/or additional broadleaf weeds will usually require a tank mix with another herbicide. **Sharpen** may be tank mixed or applied sequentially with one or more of, but not limited to, the following herbicide products:

- Clarity® herbicide
- glyphosate (e.g. Roundup® herbicide)

#### Sorghum (all types)

Sharpen may be applied preplant surface, preplant incorporated, or preemergence to sorghum (all types specified in the following list) for broadleaf weed control (refer to **Table 1** and **Table 2** for lists of weeds controlled). Before applying **Sharpen** to sweet sorghum, verify with your local seed company (supplier) the selectivity of **Sharpen** on your hybrid or variety to help avoid potential injury to sensitive hybrids or varieties.

Sharpen is for use ONLY on the following sorghum types:

- Grain sorghum (milo, durra, kaffir-corn, Indian millet, great millet, grand millet, kaoliang, Chinese sorghum, shattercane, guineacorn, sorgo comun)
- Sweet sorghum (sorgo, sorgo duice, Zuckerhirse, sorgo doux)

#### Application Rates

Application rates for **Sharpen** when applied alone, in tank mix, or sequentially are provided in **Table 10** for grain sorghum and **Table 11** for sweet sorghum.

**Table 10. Residual Preemergence Rates of Sharpen** in Grain Sorghum

Rate by Soil Texture and Organic Matter Content (fl ozs/A)			
Organic Matter			
Soil Texture <sup>1</sup>	≤ 1.5%	> 1.5%	
Coarse	DO NOT USE	2.0	
Medium	2.5	3.0	
Fine	3.0	4.0	

¹Refer to Table 3 for definition of soil texture groups.

Table 11. Residual Preemergence Rates of Sharpen in Sweet Sorghum

Rate by Soil Texture and Organic Matter Content (fl ozs/A)			
Organic Matter			
Soil Texture <sup>1</sup>	e' ≤ 1.5% > 1.5%		
Coarse	DO NOT USE	2.0	
Medium	2.5	3.0	
Fine	3.0	4.0	

¹Refer to **Table 3** for definition of soil texture groups.

#### **Application Timings**

## Early Preplant Surface Application (15 to 30 days before planting)

Application rates in **Table 10** and **Table 11** should be used when making early preplant surface applications, using the highest application rate for a given soil texture. Early preplant surface applications are not recommended on coarse soils or in areas where average annual rainfall (or rainfall plus irrigation) typically exceeds 40 inches. Cultivation or a labeled postemergence herbicide application may still be required under certain conditions for complete weed control.

Early preplant surface applications may be applied as part of a split application program where applications are made as part of the application timings described in this label. However, the cumulative total of sequential application rates must not exceed the maximum labeled rate for a given soil texture.

## Preplant Surface and Preplant Incorporated Applications

#### (up to 14 days before planting)

**Sharpen** can be applied at use rates specified in **Table 10** and **Table 11** to the soil surface or incorporated up to

14 days before planting on all soil types. For preplant incorporated applications, apply **Sharpen® herbicide** and incorporate into the upper soil surface (1 to 2 inches). Use a harrow, rolling cultivator, field cultivator or other implement capable of providing uniform shallow incorporation. Avoid deeper incorporation or reduced weed control may result.

#### **Preemergence Surface Application**

Apply **Sharpen** at use rates specified in **Table 10** and **Table 11** as a broadcast spray to the soil surface after planting and before crop emergence. **Sharpen** must be applied before crop emergence or injury will occur.

#### **Burndown plus Residual Weed Control**

In addition to residual broadleaf weed control obtained at any of the application timings described above, **Sharpen** will also provide burndown of emerged broadleaf weeds listed in **Table 1**. An adjuvant system (refer to **Additives** section for details) is required for optimum burndown activity. Burndown control of emerged grasses and/or additional broadleaf weeds not listed on the label will require a tank mix with another herbicide (such as glyphosate).

#### **Burndown Weed Control Only**

Sharpen can be applied at 1.0 to 2.0 fl ozs/A (all soil types) with an adjuvant system (refer to the Additives section for details) any time before sorghum emergence to provide burndown of weeds listed in Table 1. A burndown application of Sharpen can be followed by residual rates of Sharpen (Table 10 and Table 11) or Verdict® herbicide. Sequential applications must be separated by at least 14 days. However, DO NOT exceed the cropping seasonal maximum cumulative amount per acre of saflufenacil from all product sources.

**State-specific Use in California.** Apply **Sharpen** early preplant through preemergence at 1.0 to 2.0 fl ozs/A with an adjuvant system for enhanced burndown broadleaf weed control before crop emergence. Separate sequential applications by at least 14 days. **DO NOT** apply greater than 2.0 fl ozs/A in a single application.

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

- DO NOT apply Sharpen after sorghum emergence or severe crop injury will occur.
- DO NOT apply Sharpen at greater than 1.0 fl oz/A within 30 days of planting where an at-planting application of an organophosphate or carbamate insecticide(s) is planned and/or has occurred or severe injury may result.

EXCEPTION: Sharpen may be applied when Aztec® 2.1% granular insecticide, Aztec® 4.67 G granular insecticide, Fortress® 5G granular insecticide, or SmartChoice™ 5G granular insecticide is applied at planting as a band, T-band, or in-furrow. Sharpen may be applied with all other classes of at-planting insecticides including pyrethroids, neonicotinoids, and fipronil.

