



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
**WASHINGTON, DC 20460**

**OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION**

August 24, 2023

Shannon Whitlock  
US Crop Protection Regulatory Specialist  
Corteva Agriscience  
9330 Zionsville Road  
Indianapolis, IN 46268

Subject: Label Amendment – Correct restricted-entry interval (REI)  
Product Name: STARANE NXT HERBICIDE  
EPA Registration Number: 62719-557  
Application Date: June 22, 2023  
Decision Number: 592930

Dear Shannon Whitlock

The amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is acceptable. This approval does not affect any conditions that were previously imposed on this registration. You continue to be subject to existing conditions on your registration and any deadlines connected with them.

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 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 12 months from the date of this letter. After 12 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.

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

If you have any questions, please contact Lydia Crawford by phone at 202-566-2575, or via email at [Crawford.Lydia@epa.gov](mailto:Crawford.Lydia@epa.gov).

Sincerely,



Emily Schmid, Product Manager 25  
Herbicide Branch  
Registration Division (7505P)  
Office of Pesticide Programs

Enclosure

**ACCEPTED****8/24/2023**

Under the Federal Insecticide, Fungicide  
and Rodenticide Act as amended, for the  
pesticide registered under  
EPA Reg. No. 62719-557

(Base label):

<b>FLUROXYPYR</b>	<b>GROUP</b>	<b>4</b>	<b>HERBICIDE</b>
<b>BROMOXYNIL</b>	<b>GROUP</b>	<b>6</b>	<b>HERBICIDE</b>

# Starane<sup>®</sup> NXT

## HERBICIDE

**For postemergence control of annual broadleaf weeds in wheat, barley, oats, and triticale not underseeded with a legume; corn (field), dry bulb onion, sorghum (grain and forage) and sudangrass; and grasses grown for seed production**

### Active Ingredient(s):

fluroxypyr: ((4-amino-3,5-dichloro-6-fluoro-2-pyridinyl)oxy)acetic acid, 1-methylheptyl ester .....	9.23%
bromoxynil: (2,6-dibromo-4-cyanophenyl octanoate) .....	37.29%
Other Ingredients .....	53.48%
Total .....	100.00%

Contains Petroleum Distillates

### Acid Equivalents:

fluroxypyr: ((4-amino-3,5-dichloro-6-fluoro-2-pyridinyl)oxy)acetic acid – 6.4% - 0.583 lb/gal
bromoxynil octanoate – 25.62% - 2.33 lb/gal

## Keep Out of Reach of Children

## WARNING AVISO

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.)

### Precautionary Statements

#### Hazards to Humans and Domestic Animals

**May be Fatal If Swallowed • Causes Substantial But Temporary Eye Injury • Harmful If Inhaled • Prolonged Or Frequently Repeated Skin Contact May Cause Allergic Reactions In Some Individuals.**

**Avoid breathing spray mist. Do not get in eyes or on clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.**

#### Personal Protective Equipment (PPE)

##### Applicators and other handlers must wear:

- Long sleeved shirt and long pants
- Chemical-resistant gloves made of Barrier Laminate or Viton ≥ 14 mils

- Shoes plus socks
- Protective eyewear

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

### Engineering Controls Statements

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 170.607(d-e)], the handler PPE requirements may be reduced or modified as specified in the WPS.

Handlers must use closed mixing loading systems during mixing/loading liquids for aerial applications to fallow land and high-acreage field crops.

### User Safety Recommendations

Users should:

- Wash hands thoroughly with soap and water after handling and 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.

### First Aid

**If swallowed:** Call a poison control center or doctor immediately for treatment advice. Do not give any liquid to the person. Do not induce vomiting unless told to by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

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

**If inhaled:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

**Note to Physician:** Contains petroleum distillate. Vomiting may cause aspiration chemical pneumonia.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-992-5994 for emergency medical treatment information.

### Environmental Hazards

This product is toxic to wildlife and fish. Drift or runoff from treated areas may be hazardous to aquatic organisms and non-target plants. Use with care when applying to areas frequented by wildlife or adjacent to any body of water. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters. Do not contaminate water used for irrigation or domestic purposes.

### NON-TARGET ORGANISM ADVISORY STATEMENT

This product is toxic to plants and may adversely impact the forage and habitat of non-target organisms, including pollinators, in areas adjacent to the treated site. Protect the forage and habitat of non-target organisms by following label directions intended to minimize spray drift.

### REPORTING ECOLOGICAL INCIDENTS

To report ecological incidents, including mortality, injury, or harm to plants and animals, call 1-800-992-5994.

### Physical or Chemical Hazards

Do not use or store near heat or open flame.

Use of this product in certain portions of California, Oregon, and Washington is subject to the January 22, 2004 Order for injunctive relief in Washington Toxics Coalition, et al. v. EPA, C01-0132C, (W.D. WA). For further information, please refer to <https://www.epa.gov/endangered-species/endangered-species-case-washington-toxics-coalition-v-epa>.

### Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to label booklet under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 2 days for onion, corn and grass.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours for all other crops.

### Nonrefillable containers 5 gallons or less:

#### Storage and Disposal

Do not contaminate water, food, or feed by storage or disposal.

**Pesticide Storage:** Store above 14°F. Warm to ambient conditions and shake well before using.

**Pesticide Disposal:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

**Container Handling:** Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

**Triple rinse** or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** 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 ¼ 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 a 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.

### Refillable containers larger than 5 gallons:

#### Storage and Disposal

Do not contaminate water, food, or feed by storage or disposal.

**Pesticide Storage:** Store above 14°F. Warm to ambient conditions and shake well before using.

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**Container Handling:** Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose.

Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the

container about 10% full with water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

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**Refer to inside of label booklet for additional precautionary information and Directions for Use.**

**Notice:** Read the entire label. Use only according to label directions. **Before using this product, read Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies at end of label booklet. If terms are unacceptable, return at once unopened.**

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994.

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

EPA Reg. No. 62719-557

EPA Est. \_\_\_\_\_

[Shake or Mix Well Before Use]

[Avoid Freezing]

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**Produced for  
Corteva Agriscience LLC  
9330 Zionsville Road  
Indianapolis, IN 46268**

**NET CONTENTS \_\_\_\_\_**

(Cover/Shipping Label):

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Other Ingredients .....	53.48%
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fluroxypyr: ((4-amino-3,5-dichloro-6-fluoro-2-pyridinyl)oxy)acetic acid – 6.4% - 0.583 lb/gal
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### Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to label booklet under “Agricultural Use Requirements” in the Directions for Use section for information about this standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 2 days for onion, corn and grass.

