

100-1256

3-26-2008

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

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

MAR 26 2008

Ms. Tamara Murphy  
NAFTA Regulatory Product Manager, Herbicides  
Syngenta Crop Protection, Inc.  
P.O. Box 18300  
Greensboro, NC 27419

RE: Notification of Deletion of Barley Restriction  
EPA Reg No.: 100-1256  
Date of Submission: February 25, 2008

Dear Ms. Murphy:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 dated February 25, 2008, for the product, Axial XL Herbicide. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the actions requested fall within the scope of PRN 98-10. The label submitted with the application has been stamped "Notification" and will be placed in our records.

If you have any questions, please me directly at 703-305-6249 or Joyce Edwards of my staff at 703-305-5479.


Sincerely,

A handwritten signature in black ink, appearing to read "Linda Arrington".

Linda Arrington  
Notifications & Minor Formulations Team Leader  
Registration Division (7505P)  
Office of Pesticide Programs

Please read instructions on reverse before completing form.

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 <b>United States</b> <b>Environmental Protection Agency</b> Washington, DC 20460	<input type="checkbox"/> Registration <input type="checkbox"/> Amendment <input checked="" type="checkbox"/> Other	OPP Identifier Number <hr/> <hr/>
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**Application for Pesticide - Section I**

1. Company/Product Number 100-1256	2. EPA Product Manager Mr. James A. Tompkins	3. Proposed Classification <input type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Axial® XL Herbicide	PM# 23	
5. Name and Address of Applicant (Include ZIP Code) Syngenta Crop Protection, Inc. P. O. Box 18300 Greensboro, NC 27419  <input type="checkbox"/> Check if this is a new address	6. <b>Expedited Review.</b> In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to:  EPA Reg. No. _____  Product Name _____	

**Section - II**

<input type="checkbox"/> Amendment - Explain below.  <input type="checkbox"/> Resubmission in response to Agency letter dated _____  <input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____ <input type="checkbox"/> "Me Too" Application.  <input type="checkbox"/> Other - Explain below.
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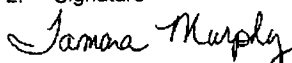
**Explanation:** Use additional page(s) if necessary. (For Section I and Section II.)  
 This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

Per PR Notice 98-10, Syngenta Crop Protection, Inc. is providing a Notification and three copies of the Axial XL label with the barley restrictions deleted to correspond with the changes that were made on the Axial XL label approved on January 22, 2008. Also included on this label in the General Information and Tank Mix Application sections is Warrior with Zeon Technology®. The Warrior with Zeon Technology label with directions for use on barley was approved August 15, 2007. Enclosed are three copies of the label with the barley restriction deletion highlighted and a copy of the Warrior with Zeon Technology approved label.

**Section - III**

<b>1. Material This Product Will Be Packaged In:</b>			
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>2. Type of Container</b> <input type="checkbox"/> Metal <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____
*Certification must be submitted		If "Yes"      No. per Unit Packaging wgt.    Container	If "Yes"      No. per Unit Packaging wgt.    container
<b>3. Location of Net Contents Information</b> <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container	<b>4. Size(s) Retail Container</b> 2.56 gallons, 30 gallons, Bulk		<b>5. Location of Label Directions</b> <input checked="" type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product
<b>6. Manner in Which Label is Affixed to Product</b> <input type="checkbox"/> Lithograph <input checked="" type="checkbox"/> Other <u>Pressure Sensitive</u> <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled			

**Section - IV**

<b>1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)</b>		
Name Tamara Murphy	Title NAFTA Regulatory Product Manager, Herbicides	Telephone No. (If, include Area Code) 336-632-2409
I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		<b>6. Date Application Received (Stamped)</b>   
<b>2. Signature</b> 	<b>3. Title</b> NAFTA Regulatory Product Manager, Herbicides	
<b>4. Typed Name</b> Tamara Murphy	<b>5. Date</b> February 25, 2008	

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Booklet

GROUP 1 HERBICIDE

Axial® XL

Herbicide

Postemergence herbicide for control of grass weeds in wheat and barley

Active Ingredient:

Pinoxaden\* ..... 5.05%

Other Ingredients: ..... 94.95%

Total: ..... 100.00%

\*CAS No. 243973-20-8

Contains petroleum distillates.

Axial XL Herbicide contains 0.42 lb. of pinoxaden active ingredient per gallon.