- **DO NOT** apply more than a maximum cumulative amount of 6.0 fl ozs/A of **Sharpen** (0.134 lb ai/A of saflufenacil) per cropping season.
- DO NOT apply more than a maximum cumulative amount of 0.134 lb ai/A of saflufenacil per cropping season in sorghum from all product sources.
- Grain sorghum and sweet sorghum forage can be harvested, fed, or grazed 70 days or more after application.
- {Alternate Text: **DO NOT** use on sweet sorghum and forage sorghum.}
- Refer to **Table 4** for rotational crop planting intervals.

#### **Tank Mixtures**

**Sharpen** may be tank mixed or applied sequentially with one or more of, but not limited to, the following herbicide products:

- Clarity® herbicide
- Outlook® herbicide
- Verdict
- atrazine
- glyphosate (e.g. Roundup® herbicide)

**NOTE:** Sorghum seed must be properly treated with an approved chloroacetamide safener when applying a chloroacetamide herbicide or sorghum injury will occur.

#### Soybean

**Sharpen** may be applied in the fall and/or in the spring as a preplant surface, or preplant incorporated, or preemergence burndown application in conventional-till, reduced-till, or no-till soybeans for broadleaf weed control (refer to **Table 1** and **Table 2** for lists of weeds controlled). An adjuvant system (refer to **Additives** section for details) is required for optimum burndown activity.

Use of **Sharpen** may result in delayed soybean emergence and stunting under certain environmental conditions including cool temperatures, excessive rainfall/irrigation, and/or persistent wet soil conditions occurring after application.

Not for use in soybean in California.

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

#### **Fall Application**

Apply **Sharpen** at 1.0 to 2.0 fl ozs/A for burndown broadleaf weed control after the prior crop is harvested. Application must be made before first killing frost. Fall application can be made to all soil types.

#### **Spring Application**

Apply **Sharpen** early preplant through preemergence at 1.0 fl oz/A for burndown broadleaf weed control before crop emergence.

Apply **Sharpen** early preplant at 1.5 or 2.0 fl ozs/A for enhanced burndown broadleaf weed control.

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#### Soybean Planting Interval

Depending on **Sharpen® herbicide** use rate, soil texture and organic matter, an interval between **Sharpen** application and planting may be required (see **Table 12** and **Table 13**). This interval must be observed before planting soybean or crop injury may occur.

**Table 12. Minimum Soybean Planting Intervals** 

Minimum Preplant Interval (days) Required between Sharpen Application and Soybean Planting			
Sharpen Use Rate (fl ozs/A)	Use Rate Coarse Soils		
1.0	30	0	
1.5	30	14	
2.0	44	30	

<sup>&</sup>lt;sup>1</sup>Refer to **Table 3** for definition of soil texture groups.

Table 13. Minimum Soybean Planting Intervals with other Group 14/Group E Herbicides

Minimum	Preplant	Interva	ı
	(davs)		

Required between Sharpen Application and Soybean Planting when Tank Mixed or Sequentially Applied with a Group 14/Group E Herbicide<sup>1</sup>

		-	
Charman	Soil Texture <sup>2</sup>		
Sharpen Use Rate (fl ozs/A)	Coarse Soils with ≤ 2.0% Organic Matter	All Other Soils	
1.0	30	14*	
1.5	30	. 30	
2.0	.44	30	

<sup>&</sup>lt;sup>1</sup> **Group 14/Group E** herbicides such as sulfentrazone or flumioxazin <sup>2</sup>Refer to **Table 3** for definition of soil texture groups.

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

- DO NOT apply more than a maximum cumulative amount of 4.0 fl ozs/A of Sharpen (0.089 lb ai/A of saflufenacil) per cropping season. Sequential applications MUST be separated by at least 30 days.
- DO NOT apply more than a maximum cumulative amount of 0.089 lb ai/A of saflufenacil per cropping season in soybean from all product sources.
- **DO NOT** apply when soybean has reached the cracking stage or after emergence or severe crop injury will occur.
- DO NOT apply Sharpen within 30 days of planting where an at-planting application of an organophosphate or carbamate insecticide(s) is planned and/or has occurred because severe injury may result.

- Ensure that the seed row is sufficiently covered with soil to avoid washing and concentration of the herbicide in the seed zone.
- Always use the most restrictive preplant interval of all inclusive herbicides when applying **Sharpen** as part of a tank mix.
- Soybean forage may be fed or grazed 65 or more days after application.
- Refer to Table 4 for rotational crop planting intervals.
- Group 14/Group E herbicides labeled for postemergence application in soybean may be used 14 days or more after soybean emergence.
- USE RESTRICTIONS for Sensitive Soybean
   Varieties. Certain soybean varieties are sensitive to
   Sharpen. Consult a BASF representative, crop advisor, or seed company agronomist for information on soybean varieties sensitive to Sharpen. Apply 1.0 fl oz/A of
   Sharpen early preplant. Wait until there is an accumulation of 1 inch of rainfall or irrigation followed by an interval of 21 days before planting sensitive soybean varieties.
   This interval must be observed before planting sensitive soybean varieties or crop injury may occur.