**Refer to inside of label booklet for additional precautionary information including First Aid and Directions for Use.**

**Notice:** Read the entire label. Use only according to label directions. **Before using this product, read Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies at end of label booklet. If terms are unacceptable, return at once unopened.**

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## Precautionary Statements

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### Hazards to Humans and Domestic Animals

# WARNING

**May be Fatal If Swallowed • Causes Substantial But Temporary Eye Injury • Harmful If Inhaled • Prolonged Or Frequently Repeated Skin Contact May Cause Allergic Reactions In Some Individuals.**

**Avoid breathing spray mist. Do not get in eyes or on clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.**

### Personal Protective Equipment (PPE)

**Applicators and other handlers must wear:**

- Long sleeved shirt and long pants
- Chemical-resistant gloves made of Barrier Laminate or Viton  $\geq$  14 mils
- Shoes plus socks
- Protective eyewear

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

### Engineering Controls Statements

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 170.607(d-e)], the handler PPE requirements may be reduced or modified as specified in the WPS.

Handlers must use closed mixing loading systems during mixing/loading liquids for aerial applications to fallow land and high-acreage field crops.

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Users should:

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- 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.

### First Aid

**If swallowed:** Call a poison control center or doctor immediately for treatment advice. Do not give any liquid to the person. Do not induce vomiting unless told to by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

**If inhaled:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

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

**Note to Physician:** Contains petroleum distillate. Vomiting may cause aspiration chemical pneumonia. Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-992-5994 for emergency medical treatment information.

### **Environmental Hazards**

This product is toxic to wildlife and fish. Drift or runoff from treated areas may be hazardous to aquatic organisms and non-target plants. Use with care when applying to areas frequented by wildlife or adjacent to any body of water. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters. Do not contaminate water used for irrigation or domestic purposes.

### **NON-TARGET ORGANISM ADVISORY STATEMENT**

This product is toxic to plants and may adversely impact the forage and habitat of non-target organisms, including pollinators, in areas adjacent to the treated site. Protect the forage and habitat of non-target organisms by following label directions intended to minimize spray drift.

### **REPORTING ECOLOGICAL INCIDENTS**

To report ecological incidents, including mortality, injury, or harm to plants and animals, call 1-800-992-5994.

### **Physical or Chemical Hazards**

Do not use or store near heat or open flame.

Use of this product in certain portions of California, Oregon, and Washington is subject to the January 22, 2004 Order for injunctive relief in Washington Toxics Coalition, et al. v. EPA, C01-0132C, (W.D. WA). For further information, please refer to <https://www.epa.gov/endangered-species/endangered-species-case-washington-toxics-coalition-v-epa>.

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### **Directions for Use**

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It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read all Directions for Use carefully before applying.

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.

### **Endangered Species Protection Requirements:**

It is a Federal offense to use any pesticide in a manner that results in an unauthorized "take" (e.g., kill or otherwise harm) of an endangered species and certain threatened species, under the Endangered Species Act section 9. When using this product, you must follow the measures contained in the Endangered Species Protection Bulletin for the area in which you are applying the product. You must obtain a Bulletin no earlier than six months before using this product. To obtain Bulletins, consult <http://www.epa.gov/espp/>, call 1-844-447-3813, or email [ESPP@epa.gov](mailto:ESPP@epa.gov). You must use the Bulletin valid for the month in which you will apply the product.

### **Agricultural Use Requirements**

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

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 2 days for onion, corn and grass.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours for all other crops.

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 made of Barrier Laminate or Viton  $\geq$  14 mils
- Shoes plus socks
- Protective eyewear

### Storage and Disposal

Do not contaminate water, food, or feed by storage or disposal.

**Pesticide Storage:** Store above 14°F. Warm to ambient conditions and shake well before using.

**Pesticide Disposal:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

#### Nonrefillable containers 5 gallons or less:

**Container Handling:** Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

**Triple rinse** or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** 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  $\frac{1}{4}$  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 a 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.

#### Refillable containers larger than 5 gallons:

**Container Handling:** Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose.

Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

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**Triple rinse** or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container  $\frac{1}{4}$  full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this

procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a 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.

## Product Information

Starane® NXT herbicide is used for selective control of annual broadleaf weeds in wheat, barley, oats, and triticale not underseeded with a legume; corn (field), dry bulb onion, sorghum (grain and forage) and sudangrass; and grasses grown for seed production.

## Use Restrictions:

- Do not apply this product directly to, or allow spray drift to come in contact with broadleaf crops or other susceptible broadleaf plants, including, but not limited to, alfalfa, canola, beans, cotton, flowers, grapes, lettuce, lentils, mustard, peas, potatoes, radishes, soybeans, sugar beets, sunflowers, tobacco, tomatoes, vegetables, or other desirable broadleaf crops or ornamental plants or soil where sensitive crops will be planted the same year.
- Do not contaminate irrigation ditches or water used for domestic purposes.
- Do not apply this product to golf course turf.
- **Maximum Application Rates:**
  - Do not apply more than 0.499 lb ai of bromoxynil/A per year (27.4 fl oz of Starane NXT) to barley, oats, rye or wheat.
  - Do not apply more than 0.375 lb ai of bromoxynil/A per year (21 fl oz per acre of Starane NXT per year) to sorghum.
  - Do not apply more than 0.375 lb ai of bromoxynil/A per year (20.5 fl oz per acre of Starane NXT per year) to dry bulb onions.
  - Do not cumulatively apply more than 0.25 lb ai/A of fluroxypyr per use year.
- Do not apply this product if wheat, barley, or oat crop to be treated has been underseeded with a desirable legume.
- Do not use this product in combination with fungicides containing strobilurin chemistry.
- Do not allow livestock to graze treated areas within 45 days of application.
- **Preharvest Interval:** Do not apply within 45 days of hay, grain or straw harvest.
- Do not apply aerially within 300 feet of residential areas including homes, schools, playgrounds, shopping areas, hospitals, etc.
- This product is persistent and may be present in plant materials for over 30 days after application. Do not use treated plant material or manure from animals that have grazed or consumed forage from treated areas for compost, mulch, or mushroom spawn until 30 days after application.
- Animals that have been fed fluroxypyr treated forage must be fed forage free of fluroxypyr for at least 3 days before they are moved off the treated property.
- 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 170.607(d-e)], the handler PPE requirements may be reduced or modified as specified in the WPS.
- **Engineering Controls Statements:** Handlers must use closed mixing loading systems during mixing/loading liquids for aerial applications to fallow land and high-acreage field crops.