**KEEP OUT OF REACH OF CHILDREN.**

**CAUTION**

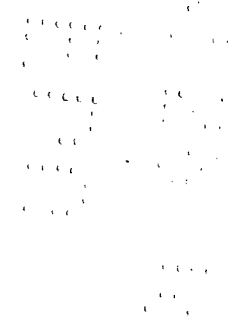
See additional precautionary statements and directions for use inside booklet.

EPA Reg. No. 100-1256

EPA Est.

SCP 1256A

Net Contents



<b>FIRST AID</b>	
<b>If in eyes</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If on skin or clothing</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If swallowed</b>	<ul style="list-style-type: none"> <li>• Immediately call a poison control center or doctor.</li> <li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• Do not give <b>any</b> liquid to the person.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>If inhaled</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
Have the product container or label with you when calling a poison control center or doctor or going for treatment.	
<b>Note to Physician</b>	
Contains petroleum distillates – vomiting may cause aspiration pneumonia.	
<b>HOT LINE NUMBER</b>	
For 24 Hour Medical Emergency Assistance (Human or Animal) or Chemical Emergency Assistance (Spill, Leak, Fire, or Accident) Call <b>1-800-888-8372</b>	

**PRECAUTIONARY STATEMENTS**

**Hazards to Humans and Domestic Animals**

**CAUTION**

Causes moderate eye irritation. Avoid contact with eyes, skin or clothing. Harmful if absorbed through skin or swallowed. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

## Personal Protective Equipment (PPE)

Some materials that are chemical resistant to this product are listed below. If you want more options, follow the instructions for Category A on an EPA chemical resistant category selection chart.

### Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Chemical-resistant gloves, Category A, such as barrier laminate, butyl rubber ≥14 mils, nitrile rubber ≥14 mils, neoprene rubber ≥14 mils, polyethylene, polyvinyl chloride (PVC) ≥14 mils, or viton ≥14 mils

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 Control 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 170.240(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.

## Environmental Hazards

For terrestrial uses: 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 disposing of equipment wash water or rinsate.

## Physical or Chemical Hazards

Do not use or store near heat or open flame.

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**CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY**

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**NOTICE:** Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, Inc. or Seller. To the extent permitted by applicable law, Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent permitted by applicable law: (1) this warranty does not extend to the use of the product contrary to label instructions or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and, (2) Buyer and User assume the risk of any such use. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL.**

To the extent permitted by applicable law, in no event shall SYNGENTA be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Axial XL Herbicide should be used only in accordance with directions on this label or in separately published Syngenta supplemental labeling directions for this product.

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 48 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:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Chemical-resistant gloves, Category A, such as barrier laminate, butyl rubber ≥14 mils, nitrile rubber ≥14 mils, neoprene rubber ≥14 mils, polyethylene, polyvinyl chloride (PVC) ≥14 mils, or viton ≥14 mils

**FAILURE TO FOLLOW THE DIRECTIONS FOR USE AND PRECAUTIONS ON THIS LABEL MAY RESULT IN CROP INJURY AND/OR POOR WEED CONTROL.**

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### GENERAL INFORMATION

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Axial XL Herbicide is a systemic, postemergence herbicide for the control of several grass weed species in all varieties of spring wheat (excluding durum), winter wheat, and barley.

Axial XL Herbicide is rapidly absorbed by weed foliage and translocated to the growing points of leaves and stems where it inhibits the acetyl CoA carboxylase (ACCCase) enzyme. Susceptible weed species generally stop growing within 48 hours of treatment, turn yellow within one to three weeks, and are completely controlled within three to five weeks. Level and rate of control depend on weed species, growing conditions, crop competition, and coverage. Thorough spray coverage of the plants is essential for consistent control.

Although Axial XL Herbicide does not control broadleaf weeds, it can be tank mixed with a wide range of broadleaf herbicides to provide broad-spectrum one-pass weed control. It can also be tank mixed with Tilt® Fungicide, Quilt™ Fungicide, and Warrior® Insecticide with Zeon Technology®™ (restriction: not for use on barley). See the section entitled **Tank Mixes of Axial XL Herbicide with Broadleaf Weed Herbicides, Fungicides, Insecticides and Liquid Nitrogen Fertilizers**. Herbicides not approved on this label for tank mixing with Axial XL Herbicide may be applied sequentially. Always apply Axial XL Herbicide first and allow at least 4 days after application of Axial XL Herbicide before applying these herbicides sequentially.