#### **Tank Mixtures**

Broad-spectrum burndown control of grasses and/or additional broadleaf weeds will usually require a tank mix with a herbicide such as glyphosate. **Sharpen** may be tank mixed with or applied sequentially with one or more of, but not limited to, the following herbicide products:

- Clarity® herbicide
- Extreme® herbicide
- Optill® PRO herbicide
- Prowl® H<sub>2</sub>O herbicide
- Pursuit® herbicide
- Scepter® herbicide
- Verdict® herbicide
- Zidua® herbicide
- glyphosate (e.g. Roundup® herbicide)

#### Soybean (only Kixor<sup>®</sup> Selected varieties)

The use directions in this section are only intended for Kixor Selected soybean varieties. Contact your local BASF representative or go to <a href="http://www.agproducts.basf.us/products/kixor-selected-soybean-varieties.html">http://www.agproducts.basf.us/products/kixor-selected-soybean-varieties.html</a> for a full list of current Kixor Selected soybean varieties.

**Sharpen** may be applied in fall and/or in spring as a preplant surface, preplant incorporated, or preemergence burndown application in conventional-till, reduced-till, or no-till soybeans for broadleaf weed control; refer to **Table 1** and **Table 2** for lists of weeds controlled. An adjuvant system (refer to **Additives** for details) is required for optimum burndown activity.

<sup>\*</sup>Interval for reduced-till and no-till soybean only. Interval for conventional-till soybean is 30 days.

Use of **Sharpen® herbicide** may result in delayed soybean emergence and stunting under certain environmental conditions including cool temperatures, excessive rainfall/irrigation, and/or persistent wet soil conditions occurring after application.

Not for use on **Kixor® Selected** soybean varieties in California.

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

#### **Fall Application**

Apply **Sharpen** at 1.0 to 2.0 fl ozs/A for burndown broadleaf weed control after the prior crop is harvested. Application must be made before first killing frost. Fall application can be made to all soil types.

#### **Spring Application**

Apply **Sharpen** early preplant through preemergence at 1.0 fl oz/A for burndown broadleaf weed control before crop emergence.

Apply **Sharpen** early preplant through preemergence at 2.0 fl ozs/A for enhanced burndown broadleaf weed control before crop emergence.

#### Soybean Planting Interval

Depending on **Sharpen** use rate, soil texture, and organic matter, an interval between **Sharpen** application and planting may be required; see the following chart. This interval must be observed before planting soybean or crop injury may occur.

Minimum Preplant Interval

Table 14. Minimum Kixor Selected Soybean Planting Intervals

Required I	(days) Required between Sharpen Application and Planting of Kixor Selected Soybean Varieties		
Charman	Soil Tex	cture¹	
Sharpen Use Rate (fl ozs/A)	Coarse Soils with ≤ 2.0% Organic Matter	All Other Soils	
	0		
1.0	30 days when tank mixed or sequentially applied with other Group 14/Group E <sup>2</sup> herbicides	0	
2.0	30	0	

<sup>&</sup>lt;sup>1</sup>Refer to **Table 3** for definition of soil texture groups.

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

 DO NOT apply more than a maximum cumulative amount of 4.0 fl ozs/A of Sharpen (0.089 lb ai/A of saflufenacil) per cropping season. Sequential applications MUST be separated by at least 30 days.

- **DO NOT** apply mone than a maximum cumulative amount of 0.089 lb ai/A of saflufenacil per cropping sea son in soybean from all product sources.
- DO NOT apply Sharpen when soybean has reached the cracking stage or after emergence or severe crop injury will occur.
- DO NOT apply Sharpen within 30 days of planting where an at-planting application of an organophosphate or carbamate insecticide(s) is planned and/or has occurred because severe injury may result.
- Ensure the seed row is sufficiently covered with soil to avoid washing and concentration of the herbicide in the seed zone.
- Always use the most restrictive preplant interval of all inclusive herbicides when applying **Sharpen** as part of a tank mix.
- Soybean forage may be fed or grazed 65 or more days after application.
- DO NOT apply more than 1.0 fl oz/A of Sharpen with other products containing Group 14/Group E herbicides (such as sulfentrazone or flumioxazin) as a tank mix or as a sequential spring application.
- Group 14/Group E herbicides labeled for postemergence application in soybean may be used 14 days or more after soybean emergence.
- Refer to **Table 4** for rotational crop intervals.

#### **Tank Mixtures**

Broad-spectrum burndown control of grass weeds and/or additional broadleaf weeds will usually require a tank mix with a herbicide such as glyphosate. **Sharpen** may be tank mixed with or applied sequentially with one or more of, but not limited to, the following herbicide products:

- Clarity® herbicide
- Extreme® herbicide
- Optill® PRO herbicide
- Prowl® H<sub>2</sub>O herbicide
- Pursuit® herbicide
- Scepter® herbicide
- Verdict® herbicide
- glyphosate (e.g. Roundup® herbicide)

#### Noncropland Areas

DO NOT apply Sharpen in any residential setting.

**Sharpen** may be used:

- In noncropland areas including fence rows, nonirrigation ditchbanks, petroleum tank farms, pumping installations, railroads, rights-of-way (utility, pipeline, highway), storage areas, and utility plant sites
- For the establishment and maintenance of natural areas (such as wildlife management areas, wildlife openings, and wildlife habitats)

<sup>&</sup>lt;sup>2</sup> Group 14/Group E herbicides such as sulfentrazone or flumioxazin

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

**Sharpen® herbicide** may be applied either in a single application or sequentially with an interval of 14 days or more.

Application rates for **Sharpen** when applied alone, in tank mix, or sequentially are given in **Table 15**. **DO NOT** apply more than a maximum cumulative total of 6.0 fl ozs of **Sharpen** (0.134 pound active ingredient saflufenacil) per acre per year.