## Use Precautions:

- The bromoxynil component of this product may cause occasional transitory leaf burn. The temporary leaf burn is similar to that seen with liquid fertilizer. Because the activity of bromoxynil is not systemic, recovery of the crop is generally rapid with no lasting effect. Frequency and amount of leaf burn may be greater when crops are stressed by abrasive winds, cool to cold evening temperatures or mechanical injury such as that caused by hail, sleet or insect feeding. To reduce the potential for temporary leaf

burn, apply to dry foliage in the labeled spray volumes per acre when weather conditions are not extreme.

- Avoid application where proximity of susceptible crops or other desirable plants is likely to result in exposure to spray or spray drift.

### **Crop Rotation Intervals**

If replanting is required, plant only those crops listed on this label or Federally approved supplemental labeling for Starane NXT after 30 days but prior to 120 days following application. Any crop may be replanted when more than 120 days have lapsed following application.

### **Management of Kochia Biotypes**

Research has suggested that many biotypes of kochia can occur within a single field. While kochia biotypes can vary in their susceptibility to Starane NXT, all will be suppressed or controlled by the rates listed in the label. Application of this product at less than labeled rates can result in a shift to more tolerant biotypes within a field.

**Best Resistance Management Practice:** Extensive populations of dicamba tolerant kochia have been identified in certain small grain and corn production regions (such as Chouteau, Fergus, Liberty, Toole, and Treasure counties in the state of Montana). In these areas, Starane NXT should be rotated with products **that do not contain dicamba** to minimize selection pressure. Use of these practices will preserve the utility of Starane NXT for control of dicamba tolerant kochia biotypes.

It is recommended that applicators also transmit at the time of notification relevant educational materials for managing treated plant matter, as available. Additional educational materials for fluroxypyr will be posted at: <https://www.epa.gov/ingredients-used-pesticide-products/registration-review-pyridine-and-pyrimidine-herbicides>.

## **WEED RESISTANCE MANAGEMENT**

For resistance management, please note that Starane NXT contains both a Group 4 (fluroxypyr) and a Group 6 (bromoxynil) herbicide. Any weed population may contain or develop plants naturally resistant to Group 4 and Group 6 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. Appropriate resistance management strategies should be followed.

Proactively implementing diversified weed control strategies to minimize selection for weed populations resistant to one or more herbicides is a best practice. A diversified weed management program may include the use of multiple herbicides with different modes of action and overlapping weed spectrum with or without tillage operations and/or other cultural practices. Research has demonstrated that using the labeled rate and directions for use is important to delay the selection for resistance. The continued effectiveness of this product depends on the successful implementation of a weed resistance management program.

To aid in the prevention of developing weeds resistant to this product, users should:

- Scout fields before application to ensure herbicides and rates will be appropriate for the weed species and weed sizes present.
- Start with a clean field, using either a burndown herbicide application or tillage.
- If using post-emergence herbicides or tank mixes, control weeds early when they are relatively small.
- Apply full rates of Starane NXT for the most difficult to control weed in the field at the specified time to minimize weed escapes.
- Scout fields after application to detect weed escapes or shifts in control of weed species.
- Control weed escapes before they reproduce by seed or proliferate vegetatively.

- Report any incidence of non-performance of this product against a particular weed to your local company representative, local retailer, or county extension agent.
- Contact your local company representative, crop advisor, or extension agent to find out if suspected resistant weeds to this MOA have been found in your region. If resistant biotypes of target weeds have been reported, use the application rates of this product specified for your local conditions. Tank mix products so that there are multiple effective modes of action for each target weed.
- If resistance is suspected, treat weed escapes with an herbicide having a mode of action other than Group 4 or Group 6 and/or use nonchemical methods to remove escapes, as practical, with the goal of preventing further seed production.
- Suspected herbicide-resistant weeds may be identified by these indicators:
  - Failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds;
  - A spreading patch of non-controlled plants of a particular weed species; and
  - Surviving plants mixed with controlled individuals of the same species.

Additionally, users should follow as many of the following herbicide resistance management practices as is practical:

- Use a broad spectrum herbicide with other mode of action as a foundation in a weed control program, if appropriate.
- Utilize sequential applications of herbicides with alternative modes of action.
- Rotate the use of this product with non-Group 4 or 6 herbicides.
- Avoid making more than two sequential applications of Starane NXT and any other Group 4 or 6 herbicides within a single growing year unless mixed with an herbicide with a different mode of action with an overlapping spectrum for the difficult-to-control weeds.
- Incorporate non-chemical weed control practices, such as mechanical cultivation, crop rotation, cover crops and weed-free crop seeds, as part of an integrated weed control program.
- Use good agronomic principles that enhance crop development and crop competitiveness.
- Thoroughly clean plant residues from equipment before leaving fields suspected to contain resistant weeds.
- Manage weeds in and around fields to reduce weed seed production.

## **SPRAY DRIFT MANAGEMENT**

### **Aerial Applications**

- Do not release spray at a height greater than 10 ft above the ground or vegetative canopy, unless a greater application height is necessary for pilot safety.
- Applicators must use ½ swath displacement upwind at the downwind edge of the field.
- Do not apply when wind speeds exceed 10 miles per hour at the application site.
- Select a nozzle and pressure that deliver fine or coarser droplets.
- The distance of the outer most nozzles on the boom must not exceed 75% of the length of the wingspan or 90% of the rotor diameter.
- Do not apply during temperature inversions.

### **Ground Boom Applications**

- User must only apply with the release height recommended by the manufacturer, but no more than 4 feet above the ground or crop canopy.
- Do not apply when wind speeds exceed 10 miles per hour at the application site.
- Do not apply during temperature inversions.

**SPRAY DRIFT ADVISORIES**

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT.  
BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

**IMPORTANCE OF DROPLET SIZE**

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

**Controlling Droplet Size – Ground Boom**

- Volume – Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure – Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle – Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

**Controlling Droplet Size – Aircraft**

- Adjust Nozzles – Follow nozzle manufacturers recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

**BOOM HEIGHT – Ground Boom**

For ground equipment, the boom should remain level with the crop and have minimal bounce.

**RELEASE HEIGHT - Aircraft**

Higher release heights increase the potential for spray drift.

**Handheld Technology Applications:**

- Take precautions to minimize spray drift.

**SHIELDED SPRAYERS**

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

**TEMPERATURE AND HUMIDITY**

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

**TEMPERATURE INVERSIONS**

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

**WIND**

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.

Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

**Boomless Ground Applications:**

- Setting nozzles at the lowest effective height will help to reduce the potential for spray drift.