**Weeds Controlled**

Axial XL Herbicide controls green foxtail, yellow foxtail, giant foxtail, wild oat, volunteer oat, Persian darnel, Italian (annual) ryegrass, barnyardgrass, canarygrass, wild proso millet, and windgrass.

**Use Rates**

Apply the specified rate of Axial XL Herbicide using ground or aerial equipment, in a minimum of 5 gal. of water per acre (see **Ground and Aerial Application Procedures** section for additional information).

WEEDS CONTROLLED <sup>A</sup>	USE RATE	
Wild oat, <i>Avena fatua</i> Volunteer oat, <i>Avena sativa</i> Green foxtail, <i>Setaria viridis</i> Yellow foxtail, <i>Setaria glauca</i> Giant foxtail, <i>Setaria faberi</i> Italian (annual) ryegrass, <i>Lolium mutiflorum</i> Persian darnel, <i>Lolium persicum</i> Barnyardgrass, <i>Echinochloa crus-galli</i> Canarygrass, <i>Phalaris</i> spp. Wild proso millet, <i>Panicum miliaceum</i> Windgrass, <i>Apera</i> spp.	Axial XL Herbicide	16.4 oz./A

<sup>A</sup>When tank mixing broadleaf herbicides, refer to **Tank Mixes of Axial XL Herbicide with Broadleaf Weed Herbicides, Fungicides, Insecticides and Liquid Nitrogen Fertilizers** section for exceptions and additional information on weeds controlled.



### Management of Resistant Weeds

Axial XL Herbicide is a Group 1 Herbicide (ACCase mode of action). Some naturally occurring populations of wild oats, green foxtail and Italian (annual) ryegrass have been identified as resistant to herbicides with the ACCase mode of action (herbicides with the same mode of action as Axial XL Herbicide, such as: Achieve®, Assure® II, Discover®, Fusilade®, Fusion®, Hoelon®, Poast®, Prism®, Puma®, Select® ). Selection of resistant biotypes, through repeated use of these herbicides in the same field, may result in control failures. A resistant biotype may be present if poor performance cannot be attributed to adverse weather conditions or improper application methods. If resistance is suspected, contact your local Syngenta representative for assistance.

The following practices will delay selection for resistant populations of weeds:

- Apply postemergence herbicides to small, actively growing weeds.
- Ensure that good spray coverage is achieved with proper spray volumes and calibrated equipment.
- Use the full label rate of product.
- Avoid tank mixes that may cause antagonism and reduced weed control.
- Where possible, avoid the repeated use of herbicides with the same mode of action (i.e., same group number) in successive seasons either in cereal crops or rotational crops.
- Use a diverse crop/fallow rotation to extend the range of available herbicides and agronomic practices.
- Use cultivation, fertilizer regimens, seeding rates and row widths that enhance crop competitiveness.
- Prevent weed escapes from producing seed either in the crop or during fallow periods.

### Rotational Crop Restrictions

The following crops may be planted at the specified interval following application of Axial XL Herbicide.

Crop	Rotational Interval
Wheat (including Durum) and Barley	0 days
Leafy and Root Crops	30 days
Other Cereal Grains and All Other Crops	120 days

### APPLICATION PROCEDURES

#### Timing of Application

Apply Axial XL Herbicide to all varieties of spring wheat (excluding durum), winter wheat, and barley from the 2-leaf stage to pre-boot stage. Refer to the **Crop Use Directions** section for grazing and harvest restrictions.

*Precaution: Do not apply to a crop that is stressed by conditions such as frost, low fertility, drought, flooding, disease damage, or insect damage, as crop injury may result.*

When tank mixing with a broadleaf herbicide, insecticide or fungicide, always refer to the label of the tank-mix partner prior to use.

For optimum results, apply Axial XL Herbicide to actively growing weeds. An early application will maximize crop yields by reducing weed competition. Weed control following application of Axial XL Herbicide alone or in combination with broadleaf herbicides can be reduced or delayed under conditions of stress, such as drought, heat, insufficient fertility, flooding, and prolonged cool temperatures. Grass escapes or re-tillering may occur if application is made during prolonged conditions of stress. Optimum weed control will be obtained if application of Axial XL Herbicide is delayed until the conditions of stress have ended and weeds are once again actively growing. Weeds emerging after Axial XL Herbicide application will not be controlled.