In California, **DO NOT** apply more than 2.0 fl ozs/A of **Sharpen** in a single application.

**Table 15. Application Rates in Noncropland Areas** 

Application Application Rate				
<b>Application</b>	Target	(fl ozs/A)		
Postemergence	Weed size < 6 inches	2 to 4		
,	Weed size ≥ 6 inches and/or heavier weed infestations	4 to 6ª		
Postemergence + Residual	Burndown + Residual preemergence weed control	. 6 <sup>b</sup>		
Tank Mixes with (	Slyphosate			
Accelerated Burndown	Accelerated burndown of broadleaf weeds and/or control of glyphosate- tolerant species	1 to 2		
	[such as horseweed (marestail)]			
Accelerated Burndown + Residual	Accelerated burndown of broadleaf weeds plus control of glyphosate- tolerant species with residual preemergence weed control	6⁵		

<sup>&</sup>lt;sup>a</sup>Partial control or suppression may result with applications to weeds > 6 inches.

#### **Spot Treatments**

**Sharpen** may be applied as a spot treatment to emerged broadleaf weeds. Consult the chart following for the amount of **Sharpen** to make various gallons of spray mix to use for spot treatments applied to actively growing broadleaf weeds and sizes referenced in **Table 1**. Spray thoroughly to wet weed foliage but not to the point of runoff.

To maximize performance, refer to the **Additives** section for recommended adjuvant and rate to add to the spray

Each spray mix is equivalent to applying **Sharpen** at a use rate of 2.0 fl ozs/A in a spray volume of 100 gallons per acre. Applications of a spot spray mix should not be made to an equivalent area less than what is shown in the chart or exceed the equivalent broadcast rate of 2.0 fl ozs/A.

Spot treatments may be applied via an ATV-mounted (all-terrain vehicle-mounted) or tractor-mounted sprayer equipped for low-pressure hand wand applications. **DO NOT** apply spot treatments using high-pressure hand wands.

Spray Mix (gallons)	Spray Mix Treatment Area (sq ft)	Sharpen (fl oz)
1	436	0.02
5	2,178	0.1
10 /	4,356	0.2
25	10,890	0.5
50	21,780	1.0

#### **Selective Weeding**

Apply **Sharpen** up to 2.0 fl ozs/A as a postemergence spray plus the recommended adjuvant (refer to **Additives** section for details) as a uniform broadcast application or spot treatment for selective broadleaf weed control in unimproved turf and native grass areas. Transitory injury (leaf necrosis) may be observed under certain conditions, but new growth is normal and vigor is not reduced.

**DO NOT** feed or allow animals to graze areas of grass treated with **Sharpen** within 365 days of treatment.

#### Tank Mixtures for Selective Weeding

Broad-spectrum postemergence and/or residual control of grasses or additional broadleaf species will require a tank mix with another herbicide. **Sharpen** may be tank mixed or applied sequentially with one or more of, but not limited to, the following herbicide products:

- Distinct® herbicide
- Journey® herbicide
- Overdrive® herbicide
- Plateau® herbicide
- glyphosate (e.g. Roundup® herbicide)

#### Bareground

**Sharpen** will provide contact burndown plus residual preemergence control of annual broadleaf weeds. Apply **Sharpen** plus the recommended adjuvant (refer to **Additives** section for details) as a uniform broadcast application or spot treatment. To provide effective residual broadleaf weed control, **Sharpen** must be applied at the maximum use rate of 6 fl ozs/A. The actual length of residual control is dependent on factors such as application rate, soil type, organic matter, weed pressure, and rainfall

<sup>&</sup>lt;sup>b</sup>To provide effective residual control of labeled weed species, **Sharpen MUST** be used at the maximum use rate of 6 fl ozs/A.

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amounts after application. Adequate precipitation is necessary to activate **Sharpen® herbicide**. Dry weather following application may reduce effectiveness.

#### **Tank Mixtures for Bareground**

Broad-spectrum postemergence and/or residual control of grasses or additional broadleaf species will require a tank mix with another herbicide. **Sharpen** may be tank mixed or applied sequentially with one or more of, but not limited to, the following herbicide products:

- Arsenal® PowerLine™ herbicide
- Journey® herbicide
- Pendulum® AquaCap™ herbicide
- Plateau® herbicide
- Sahara® herbicide
- diuron
- glyphosate (e.g. Roundup\* herbicide)

#### **Leafy Spurge Control**

**Sharpen** applied in tank mixture with **Plateau** will control leafy spurge when applied late spring/early summer in non-cropland areas as described above. This tank mixture will also control additional weeds listed on the respective **Sharpen** and **Plateau** labels. **Sharpen** plus **Plateau** tank mix may be applied by either ground or air as either a uniform broadcast application or a spot treatment.

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 control may not be satisfactory.

**DO NOT** feed or allow animals to graze areas of grass treated with **Sharpen** within 365 days of treatment.

Spray Additives for Leafy Spurge Control. Sharpen plus Plateau tank mix requires the use of an effective adjuvant system. For best results, use a nonionic surfactant at 0.25% volume/volume (v/v) plus ammonium sulfate at 8.5 to 17.0 lbs/100 gals [1% to 2% weight/volume (w/v)]. Crop oil concentrate or methylated seed oil may also be used with this tank mixture when injury (stunting, necrosis) to grasses is acceptable.

Water Volume for Leafy Spurge Control. For ground applications, 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 applications, use 5 or more gallons of water per acre.