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

### Equipment

All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers or surrogates. Refer to the spray equipment manufacturer's recommendations for detailed information on nozzle types, arrangement, spacing and operating height and pressure. Operate equipment at spray pressures no greater than is necessary to produce a uniform spray pattern. Operate the spray boom no higher than is necessary to produce a uniformly overlapping pattern between spray nozzles.

**Sprayer Clean-Out:** To avoid injury to desirable plants, equipment used to apply this product should be thoroughly cleaned before re-using to apply any other chemicals.

1. Rinse and flush application equipment thoroughly at least 3 times with water after use. Dispose of rinse water by application to treatment area or in non-cropland area away from water supplies.
2. During the second rinse, add 1 qt of household ammonia for every 25 gallons of water. Circulate the solution through the entire system so that all internal surfaces are contacted (15-20 minutes). Let the solution stand for several hours, preferably overnight.
3. Flush the solution out of the spray tank through the boom.
4. Rinse the system twice with clean water, recirculating and draining each time.
5. Remove nozzles and screens and clean separately.

### Mixing Instructions

1. Fill spray tank with water equal to  $\frac{1}{2}$  to  $\frac{3}{4}$  of the required spray volume and start agitation.
2. Add the required amount of Starane NXT Herbicide.
3. Agitate during final filling of the spray tank and maintain sufficient agitation during application to ensure uniformity of the spray mixture.

**Note:** Allow time for thorough mixing of each spray ingredient before adding the next. If allowed to stand after mixing, agitate spray mixture before use.

### Tank Mixing

This product may be applied in tank mix combination with labeled rates of other products provided (1) the tank mix product is labeled for the timing and method of application for the use site to be treated; and (2) tank mixing with products containing fluroxypyr or bromoxynil is not prohibited by the label of the tank mix product.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

### Tank Mixing Precautions:

- Read carefully and follow the most restrictive of all applicable use directions, precautions, and limitations on the respective product labels.
- Do not exceed specified label application rates. Do not tank mix with another pesticide product that contains the same active ingredient as this product unless the label of either tank mix partner specifies the maximum dosages that may be applied.
- Always perform a (jar) test to ensure the compatibility of products to be used in tank mixture.
- Do not use this product in combination with fungicides containing strobilurin chemistry.

**Tank Mix Compatibility Testing:** A jar test is recommended prior to tank mixing to ensure compatibility of Starane NXT Herbicide and other pesticides. Use a clear glass quart jar with lid and mix the tank mix



ingredients in their relative proportions. Invert the jar containing the mixture several times and observe the mixture for approximately ½ hour. If the mixture balls-up, forms flakes, sludges, gels, oily films or layers, or other precipitates, it is not compatible and the tank mix combination should not be used.

### Tank Mixing Instructions

Fill spray tank with water to ½ to ¾ of the required spray volume. Start agitation. Add different formulation types in the order indicated, allowing time for complete mixing and dispersion after addition of each.

1. Add dry flowables; wettable powders; aqueous suspensions, flowables or liquids.
2. Maintain agitation and fill spray tank to ¾ of total spray volume and then add Starane NXT Herbicide and other emulsifiable concentrates and any solutions.

Finish filling the spray tank. Maintain continuous agitation during mixing, final filling and throughout application. If spraying and agitation must be stopped before the spray tank is empty, the materials may settle to the bottom. Settled materials must be resuspended before spraying is resumed. A sparger agitator is particularly useful for this purpose. Settled material may be more difficult to resuspend than when originally mixed.

**The following foliar fungicides are compatible with Starane NXT as tank mixtures:**

Fungicide Common Name	Formulation Type
Propiconazole	Emulsifiable Concentrate (EC)

**The following foliar insecticides are compatible with Starane NXT as tank mixtures:**

Insecticide Common Name	Formulation Type
Chlorpyrifos (wheat only)	Emulsifiable Concentrate (EC)
Dimethoate (wheat only)	Emulsifiable Concentrate (EC)
Gamma cyhalothrin (wheat only)	Capsule suspension (CS)
Malathion	Emulsifiable Concentrate (EC)

### Application Timing

Apply to actively growing weeds. Extreme growing conditions such as drought or near freezing temperatures prior to, at, or following application may reduce weed control and increase the risk of crop injury at all stages of growth. **Only weeds that have emerged at the time of application will be controlled.** If foliage is wet at the time of application, control may be decreased. Applications of this product are **rainfast within 1 hour after application.**

### Effect of Temperature on Herbicidal Activity

Herbicidal activity of this product is influenced by weather conditions. Optimum activity requires active plant growth. The temperature range for optimum herbicidal activity is 55°F to 75°F. Reduced activity will occur when temperatures are below 45°F or above 85°F. Frost before application (3 days) or shortly after (3 days) may reduce weed control and crop tolerance.

### Spray Coverage

Use sufficient spray volume to provide thorough coverage and a uniform spray pattern. Do not broadcast apply in less than 3 gallons of total spray volume per acre. For best results and to minimize spray drift, apply in a spray volume of 10 gallons or more per acre. As vegetative canopy and weed density increase, spray volume should be increased to obtain equivalent weed control. Use only nozzle types and spray equipment designed for herbicide application. To reduce spray drift, follow precautions under Precautions for Avoiding Spray Drift.

**For ground applications,** a spray volume of 10 to 20 gallons per acre (GPA) is recommended for optimum spray coverage. Ground applications made when dry, dusty field conditions exist may provide reduced weed control in wheel track areas. Applications using less than 10 gallons per acre may result in reduced weed control.

**For aerial applications,** use orifice discs, cores and nozzle types and arrangements that will provide for optimum spray distribution and maximum coverage. In general a minimum spray volume of 5 GPA and a maximum pressure of 40 psi are recommended. Do not apply during inversion conditions, when winds are gusty or when other conditions favor poor spray coverage and off target spray movement. Off target spray movement can be minimized by increasing the spray volume per acre and not applying when winds exceed 10 mph.

### Adjuvants

Generally, this product does not require the use of an adjuvant to achieve satisfactory weed control. However, the addition of an adjuvant (nonionic surfactant or crop oil) may optimize herbicidal activity when applications are made (a) at lower use rates or lower carrier volumes, (b) under conditions of cool temperature, low relative humidity or drought, or (c) to small, heavily pubescent kochia.