<b>TIMING OF APPLICATION TO WEEDS</b>		
<b>Weed</b>	<b>Leaves on Main Stem</b>	<b>Tillers</b>
Persian Darnel Volunteer Oat Wild Oat	1 to 6-leaf stage on main stem	Prior to emergence of the 4 <sup>th</sup> tiller
Giant Foxtail Green Foxtail Yellow Foxtail Italian (Annual) Ryegrass Barnyardgrass Canarygrass Wild Proso Millet Windgrass	1 to 5-leaf stage on main stem	For optimum control, apply prior to emergence of the 3 <sup>rd</sup> tiller and while weeds are actively growing.

**Rainfastness**

Axial XL Herbicide applied alone is not affected by rain falling 30 minutes or more after application.

**Ground and Aerial Application Procedures**

For best accuracy, calibrate the sprayer before use.

**Ground Applications**

**Water Volume** – Use an application rate of 5–10 gals. of water per acre. Use 10 gals. of water per acre under dry conditions or dense weed populations. Application rates of greater than 10 gallons of water per acre should be avoided as reduced grass control may occur.

**Spray Nozzles** – 80° or 110° flat fan nozzles are recommended for optimum spray coverage. Nozzles must be uniformly spaced along the boom to provide accurate and uniform coverage. Point the nozzles forward in the direction of travel at an angle of 45° for optimum coverage of grass weeds. Follow the nozzle manufacturer's recommendations for pressure and screens. Do not use flood or hollow cone type nozzles.

**Screens** – Use a screen or strainer with 16-mesh or coarser on the suction side of the pump. Do not place a screen in the recirculation line unless using a roller or piston pump. Use 50-mesh or coarser screens between the pump and boom, and at the nozzles.

**Pressure** – 35-40 psi at the nozzles. Lower pressure may be used with extended range or low pressure nozzles.

**Pump** – Must have capacity to maintain pressure (35-40 psi) and to maintain the product suspension through tank agitation. A centrifugal pump is recommended with an agitation rate of 20 gals./minute/100 gals. tank size. Agitation must be maintained during mixing and spraying.

Good weed coverage with the spray mixture is essential for optimum weed control results. Observe sprayer nozzles frequently during the spraying operation to ensure that the spray pattern is uniform. Avoid large spray overlaps which result in excessive rates in the overlap areas. Also, avoid application under conditions when uniform coverage cannot be obtained or when excessive spray drift may occur. To reduce spray drift, do not apply under windy conditions. Allow adequate distance between target area and desirable vegetation to prevent drift to nontarget areas. Boom height for broadcast over-the-top application should be based upon the free-standing height of the crop, not height above the soil surface, and should be at least 12 inches above the crop.

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## **AERIAL APPLICATIONS**

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Apply Axial XL Herbicide in water using a minimum spray volume of 5 gals./A. Avoid application under conditions where uniform coverage cannot be obtained or where excessive spray drift may occur. Make applications at a maximum height of 10 ft. above the crop with low-drift nozzles at a maximum pressure of 40 psi and wind speed not exceeding 10 mph to help assure accurate application within the target area.

### **Drift Management**

Avoiding spray drift at the application site is the responsibility of the applicator and the grower. The interaction of many equipment- and weather-related factors determines the potential for spray drift. The applicator and grower must consider the interaction of equipment and related factors to ensure that the potential for drift to sensitive non-target plants is minimal.

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

1. The distance of the outermost nozzles on the boom must not exceed  $\frac{3}{4}$  the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downward more than 45 degrees.

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

The applicator should be familiar with and take into account the information covered in the **Aerial Drift Reduction Advisory Information**.

### **Aerial Drift Reduction Advisory Information**

#### **Information on Droplet Size**

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

#### **Controlling Droplet Size**

- **Volume** – Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** – Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of Nozzles** – Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle Orientation** – Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type** – Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

## **Boom Length**

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

## **Application Height**

Applications should not be made at a height greater than 10 ft. 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.).

## **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 spray drift.

## **Temperature and Humidity**

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

## **Temperature Inversions**

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

### Sensitive Areas

This pesticide may only be applied when the potential for drift to adjacent sensitive areas, e.g., residential areas, bodies of water, non-target plants is minimal, (i.e., when the wind is blowing away from the sensitive area.)