#### **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.

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007969-00278.20140529b.**NVA 2014-04-322-0154** 

Based on: NVA 2014-04-322-0074 Supersedes: NVA 2013-04-322-0276

BASF Corporation 26 Davis Drive Research Triangle Park, NC 27709



# Supplemental Label

# Sharpen.

### Powered by Kixor® Herbicide

Tank mix with Group 14/Group E herbicides in chickpea and field pea in Idaho, Montana, North Dakota, Oregon, South Dakota, and Washington

This supplemental label expires July 15, 2017, and must not be used or distributed after this date.

#### **Active Ingredient:**

saflufenacil: N'-[2-chloro-4-fluoro-5-(3-methyl-2,6-dioxo-4-(trifluoromethyl)-3,6-dihydro-1(2H)-	
pyrimidinyl)benzoyl]-N-isopropyl-N-methylsulfamide	29.74%
Other Ingredients:	70.26%
Total:	100.00%

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**

For Use Only in Idaho, Montana, North Dakota, Oregon, South Dakota, and Washington

**Sharpen** may be applied preplant surface, preplant incorporated, or preemergence to chickpea (garbanzo bean) and field pea for broadleaf weed control (refer to **Table 1** and **Table 2** on the **Sharpen** container label for lists of weeds controlled). Before

applying **Sharpen** to chickpea and field pea, verify the selectivity of **Sharpen** on your variety with your seed company (supplier) to help avoid potential injury to sensitive varieties.

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

Chickpea. Sharpen may be tank mixed or sequentially applied with other Group 14/Group E herbicides (such as sulfentrazone) as an early preplant through preemergence treatment at 1.0 fl oz/A (for burndown) or at 2.0 fl ozs/A (for enhanced burndown) broadleaf weed control before crop emergence. Ensure that the seed row is closed. Soil conditions that cause poor seed furrow closure and coverage may result in delayed crop emergence or stunting. A sequential application of Sharpen may be made with a minimum of 30 days between applications.

**Field Pea. Sharpen** may be tank mixed or sequentially applied with other **Group 14/Group E** herbicides (such as sulfentrazone) as an early preplant through preemergence treatment at 1.0 fl oz/A for burndown broadleaf weed control before crop emergence. Sequential applications of **Sharpen** may be made with a minimum of 30 days between applications.

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The Chemical Company

BASF Corporation 26 Davis Drive, Research Triangle Park, NC 27709 **Crop-specific Restrictions and Limitations** 

 DO NOT apply more than a maximum cumulative amount of 4.0 fl ozs/A of Sharpen<sup>®</sup> herbicide per cropping season.

- DO NOT apply Sharpen if cold and/or wet conditions are present or predicted to occur within 1 week of application.
- Plant legumes at least 1/2-inch deep to reduce risk of crop injury from **Sharpen** application.
- DO NOT apply when legumes have reached the cracking stage or after emergence or severe crop injury will occur.
- Ensure that the seed row is sufficiently covered with soil to avoid washing and concentration of the herbicide in the seed zone.
- Legume forage may be fed or grazed 65 or more days after application.
- Refer to product container label for rotational crop planting intervals.

#### **Tank Mixtures**

Broad-spectrum burndown control of grasses and/or additional broadleaf weeds will usually require a tank mix with another herbicide. **Sharpen** may be tank mixed with one or more, but not limited to, the following herbicide products:

Prowl<sup>®</sup> H₂O herbicide glyphosate (e.g. Roundup<sup>®</sup> herbicide) 34/ 156

#### **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.

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007969-00278.20140325b.**NVA 2014-04-322-0075** Based on: NVA 2014-04-322-0074

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



The Chemical Company





## Powered by Kixor® Herbicide

#### Increased use rate in chickpea grown in Idaho, Oregon, and Washington

This supplemental label expires July 15, 2017, and must not be used or distributed after this date.

#### **Active Ingredient:**

saflufenacil: N'-[2-chloro-4-fluoro-5-(3-methyl-2,6-dioxo-4-(trifluoromethyl)-3,6-dihydro-1(2H)-	
pyrimidinyl)benzoyl]-N-isopropyl-N-methylsulfamide	29.74%
Other Ingredients:	70.26%
Total:	100.00%
Total.	100.00

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**

## For Use Only in Idaho, Oregon, and Washington

Sharpen may be applied preplant surface, preplant incorporated, or preemergence to chickpea (garbanzo bean) for broadleaf weed control (refer to Table 1 and Table 2 on the Sharpen container label for lists of weeds controlled). Before applying Sharpen to chickpea, verify the selectivity of Sharpen on your variety with your seed company (supplier) to help avoid potential injury to sensitive varieties.

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

Apply **Sharpen** early preplant through preemergence at 3.0 fl ozs/A for enhanced burndown plus residual broadleaf weed control before crop emergence. Ensure that the seed row is closed. Soil conditions that cause poor seed furrow closure and coverage may result in delayed crop emergence or stunting. A sequential application of **Sharpen** at 1.0 fl oz/A for only burndown broadleaf weed control may be made with a minimum of 30 days between applications.

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

- DO NOT apply more than a maximum cumulative amount of 4.0 fl ozs/A of Sharpen per cropping season.
- DO NOT apply Sharpen if cold and/or wet conditions are present or predicted to occur within 1 week of application.
- Plant legumes at least 1/2-inch deep to reduce risk of crop injury from Sharpen application.
- DO NOT apply when legumes have reached the cracking stage or after emergence or severe crop injury will occur.