### Use with Sprayable Liquid Fertilizer Solutions

This product is compatible with most non-pressurized liquid fertilizer solutions, however, if liquid fertilizer solutions are to be applied with this product, a compatibility test (jar test) should be made prior to mixing. When tank mixing with liquid fertilizer, always add the fertilizer to the spray tank first and agitate thoroughly before adding this product. Agitation must be maintained during filling and application operations to ensure that this product is evenly mixed with the fertilizer. Leaf burn may occur when this product is applied with liquid fertilizer, but new leaves are not adversely affected.

Jar tests are particularly important when a new batch of fertilizer or pesticide is used, when the water source changes, or when tank mixture ingredients or concentrations are changed. A compatibility test is performed by mixing the spray components (in the desired order and proportions) into a clear glass jar before mixing in the spray tank. Use of a compatibility aid such as Unite or Compex may help obtain and maintain a uniform spray solution during mixing and application. Agitation in the spray tank must be vigorous to compare with jar test agitation. For best results, liquid fertilizer should not exceed 50% of the total spray volume. Premix this product with water and add to the liquid fertilizer/water mixture while agitating contents of the spray tank. Apply the spray the same day it is prepared while maintaining continuous agitation.

**Advisory:** Fertilizers and spray additives can increase foliage leaf burn when applied with Starane NXT. Do not apply fertilizers or spray additives with Starane NXT if leaf burn is a major concern due to environmental conditions, crop or variety sensitivity to Starane NXT. Do not apply Starane NXT in combination with fertilizers or spray additives if restricted under the individual crop use directions.

## Broadleaf Weeds Controlled or Suppressed in Wheat (including Durum), Barley, Oats, and Triticale

### Spring-seeded wheat, barley, oats, triticale

(All states except Idaho, Oregon, Washington, Colorado, Wyoming, Montana)

Apply Starane NXT from the 3-leaf crop growth stage up to flag leaf emergence for control of listed broadleaf weeds. Only weeds emerged at the time of application will be controlled. Apply to actively growing weeds according to directions in the following table:

**Note:** Numbers in parentheses (-) refer to footnotes below.

Weeds Controlled		Additional Weeds Controlled	Additional Weeds Controlled
Up to 8-leaf stage or 4 inches in height; 2 inch rosette		Up to 4 inches in height	Up to 8 inches in height
14 fl oz/Acre	14 to 21 fl oz/Acre	21 fl oz/Acre	27.4 fl oz/Acre

buckwheat, wild buckwheat, tartary cocklebur, common fiddleneck, coast grape species jimsonweed kochia (2) lambsquarters, common lanceleaf sage mustard, blue nightshade, (black, cutleaf, Eastern black, hairy, silverleaf) pennycress, field pepperweed species shepherdspurse smartweed, (green, ladysthumb, Pennsylvania) sowthistle, annual starbur, bristly sunflower (1) tarweed, common	buffalobur burcucumber canola, volunteer chamomile, corn chamomile, false (scentless) chamomile, mayweed (dogfennel) cow cockle gromwell, corn grounsel, common hemp sesbania knawel knotweed London rocket mallow, Venice morningglory, (tall, ivyleaf, pitted) mustard, tumble (Jim Hill) mustard, wild pigweed, redroot pigweed, spiny puncturevine radish, wild ragweed, common ragweed, giant starthistle, yellow thistle, Russian velvetleaf waterhemp, tall	bedstraw (cleavers) (1-4 whorls) flax, volunteer grape species lettuce, prickly mallow, common (1-6 leaf) puncturevine purslane, common	bedstraw (cleavers) (1-4 whorls) flax, volunteer grape species hemp dogbane kochia (2) lettuce, prickly mallow, common (1-6 leaf) puncturevine purslane, common
		<b>Weeds Suppressed†</b>	<b>Weeds Suppressed†</b>
		chickweed marshelder	chickweed field bindweed field horsetail marestail marshelder

1. For best control of sunflower, delay application until emerging seedlings are 4 inches in height.
2. Includes herbicide tolerant or resistant biotypes. Best control is achieved when weeds are at least 1 inch tall.

† **Suppression** is expressed as a reduction in weed competition (reduction in population or vigor) as compared to untreated areas. The degree of weed control and duration of effect may vary with weed size, density, application rate, coverage, and growing conditions before, during and after treatment.

#### Restrictions:

- Do not apply more than 27.4 fl oz (0.125 lb fluroxypyr/acre and 0.499 lb bromoxynil/acre) of this product as a single application.
- Do not apply more than 27.4 fl oz (0.125 lb fluroxypyr/acre and 0.499 lb bromoxynil/acre) of this product per year.
- Do not make more than 1 application ((0.125 lb fluroxypyr/acre and 0.499 lb bromoxynil/acre) of this product per year.
- Preharvest Interval: Do not apply Starane NXT within 45 days of harvest.

#### Fall-seeded wheat, barley, oats, triticale (All states)

#### Spring-seeded wheat, barley, oats, triticale (Idaho, Oregon, Washington, Colorado, Wyoming, Montana)

Apply Starane NXT from the 3-leaf crop growth stage up to flag leaf emergence for control of listed broadleaf weeds. Only weeds emerged at the time of application will be controlled. Apply to actively growing weeds according to directions in the following table:

**Note:** Numbers in parentheses (-) refer to footnotes below.

Weeds Controlled		Additional Weeds Controlled	Additional Weeds Controlled
Up to 8-leaf stage or 4 inches in height; 2 inch rosette	Up to 4-leaf stage or 2 inches in height; 1 inch rosette	Up to 4 inches in height	Up to 8 inches in height
14 fl oz/Acre	21 to 27.4 fl oz/Acre	21 fl oz/Acre	27.4 fl oz/Acre
buckwheat, wild buckwheat, tartary cocklebur, common fiddleneck, coast grape species jimsonweed kochia (2) lambsquarters, common lanceleaf sage mustard, blue nightshade, (black, cutleaf, Eastern black, hairy, silverleaf) pennycress, field pepperweed species shepherdspurse smartweed, (green, ladythumb, Pennsylvania) sowthistle, annual starbur, bristly sunflower (1) tarweed, common	buffalobur burcucumber canola, volunteer chamomile, corn chamomile, false (scentless) chamomile, mayweed (3) (dogfennel) cow cockle gromwell, corn grounsel, common hemp sesbania knawel (3) knotweed London rocket mallow, Venice morningglory, (tall, ivyleaf, pitted) mustard, tumble (Jim Hill) mustard, wild pigweed, redroot pigweed, spiny puncturevine radish, wild ragweed, common ragweed, giant starthistle, yellow thistle, Russian velvetleaf waterhemp, tall	bedstraw (cleavers) (1-4 whorls) flax, volunteer grape species lettuce, prickly mallow, common (1-6 leaf) puncturevine purslane, common	bedstraw (cleavers) (1-4 whorls) flax, volunteer grape species hemp dogbane kochia (2) lettuce, prickly mallow, common (1-6 leaf) puncturevine purslane, common
		<b>Weeds Suppressed<sup>†</sup></b>	<b>Weeds Suppressed<sup>†</sup></b>
		chickweed marshelder	chickweed field bindweed field horsetail marestail marshelder

1. For best control of sunflower, delay application until emerging seedlings are 4 inches in height.
2. Includes herbicide tolerant or resistant biotypes. Best control is achieved when weeds are at least 1 inch tall.
3. For best control of mayweed and knawel, use 27.4 fl oz per acre.

