

# Specimen Label



# Starane<sup>®</sup> NXT

## HERBICIDE

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

Group	4	6	HERBICIDE
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#### 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

### Precautionary Statements

#### Hazards to Humans and Domestic Animals

EPA Reg. No. 62719-557

### Keep Out of Reach of Children

## 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
- Shoes plus socks
- Protective eyewear

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

#### 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.

### 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.

### First Aid

**If swallowed:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. 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.

### Physical or Chemical Hazards

Do not use or store near heat or open flame.

### Directions for Use

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.

### 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 24 hours.

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 any waterproof material such as natural rubber
- 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

## Storage and Disposal (Cont.)

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 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:

**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.

### Nonrefillable containers larger than 5 gallons :

**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. Fill the container ¼ 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), sorghum (grain and forage) and grasses grown for seed production.

## Resistance Management Guidelines

- Use an effective integrated pest management (IPM) program, integrating tillage or other mechanical methods, crop rotation or other cultural control methods into weed control programs whenever practical.
- Similar looking biotypes of a given weed species occurring in a treated area may vary in their susceptibility to a herbicide. Application of a herbicide below its directed rate may allow more tolerant weeds to survive and a shift to more tolerant biotypes within the treated area.
- Where identified, spreading of resistant weeds to other fields may be prevented by cleaning harvesting and tillage equipment before moving to other areas and by planting weed-free seed.
- Contact your extension specialist, certified crop consultant, or Dow AgroSciences representative for the latest resistance management information.

## Use Precautions and 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 season.

- 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.
- Do not contaminate irrigation ditches or water used for domestic purposes.
- **Maximum Application Rates:** Do not apply more than 0.5 lb ai of bromoxynil/A per use season (27.4 fl oz of Starane NXT). Do not cumulatively apply more than 0.25 lb ai/A of fluroxypyr per use season. Do not apply more than 0.375 lb ai of bromoxynil/A per season (21 fl. oz per acre of Starane NXT per season) to sorghum.
- 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, and hospitals.

## 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

## Spray Drift Management

A variety of factors including weather conditions (e.g., wind direction, wind speed, temperature, relative humidity) and method of application (e.g., ground, aerial, airblast, chemigation) can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product. Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment- and weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

### Other State and Local Requirements

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

### Controlling Droplet Size

**Pressure:** Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. 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. Consider using low-drift nozzles.

**Wind:** Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be

avoided below 2 mph due to variable wind direction and high inversion potential. Note: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect drift.

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

**Temperature Inversions:** Applications should not occur during a temperature inversion, because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small-suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. A temperature inversion is characterized by increasing temperature with altitude and commonly develops at night when there is limited cloud cover and calm conditions. They begin to form as the sun sets and often continue into the morning. Presence of a temperature inversion is indicated by ground fog; however, if ground fog is not present, a temperature inversion can also be indicated by movement of smoke from a ground or an aircraft smoke generator. Smoke that forms a layer and moves laterally in a connected cloud (under low wind conditions) is an indication of inversion conditions, while smoke that moves upward and dissipates rapidly is an indication of good vertical air mixing.

**Sensitive Areas:** The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, 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.

#### Ground Applications:

**Volume:** Apply this product in a total spray volume of 8 or more gallons per acre using spray equipment designed to produce large-droplet, low pressure sprays. Spot treatments should be applied only with a calibrated boom to prevent over application. Do not apply with hollow cone-type insecticide nozzles or other nozzles that produce a fine-droplet spray.

#### Additional requirements for Aerial Applications:

**Volume:** Apply this product in a total spray volume of 3 gallons or more per acre.

**Boom Length:** For some use patterns, reducing the effective boom length to less than 75% of the wingspan or 90% of rotor width may further reduce drift without reducing swath width.

**Nozzle Orientation:** Orienting nozzles so that the spray is released backwards, parallel to the airstream will produce larger droplets than other orientations. Significant deflection from the horizontal will reduce droplet size and increase drift potential.

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

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

**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 1/2 to 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.

#### 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 1/2 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 1/2 to 3/4 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 3/4 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	Brand Name	Formulation Type
Propiconazole	PropiMax, Tilt	Emulsifiable Concentrate (EC)

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

Insecticide Common Name	Brand Name	Formulation Type
Chlorpyrifos (wheat only)	Lorsban	Emulsifiable Concentrate (EC)
Dimethoate (wheat only)	Various	Emulsifiable Concentrate (EC)
Gamma cyhalothrin (wheat only)	Proaxis	Capsule suspension (CS)
Malathion	Various	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 grounself, 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
		Weeds Suppressed <sup>†</sup>	Weeds Suppressed <sup>†</sup>
		chickweed marshelder	chickweed field bindweed field horsetail maretail 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.

**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 knapweed (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.

**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.

**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.

Application Rate	Crop Stage	Weeds
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)**

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

Application Rate	Crop Stage
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

**Weeds Controlled**

Weed species <sup>1</sup>	21 to 27.4 fl oz/Acre <sup>3</sup>	
	Max. Leaf Stage	Max. Weed Height (inches)
buckwheat, wild	6	8
buffalobur	6	4
burcucumber	4	4
cocklebur, common	8	10
hemp dogbane	-	-
hemp sesbania	4	4
jimsonweed	6	6
kochia	-	4-8
ladythumb	6	6
lambsquarters, common	-	8
lettuce, prickly	-	4

## Weeds Controlled (Cont.)

Weed species <sup>1</sup>	21 to 27.4 fl oz/Acre <sup>3</sup>	
	Max. Leaf Stage	Max. Weed Height (inches)
mallow, Venice	8	4
morningglory, ivyleaf	6	6-8
morningglory, pitted	6	6-8
morningglory, tall	6	6-8
mustard, wild	4	4
nightshade, black	6	6
nightshade, E. black	6	6
pigweed, redroot <sup>2</sup>	4	2
pigweed, spiny <sup>2</sup>	4	2
puncturevine	-	6 inch vine
purslane, common	-	4-8
ragweed, common	8	6
ragweed, giant	6	6
smartweed, Pennsylvania	6	6
sunflower	6	8
velvetleaf	6	5
waterhemp, tall <sup>2</sup>	4	2

## Weeds Suppressed

Weed species	21 to 27.4 fl oz/Acre	
	Max. Leaf Stage <sup>1</sup>	Max. Weed Height (inches)
bindweed, field	-	6 inch vines
devilsclaw	6	4-6
horsetweed (marestail)	-	4-8
mallow, common	8	4
marshelder	6	6
thistle, Russian	4	2

1 When determining leaf stage, count all leaves except cotyledons.

2 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.

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

### Restrictions and Precautions: Corn (Field) and Sorghum (Grain and Forage)

- 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
- 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/A per season (21 fl oz per acre of Starane NXT per season) to sorghum.
- 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.

- 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 injury, including loss of crop yield may result.

## 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 fl oz of Starane NXT per acre in a single growing season.
- Do not plant non-labeled rotational crops within 120 days following an application of Starane NXT.

## 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

- 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.
- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 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.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 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.
- 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.
- Do not apply when wind speed favors drift beyond the area intended for treatment.
- 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 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.
- Do not connect an irrigation system used for pesticide application to a public water system.

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, ladythumb, 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 grounseel, common hemp sesbania knapweed 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
		Weeds Suppressed†
		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.

† **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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### Revisions:

1. Update trademark reference to: ® TM Trademarks of Dow AgroSciences, DuPont or Pioneer and their affiliated companies or respective owners (multiple locations)