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

- DO NOT apply Sharpen® herbicide with other products containing Group 14/Group E herbicides (such as sulfentrazone or flumioxazin) as a tank mix partner or sequential application within 30 days of planting because crop injury may result.
- Legume forage may be fed or grazed 65 or more days after application.
- There is no required (preharvest) interval between a preplant or preemergence application of Sharpen and the harvest of mature legume pods or seeds.
- Refer to product container label for rotational crop planting intervals.

#### **Tank Mixtures**

Broad-spectrum burndown control of grasses and/or additional broadleaf weeds will usually require a tank mix with another herbicide. **Sharpen** may be tank mixed with one or more, but not limited to, the following herbicide products:

Prowl<sup>®</sup> H₂O herbicide glyphosate (e.g. Roundup<sup>®</sup> herbicide)

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.

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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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007969-00278.20140325b.**NVA 2014-04-322-0076**Based on: NVA 2014-04-322-0074

BASF Corporation 26 Davis Drive Research Triangle Park, NC 27709



### Powered by Kixor® Herbicide

#### Enhanced burndown plus residual weed control in wheat

This supplemental label expires July 15, 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 preplant surface, preplant incorporated, or preemergence to wheat (including durum, spring and winter) for broadleaf weed control (refer to **Table 1** and **Table 2** on the **Sharpen** container label for lists of weeds controlled).

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

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

Enhanced Burndown plus Residual Control. Apply Sharpen in winter wheat and spring wheat early preplant through preemergence at 3.0 fl ozs/A to 4.0 fl ozs/A for enhanced burndown plus residual control of broadleaf weeds. Performance depends on amount of rainfall for activation, soil texture, and broadleaf species/populations. An adjuvant system (refer to the Additives section on container label for details) is required for optimum broadleaf burndown activity.

**Sequential Applications. Sharpen** may be applied sequentially as needed before small grain emergence. Early preplant applications may be applied as part of a split application program where the first application is made early preplant and the second application is made preemergence. Separate sequential applications by at least 14 days in wheat.

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**Crop-specific Restrictions and Limitations** 

- DO NOT apply more than a maximum cumulative amount of 6.0 fl ozs/A of Sharpen® herbicide per cropping season.
- **DO NOT** apply after small grain emergence or crop injury will occur.
- Small grain forage and hay can be fed or grazed 30 or more days after application.
- Ensure that the seed row is sufficiently covered with soil to avoid washing and concentration of the herbicide in the seed zone.
- Refer to the product container label for rotational crop planting intervals.

#### **Tank Mixtures**

Broad-spectrum burndown control of grasses and/or additional broadleaf weeds will usually require a tank mix with another herbicide. **Sharpen** may be tank mixed with one or more, but not limited to, the following herbicide products:

Clarity® herbicide glyphosate (e.g. Roundup® herbicide) 40/

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.

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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.

Clarity, Kixor, and Sharpen are registered trademarks of BASF.

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

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007969-00278.20140325b.**NVA 2014-04-322-0078** Based on: NVA 2014-04-322-0074

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





# Sharpen\* Powered by Kixor\* Herbicide

#### For use in southern pea

This supplemental label expires July 15, 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 preplant surface, preplant incorporated, or preemergence to only the dry shelled types of southern pea (including blackeyed pea, cow pea, Crowder pea) for broadleaf weed control (refer to Table 1 and Table 2 of the Sharpen container label for lists of weeds controlled). Before applying Sharpen to southern pea, verify the selectivity of Sharpen on your variety with your seed company (supplier) to help avoid potential injury to sensitive varieties.

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

**Burndown**. Apply **Sharpen** early preplant through preemergence at 1.0 fl oz/A for burndown broadleaf weed control before crop emergence. A sequential application of **Sharpen** may be made with a minimum of 30 days between applications.

Enhanced Burndown. Apply Sharpen early preplant through preemergence at 2.0 fl ozs/A for enhanced burndown broadleaf weed control before crop emergence. Ensure that the seed row is closed. Soil conditions that cause poor seed furrow closure and coverage may result in delayed crop emergence and or stunting. A sequential application of Sharpen may be made with a minimum of 30 days between applications.

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

- DO NOT apply more than a maximum cumulative amount of 4.0 fl ozs/A of Sharpen per cropping season in southern pea.
- DO NOT apply Sharpen if cold and/or wet conditions are present or predicted to occur within 1 week of application.
- Plant legumes at least 1/2-inch deep to reduce risk of crop injury from Sharpen application.



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- DO NOT apply when legumes have reached the cracking stage or after emergence or severe crop injury will occur.
- Ensure that the seed row is sufficiently covered with soil to avoid washing and concentration of the herbicide in the seed zone.
- DO NOT apply Sharpen® herbicide with other products containing Group 14/Group E herbicides (such as sulfentrazone or flumioxazin) as a tank mix partner or sequential application within 30 days of planting because crop injury may result.
- Legume forage may be fed or grazed 65 or more days after application.
- There is no required (preharvest) interval between a preplant or preemergence application of **Sharpen** and the harvest of mature legume pods or seeds.
- Refer to the product container label for rotational crop planting intervals.

#### **Tank Mixtures**

Broad-spectrum burndown control of grasses and/or additional broadleaf weeds will usually require a tank mix with another herbicide. **Sharpen** may be tank mixed with one or more, but not limited to, the following herbicide products:

Prowl<sup>®</sup> H₂O herbicide glyphosate (e.g. Roundup<sup>®</sup> herbicide)

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.