<sup>†</sup> **Suppression** is expressed as a reduction in weed competition (reduction in population or vigor) as compared to untreated areas. The degree of weed control and duration of effect may vary with weed size, density, application rate, coverage, and growing conditions before, during and after treatment.

#### Restrictions:

- Do not apply more than 27.4 fl oz (0.125 lb fluroxypyr/acre and 0.499 lb bromoxynil/acre) of this product as a single application.
- Do not apply more than 27.4 fl oz (0.125 lb fluroxypyr/acre and 0.499 lb bromoxynil/acre) of this product per year.
- Do not make more than 1 application ((0.125 lb fluroxypyr/acre and 0.499 lb bromoxynil/acre) of this product per year.

- Preharvest Interval: Do not apply Starane NXT within 45 days of harvest.

**Management of Kochia Biotypes:** Research has suggested that many biotypes of kochia can occur within a single field. While kochia biotypes can vary in their susceptibility to this product, generally, all will be suppressed or controlled by the labeled rates of this product. Application of this product at rates lower than directed can result in a shift to more tolerant biotypes within a field.

**Do not use if cereal crop is underseeded with a legume.**

#### **Tank Mixtures for Wheat (including Durum), Barley, Oats or Triticale**

This product may be applied in tank mix combination with labeled rates of other products registered for postemergence application in wheat, barley, oats, and triticale. See "Tank Mixing Precautions" under "Mixing Instructions". When tank mixing, do not exceed specified application rates and use only in accordance with the most restrictive precautions and limitations on the respective product labels.

#### **Corn (Field)**

Apply Starane NXT to field corn at the application rates and timings shown in the table below.

<b>Application Rate</b>	<b>Crop Stage</b>	<b>Weeds</b>
14 to 21 fl oz/acre	Apply from prior to planting to just prior to crop emergence	Refer to the application rate and weeds controlled table for corn and sorghum.
14 fl oz/acre	Apply from emergence up to and including the V5 growth stage	
21 to 27.4 fl oz/acre	Apply from the V4 growth stage up to and including the V5 growth stage	Use the 27.4 fl oz per acre rate on corn to control susceptible weeds that are growing under less than optimum conditions and where Starane NXT plus atrazine cannot be used.

#### **Sorghum (grain and forage) and Sudangrass**

Apply Starane NXT to sorghum (grain and forage) and sudangrass at the application rates and timings shown in the table below.

<b>Application Rate</b>	<b>Crop Stage</b>
21 fl oz/acre	Apply from prior to planting to just prior to crop emergence
21 fl oz/acre	Apply from 4-leaf stage through the 7-leaf stage
21 fl oz/acre (Drop nozzle application)	Apply from 8-leaf stage to prior to the boot stage using drop nozzles
27.4 fl oz/acre <b>FOR USE ON SUDANGRASS ONLY (DO NOT USE ON SORGHUM)</b>	

**Weeds Controlled**

Weed species <sup>1</sup>	21 to 27.4 fl oz/Acre <sup>3</sup>		27.4 fl oz/Acre <sup>3</sup> FOR USE ON SUDANGRASS ONLY (DO NOT USE ON SORGHUM)
	Max. Leaf Stage	Max. Weed Height (inches)	Max. Weed Height (inches)
buckwheat, wild	6	8	8
buffalobur	6	4	4
burcucumber	4	4	4
cocklebur, common	8	10	10
hemp dogbane	-	-	8
hemp sesbania	4	4	4
jimsonweed	6	6	6
kochia	-	4-8	8
ladysthumb	6	6	6
lambsquarters, common	-	8	8
lettuce, prickly	-	4	6
mallow, Venice	8	4	8
morningglory, ivyleaf	6	6-8	8
morningglory, pitted	6	6-8	8
morningglory, tall	6	6-8	8
mustard, wild	4	4	4
nightshade, black	6	6	6
nightshade, E. black	6	6	6
pigweed, redroot <sup>2</sup>	4	2	2
pigweed, spiny <sup>2</sup>	4	2	2
puncturevine	-	6 inch vine	12 inch vine
purslane, common	-	4-8	8
ragweed, common	8	6	8
ragweed, giant	6	6	6
smartweed, Pennsylvania	6	6	6
sunflower	6	8	8
velvetleaf	6	5	8
waterhemp, tall <sup>2</sup>	4	2	2

**Weeds Suppressed**

Weed species	21 to 27.4 fl oz/Acre		27.4 fl oz/Acre
	Max. Leaf Stage <sup>1</sup>	Max. Weed Height (inches)	Max. Weed Height (inches)
bindweed, field	-	6 inch vines	12 inch vines
devilsclaw	6	4-6	6
horseweed (marestail)	-	4-8	8
mallow, common	8	4	8
marshelder	6	6	6

thistle, Russian	4	2	2
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<sup>1</sup> When determining leaf stage, count all leaves except cotyledons.

<sup>2</sup> Control of pigweed species in the high plains areas of Texas and Oklahoma may not be satisfactory, especially under environmental conditions that are not optimal for good herbicidal activity.

<sup>3</sup> Do not apply more than 0.375 lb a.i. of bromoxynil/A per year (21 fl oz per acre of Starane NXT per year) to sorghum.