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007969-00278.20140325b.**NVA 2014-04-322-0077**Based on: NVA 2014-04-322-0074

BASF Corporation 26 Davis Drive Research Triangle Park, NC 27709



Group

14

Herbicide

## Supplemental Label

# Sharpen<sup>®</sup> Powered by **Kixor**<sup>®</sup> Herbicide

# For harvest aid/desiccation in crops of oilseed canola (rapeseed) subgroup 20A

This supplemental label expires December 31, 2014, and must not be used or distributed after this date.

**Active Ingredient:** 

saflufenacil: N'-[2-chloro-4-fluoro-5-(3-methyl-2,6-dioxo-4-(trifluoromethyl)-3,6-dihydro-1(2H)-pyrimidinyl)benzoyl]-N-isopropyl-N-methylsulfamide. 29.74%

Other Ingredients: 70.26%

Total: 100.00%

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 used for harvest aid/desiccation in crops of the oilseed canola (rapeseed) subgroup 20A including borage, crambe, cuphea, Echium, flax, gold-of-pleasure (Camelina), hare's ear mustard, Juncea, lesquerella, lunaria, meadowfoam, milkweed, mustard seed, oil radish, poppy seed, rapeseed (canola), sesame, and sweet rocket.

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

Uniformly apply **Sharpen** at 1.0 fl oz/A to 2.0 fl ozs/A as a broadcast spray over the top of crops of oilseed canola (rapeseed) subgroup 20A that have reached physiological maturity (70% to 80% bolls turn to brown for flax; seeds in the middle pods have started to turn in color for canola (rapeseed), Juncea, and mustard; or according to Extension Service recommendations in the use area for other crops). Allow up to 7 days for optimum desiccation effect depending on environmental conditions.

Thorough spray coverage and a methylated seed oil (MSO) plus ammonium-based adjuvant system (refer to **Additives** section on the product container label for details) is required for optimum desiccation activity. Ground application is recommended at a minimum spray volume of 10 gallons/A. Aerial application is recommended at a minimum spray volume of 5 gallons/A.

A single application or sequential applications may be made, but the maximum cumulative amount of **Sharpen** applied must not exceed 2.0 fl ozs/A per cropping season from desiccation uses.

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

- DO NOT apply Sharpen® herbicide on crops of oilseed canola (rapeseed) subgroup 20A grown for seed production.
- Seed from crops of oilseed canola (rapeseed) subgroup 20A can be harvested 3 or more days after application.
- Refer to the product container label for rotational crop planting intervals.

#### **Tank Mixtures**

Apply **Sharpen** with a labeled rate of glyphosate (e.g. **Roundup**® **herbicide**) for additional preharvest weed control. **Sharpen** also may be tank mixed with other registered harvest aid/desiccant products. Read and follow the applicable restrictions and limitations and directions for use on the glyphosate and other tank mix product labels, and to confirm they are labeled for the specific crop to be desiccated. The most restrictive labeling applies to tank mixes.

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.

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007969-00278.20140324.**NVA 2014-04-322-0079** 

Based on: NVA 2014-04-322-0074 Supersedes: NVA 2010-04-322-0089

BASF Corporation 26 Davis Drive Research Triangle Park, NC 27709



Group

14

Herbicide

## Supplemental Label

# Sharpen<sup>®</sup>

### Powered by Kixor® Herbicide

#### For harvest aid/desiccation in dry peas

This supplemental label expires December 31, 2014, and must not be used or distributed after this date.

**Active Ingredient:** 

saflufenacil: N'-[2-chloro-4-fluoro-5-(3-methyl-2,6-dioxo-4-(trifluoromethyl)-3,6-dihydro-1(2H)-	
pyrimidinyl)benzoyl]-N-isopropyl-N-methylsulfamide	29.74%
Other Ingredients:	70.26%
Total: 1	100.00%
	-

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 used for harvest aid/desiccation in dry peas (including dry field peas as well as all other *Pisum* species and pigeon pea).

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

Uniformly apply **Sharpen** at 1.0 fl oz/A to 2.0 fl ozs/A as a broadcast spray over the top of dry peas that have reached physiological maturity (peas with at least 80% yellow/brown pods and no more than 30% of leaves still green for vine-type peas and no more than 40% of leaves still green for bush-type peas; or according to Extension Service recommendations in the use area for other crops. Allow up to 10 days for optimum desiccation effect depending on environmental conditions.

Thorough spray coverage and a methylated seed oil (MSO) plus ammonium-based adjuvant system (refer to **Additives** section on the product container label for details) is required for optimum desiccation activity. Ground application is recommended at a minimum spray volume of 10 gallons/A. Aerial application is recommended at a minimum spray volume of 5 gallons/A.

A single application or sequential applications may be made, but the maximum cumulative amount of **Sharpen** applied must not exceed 2.0 fl ozs/A per cropping season from desiccation uses.



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

- DO NOT apply Sharpen<sup>®</sup> herbicide on dry peas grown for seed production.
- Dry peas can be harvested 3 or more days after application.
- Desiccation-treated pea vines may be grazed or fed to livestock.
- Refer to the product container label for rotational crop planting intervals.

#### **Tank Mixtures**

Apply **Sharpen** with a labeled rate of glyphosate (e.g. **Roundup**® **herbicide**) for additional preharvest weed control. **Sharpen** also may be tank mixed with other registered harvest aid/desiccant products. Read and follow the applicable restrictions and limitations and directions for use on the glyphosate and other tank mix product labels, and to confirm they are labeled for the specific crop to be desiccated. The most restrictive labeling applies to tank mixes.

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.

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007969-00278.20140324.**NVA 2014-04-322-0080** 

Based on: NVA 2014-04-322-0074 Supersedes: NVA 2010-04-322-0015

BASF Corporation 26 Davis Drive Research Triangle Park, NC 27709



### Supplemental Label

# Sharpen

### Powered by Kixor® Herbicide

#### For harvest aid/desiccation in dry edible beans (lentils)

This supplemental label expires December 31, 2014, and must not be used or distributed after this date.

#### **Active Ingredient:**

saflufenacil: N'-[2-chloro-4-fluoro-5-(3-methyl-2,6-dioxo-4-(trifluoromethyl)-3,6-dihydro-1(2H)-	
pyrimidinyl)benzoyl]-N-isopropyl-N-methylsulfamide	29.74%
Other Ingredients:	70.26%
Total:	100.00%

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 used for harvest aid/desiccation in lentils.

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

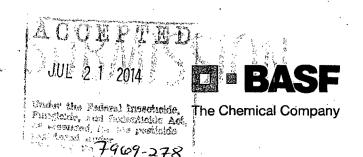
Uniformly apply **Sharpen** at 1.0 fl oz/A to 2.0 fl ozs/A broadcast over the top of dry edible beans (lentils) that have reached physiological maturity (lentils have at least 80% yellow/brown pods and no more than 30% of leaves still green; or according to Extension Service recommendations in the use area). Allow up to 7 days for optimum desiccation effect depending on environmental conditions.

BASF Corporation 26 Davis Drive, Research Triangle Park, NC 27709 Thorough spray coverage and a methylated seed oil (MSO) plus ammonium-based adjuvant system (refer to **Additives** section on the product container label for details) is required for optimum desiccation activity. Ground application is recommended at a minimum spray volume of 10 gallons/A. Aerial application is recommended at a minimum spray volume of 5 gallons/A.

A single application or sequential applications may be made, but the maximum cumulative amount of **Sharpen** applied must not exceed 2.0 fl ozs/A per cropping season from desiccation uses.

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

- DO NOT apply Sharpen on dry edible beans grown for seed production.
- DO NOT graze or feed desiccation-treated hay or straw to livestock.
- Dry edible beans can be harvested 2 or more days after application.
- Refer to the product container label for rotational crop planting intervals.



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#### **Tank Mixtures**

Apply **Sharpen® herbicide** with a labeled rate of glyphosate (e.g. **Roundup® herbicide**) for additional preharvest weed control. **Sharpen** also may be tank mixed with other registered harvest aid/desiccant products. Read and follow the applicable restrictions and limitations and directions for use on the glyphosate and other tank mix product labels, and to confirm they are labeled for the specific crop to be desiccated. The most restrictive labeling applies to tank mixes.

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007969-00278.20140325.**NVA 2014-04-322-0082** 

Based on: NVA 2014-04-322-0074 Supersedes: NVA 2011-04-322-0128

BASF Corporation 26 Davis Drive Research Triangle Park, NC 27709



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Group

14

Herbicide

JUL 2 1 2014

# Supplemental Label

# Sharpen

### Powered by Kixor® Herbicide

#### For harvest aid/desiccation in dry edible beans [garbanzo beans (chickpeas)]

This supplemental label expires December 31, 2014, and must not be used or distributed after this date.

#### **Active Ingredient:**

saflufenacil: N'-[2-chloro-4-fluoro-5-(3-methyl-2,6-dioxo-4-(trifluoromethyl)-3,6-dihydro-1(2H)-	
pyrimidinyl)benzoyl]-N-isopropyl-N-methylsulfamide	29.74%
Other Ingredients:	70.26%
Total:	100.00%

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 used for harvest aid/desiccation in garbanzo beans (chickpeas).

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

Uniformly apply **Sharpen** at 1.0 fl oz/A to 2.0 fl ozs/A broadcast over the top of dry edible beans [garbanzo beans (chickpeas)] that have reached physiological maturity [garbanzo beans (chickpeas) have at least 80% yellow/brown pods and no more than 40% of leaves still green for bush-type beans; 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 a methylated seed oil (MSO) plus ammonium-based adjuvant system (refer to **Additives** section on the product container label for details) is required for optimum desiccation activity. Ground application is recommended at a minimum spray volume of 10 gallons/A. Aerial application is recommended at a minimum spray volume of 5 gallons/A.

A single application or sequential applications may be made, but the maximum cumulative amount of **Sharpen** applied must not exceed 2.0 fl ozs/A per cropping season from desiccation uses.

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

- DO NOT apply Sharpen on dry edible beans grown for seed production.
- DO NOT graze or feed desiccation-treated hay or straw to livestock.
- Dry edible beans can be harvested 2 or more days after application.
- Refer to the product container label for rotational crop planting intervals.



#### **Tank Mixtures**

Apply **Sharpen** herbicide with a labeled rate of glyphosate (e.g. **Roundup** herbicide) for additional preharvest weed control. **Sharpen** also may be tank mixed with other registered harvest aid/desiccant products. Read and follow the applicable restrictions and limitations and directions for use on the glyphosate and other tank mix product labels, and to confirm they are labeled for the specific crop to be desiccated. The most restrictive labeling applies to tank mixes.

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