### **Restrictions: Corn (Field) and Sorghum (Grain and Forage), and Sudangrass**

- Do not apply Starane NXT to postemergence to seed corn inbreds prior to the 3-leaf stage of crop growth as excessive crop leaf burn may occur.
- Do not cut crop for feed, fodder or graze within 45 days of application. Do not plant labeled rotational crops within 30 days following application.
- Do not plant non-labeled rotational crops within 120 days following application.
- Do not apply more than 0.375 lb a.i. of bromoxynil/acre per year (21 fl oz per acre of Starane NXT per year) to sorghum.
- Follow all restrictions and precautions on the label of all products used in tank mixture with Starane NXT.
- Do not apply Starane NXT at any rate to sorghum after the preboot stage of growth (growth stage 4) as severe crop, including loss of crop yield may result.
- Do not apply more than 27.4 fl oz (0.125 lb fluroxypyr/acre and 0.499 lb bromoxynil/acre) of this product as a single application to corn (field) and sudangrass.
- Do not apply more than 27.4 fl oz (0.125 lb fluroxypyr/acre and 0.499 lb bromoxynil/acre) of this product per year to corn (field) and sudangrass.
- Do not make more than 1 application (0.125 lb fluroxypyr/acre and 0.499 lb bromoxynil/acre) of this product per year to corn (field) and sudangrass.
- Preharvest Interval: Do not apply Starane NXT within 45 days of harvest.

### **Precautions: Corn (Field) and Sorghum (Grain and Forage), and Sudangrass**

- Starane NXT does not control grasses. Therefore, it is recommended that a suitable grass control program be used to provide any required grass control.
- Addition of a spray additive or mixture with liquid fertilizers may cause excessive crop leafburn.
- Seed corn producers should consult the respective seed corn company regarding tolerance of certain seed production inbred lines to Starane NXT.
- Postemergence application prior to the 3 leaf growth stage of corn or sorghum may result in increased crop leaf burn.
- Tank mixtures with Accent/nonionic surfactant or Beacon/nonionic surfactant may result in increased initial crop leaf burn. Use of crop oil concentrate, nitrogen fertilizer solution or other adjuvants in tank mixtures of Starane NXT + Accent or Starane NXT + Beacon may result in a further increase in crop leaf burn.
- Special care should be taken when using Starane NXT and Banvel, Clarity, or 2,4-D tank mixtures to avoid off target drift to sensitive crops.
- Tank mixtures with 2,4-D, Banvel, or Clarity can cause stalk brittleness to field corn. Tank mixtures with 2,4-D and Banvel can cause stalk brittleness to sorghum. Winds or cultivation may cause breakage while crop is brittle.

### **Dry Bulb Onions**

Starane NXT may be applied for postemergence control of kochia, volunteer potatoes, Russian thistle and other susceptible broadleaf weeds in dry bulb onions using ground application equipment only.

**Rate and Application Timing:**

Apply Starane NXT at 20.5 fluid ounces per acre as a broadcast postemergence treatment to actively growing weeds. Only weeds emerged at the time of application will be controlled. Susceptible broadleaf weeds should not exceed the 4-leaf stage, 2 inches in height or 1 inch in diameter, whichever comes first.

Broadcast (over-the-top) application may be made to dry bulb onions from the 2-true leaf stage through the 5-leaf stage. Use at least 50 to 70 gallons of water per acre and apply by ground equipment only. Water volume is important – CONCENTRATED SPRAYS CAN CAUSE SIGNIFICANT CROP INJURY, INCLUDING DEATH. Thorough and uniform coverage is necessary for optimal weed control.

Certain environmental conditions reduce development of the waxy coating on the onion leaves, thus increasing the possibility of crop injury. Dry soil, dry onion foliage, high light intensity, low humidity, and high temperatures tend to increase the waxy coating on onion leaves and thus reducing chances for crop injury. It is essential that the soil and onion foliage be dry at the time of application. Humidity should be low and onion foliage dry.

**Restrictions:**

- Do not allow livestock to graze in treated areas or harvest treated foliage within 7 days of application.
- Do not use Starane NXT on onions grown under low light intensity, in areas such as Oregon, west of the Cascades.
- Do not treat onions that are under stress due to drought, flooding, excessive fertilizer, soil salts, wind injury, hail or frost damage, injury from previously applied pesticides, or injury from insects, nematodes or diseases.
- Do not treat onions damaged by sand, insects, or diseases.
- Do not add surfactant.
- Do not apply more than 20.5 fl oz. (0.245 lb fluroxypyr/acre and 0.375 lb bromoxynil/acre) of this product as a single application.
- Do not apply more than 20.5 fl oz (0.245 lb fluroxypyr/acre and 0.375 lb bromoxynil/acre) of this product per acre per year.
- Do not exceed 0.375 lb bromoxynil per acre per year.
- Do not make more than 1 application of Starane NXT per year.
- Preharvest interval (PHI): Do not apply within 42 days of onion harvest.
- Do not plant non-labeled rotational crops within 120 days following an application of Starane NXT.
- **Chemigation:** Do not apply through any type of irrigation system.
- Aerial: Do not make applications to onions with aerial equipment.
- Do not apply Starane NXT when furrow irrigation is running. Manage treated fields to avoid water runoff for at least 6 hours after application.

**Precautions:**

- The sensitivity of onions to Starane NXT varies with variety and environmental conditions. Therefore, even if all the label directions are followed, Starane NXT still may cause crop injury under certain circumstances. Crop injury such as but not limited to leaf twisting may occur with some onion cultivars, especially when applications are made to larger dry bulb onions. Do not use Starane NXT if risk of injury is unacceptable.

**Grasses Grown for Seed Production****Seedling and Established Grasses**

Apply Starane NXT to seedling grasses from the 2-leaf crop growth stage up to early boot stage for control of listed broadleaf weeds. Seedling grasses tolerant to Starane NXT include Kentucky bluegrass, fescue, orchardgrass and perennial ryegrass.



Starane NXT may also be applied to established grasses prior to the early boot stage. Established grasses tolerant to Starane NXT include bluegrass, fescue, ryegrass and bermudagrass.

Apply Starane NXT to actively growing weeds according to directions in the following table. Only weeds emerged at the time of application will be controlled.

Susceptible Weed Species	Susceptible Weed Size	Rate per Acre
Refer to Weeds Controlled in wheat, barley, oats, triticale section (above) for a list of susceptible broadleaf weeds.	Optimal control will be achieved when susceptible broadleaf weeds are treated prior to the 4-leaf stage, 2 inches in height or 1 inch in diameter.	14 to 27.4 fl oz

**Restrictions:**

- Do not allow livestock to graze in treated areas or feed treated grasses to livestock.
- Do not apply Starane NXT to grasses grown for seed production with backpack or hand-held application equipment.
- Do not apply more than 27.4 (0.125 lb fluroxypyr/acre and 0.499 lb bromoxynil/acre) of this product as a single application.
- Do not apply more than 27.4 fl oz (0.125 lb fluroxypyr/acre and 0.499 lb bromoxynil/acre) of this product per acre per year.
- Do not make more than 1 application (0.125 lb fluroxypyr/acre and 0.499 lb bromoxynil/acre) of this product per year.
- Preharvest Interval: Do not apply Starane NXT within 45 days of harvest.
- Do not plant non-labeled rotational crops within 120 days following an application of Starane NXT.
- This product is persistent and may be present in plant materials for over 30 days after application. Do not use treated plant material or manure from animals that have grazed or consumed forage from treated areas for compost, mulch, or mushroom spawn until 30 days after application.

**Application by Sprinkler Irrigation to Wheat, Barley, Oats, Triticale, Field Corn and Grasses Grown for Seed**

Starane NXT can be applied through sprinkler irrigation systems to wheat, barley, oats, triticale, field corn and grasses grown for seed production.

Apply Starane NXT through sprinkler systems including center pivot, lateral move, side (wheel) roll, solid set or hand move irrigation systems only. If hand moved pipe is used for chemigation, the pipe must not be handled in any way until 24 hours after chemigation has been completed and residues have been flushed from the system. When applying by chemigation, no person may enter the application site unless in an enclosed vehicle. Do not apply this product through any other type of irrigation system.

**Requirements for application through automated sprinkler irrigation system**

1. The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
3. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
7. Do not apply when wind speed favors drift beyond the area intended for treatment.
8. Agitation is recommended in the pesticide supply tank when applying the Starane NXT.
9. Starane NXT should be applied continuously for the duration of the water application with center pivot and continuous lateral move systems. Starane NXT should be applied during the last 30-45 minutes of the irrigation set with other overhead sprinkler systems.
10. For best performance, set the sprinkler system to deliver approximately 0.5 inch or less of water per acre.
11. Remove scale, pesticide residues and other foreign matter from the supply tank and entire injector system. Flush with clean water.
12. If Starane NXT is diluted in the supply tank, fill the tank with half of the water amount desired, add the Starane NXT and then add the remaining amount of water with agitation. Always dilute with at least 4 parts water to 1 part Starane NXT.
13. Start the sprinklers and then inject Starane NXT into the irrigation line. Starane NXT should be injected with a positive displacement pump into the main line at least 8 feet ahead of a right angle turn to insure adequate mixing. Refer to the label for Starane NXT for detailed information on application rates and timings.

**Chemigation Use Restrictions**

- Do not connect an irrigation system used for pesticide application to a public water system.

**Chemigation Use Precautions**

- Application of more than 0.5 inch/acre of irrigation water may result in decreased product performance on certain soils.
- Do not apply when conditions favor drift, when system connections or fittings leak, or when nozzles do not provide uniform distribution.
- Allow sufficient time for pesticide to be flushed through all the lines and nozzles before turning off irrigation water.
- Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.

If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

A person knowledgeable of the chemigation system and responsible for its operations, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

## Chemigation Crop Uses

Apply Starane NXT by chemigation at 27.4 fl oz per acre to the following crops:

- Wheat, barley and oats, triticale from the 3-leaf crop growth stage up to flag leaf emergence.
- Field corn from emergence up to and including the V5 growth stage.
- Grasses grown for seed from the 2-leaf crop growth stage up to early boot stage.

Apply through automated sprinkler irrigation systems with a mechanical transfer loading system only. Refer to the complete label for Starane NXT for additional information.

Do not use chemigation for control of weeds that exceed 4 inches in height because control may be unacceptable.

## Application Timing and Weeds Controlled

Weeds Controlled		Additional Weeds Controlled
Up to 8-leaf stage or 4 inches in height; 2 inch rosette	Up to 4-leaf stage or 2 inches in height; 1 inch rosette	Up to 4 inches in height
buckwheat, wild buckwheat, tartary cocklebur, common fiddleneck, coast grape species jimsonweed kochia (2) lambsquarters, common lanceleaf sage mustard, blue nightshade, (black, cutleaf, Eastern black, hairy, silverleaf) pennycress, field pepperweed species shepherdspurse smartweed, (green, ladysthumb, Pennsylvania) sowthistle, annual starbur, bristly sunflower (1) tarweed, common	buffalobur burcucumber canola, volunteer chamomile, corn chamomile, false (scentless) chamomile, mayweed (dogfennel) cow cockle gromwell, corn grousel, common hemp sesbania knawel knotweed London rocket mallow, Venice morningglory, (tall, ivyleaf, pitted) mustard, tumble (Jim Hill) mustard, wild pigweed, redroot pigweed, spiny puncturevine radish, wild ragweed, common ragweed, giant starthistle, yellow thistle, Russian velvetleaf waterhemp, tall	bedstraw (cleavers) (1-4 whorls) flax, volunteer grape species lettuce, prickly mallow, common (1-6 leaf) puncturevine purslane, common
		<b>Weeds Suppressed<sup>†</sup></b>
		chickweed marshelder

1. For best control of sunflower, delay application until emerging seedlings are 4 inches in height.
2. Includes herbicide tolerant or resistant biotypes. Best control is achieved when weeds are at least 1 inch tall.

<sup>†</sup>**Suppression** is expressed as a reduction in weed competition (reduction in population or vigor) as compared to untreated areas. The degree of weed control and duration of effect may vary with weed size, density, application rate, coverage, and growing conditions before, during and after treatment.

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**Terms and Conditions of Use**

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If terms of the following Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. To the extent consistent with applicable law, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use and Limitations of Remedies.

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**Warranty Disclaimer**

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Corteva Agriscience warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions for use, subject to the inherent risks set forth below. To the extent consistent with applicable law, Corteva Agriscience MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

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**Inherent Risks of Use**

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It is impossible to eliminate all risks associated with use of this product. Crop injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application or other factors, all of which are beyond the control of Corteva Agriscience or the seller. To the extent consistent with applicable law, Corteva Agriscience will not be responsible for losses or damages resulting from the use of this product in any manner not specifically directed by Corteva Agriscience. To the extent consistent with applicable law, all such risks associated with non-directed use shall be assumed by buyer and/or user.

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**Limitation of Remedies**

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To the extent consistent with applicable law, the exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, tort, strict liability, or other legal theories), shall be limited to, at Corteva Agriscience's election, one of the following:

1. Refund of purchase price paid by buyer or user for product bought, or
2. Replacement of amount of product used.

To the extent consistent with applicable law, Corteva Agriscience shall not be liable for losses or damages resulting from handling or use of this product unless Corteva Agriscience is promptly notified of such loss or damage in writing. To the extent consistent with applicable law, in no case shall Corteva Agriscience be liable for consequential, incidental or special damages or losses.

The terms of the Warranty Disclaimer, Inherent Risks of Use, and this Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Corteva Agriscience or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

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