Avoid all direct or indirect contact (such as spray drift) of Axial XL Herbicide with crops other than those specified for treatment on this label, since injury may occur.

### Chemigation

Do not apply this product through any type of irrigation system.

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## MIXING PROCEDURES

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### Mixing Instructions

1. Clean spray tank and half fill with clean water. Start agitation or bypass system.
2. If a broadleaf herbicide is to be used, add the product **FIRST**, prior to adding Axial XL Herbicide and agitate for 2-3 minutes.
3. Add correct amount of Axial XL Herbicide and agitate for 2-3 minutes.
4. Add remainder of water and then maintain constant agitation.
5. After any break in spraying operations, agitate thoroughly before spraying again.
6. **Use the spray solution as soon as it is prepared.**

### Sprayer Cleanup

Prior to using Axial XL Herbicide, ensure that the spray tank, lines and screens and filters are thoroughly clean.

Thoroughly clean application equipment immediately after spraying Axial XL Herbicide. Ensure that all traces of the product are removed. The following directions are provided:

1. Drain and flush tank walls, boom, and all hoses for 10 minutes with clean water. **Do not** clean the sprayer near desirable vegetation, wells, or other water sources.
2. Remove the nozzles and screens and wash separately.
3. Dispose of all rinsates in accordance with state and local regulations.
4. If a broadleaf herbicide, insecticide, or fungicide tank-mix partner is used, always check tank-mix partner label for any additional cleanup procedures.

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## CROP USE DIRECTIONS

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### Wheat and Barley

Axial XL Herbicide can be used on all varieties of spring wheat (excluding durum), winter wheat, and barley. Do not allow spray to drift to adjacent fields seeded to crops other than wheat or barley. Do not treat wheat or barley underseeded to forages.

Avoid possible illegal residues:

- Make one application per crop season.
- Do not graze livestock or harvest forage for hay from treated wheat and barley for a minimum of 30 days following application.
- Do not harvest grain for 60 days following application.
- Do not apply both Discover and Axial products to the same crop in the same season.
- Wheat and barley straw may be fed to livestock 60 days after application.

### Tank Mixes of Axial XL Herbicide with Broadleaf Weed Herbicides, Fungicides, Insecticides and Liquid Nitrogen Fertilizers

For broad-spectrum control of annual grass and broadleaf weeds, tank mix Axial XL Herbicide with one of the broadleaf herbicides or broadleaf herbicide combinations listed in the following table. Consult the label of the tank-mix partner for a list of broadleaf weeds controlled, rates, timing, recropping restrictions, grazing interval restrictions, recommendations for specific weeds, directions for use, and precautions. Use in accordance with the most restrictive of label limitations and precautions. Do not exceed label dosage rates. This product cannot be mixed with any other product whose label prohibits such a mixture.

**Table 1:** For control of wild oat, volunteer oat, green foxtail, yellow foxtail, Italian (annual) ryegrass, and broadleaf weeds (refer to the broadleaf tank-mix partner label for weeds controlled), use Axial XL Herbicide at 16.4 oz./A plus one of the following single or two-way broadleaf herbicide combinations. Broadleaf herbicide combinations other than those listed in the table below are not recommended.

**SELECT ONLY ONE BROADLEAF HERBICIDE TANK-MIX COMBINATION LISTED IN THE TABLE BELOW**

Broadleaf Herbicide	Rate	Weeds Controlled by Axial XL Herbicide at 16.4 oz./A*				
		Wild Oat	Volunteer Oat	Green Foxtail	Yellow Foxtail	Italian Ryegrass
2,4-D Amine (assume 4 lb./gal.)	0.5-0.75 pt./A	C	C	C	C	C
2,4-D Ester (assume 4 lb./gal.)	0.5-0.75 pt./A	C	C	S	C	C
Affinity™ TankMix <sup>A</sup> + Bronate® Advanced <sup>B</sup>	0.6 oz./A + 0.6-0.8 pt./A	C	C	--	--	--
Affinity TankMix <sup>A</sup> + MCPA Ester (assume 4 lb./gal.)	0.6 oz./A + 0.5-0.75 pt./A	C	C	C	C	--
Ally <sup>A,F</sup>	0.1 oz./A	--	--	--	--	C
Amber® <sup>A</sup>	0.28-0.47 oz./A	C	--	--	--	C
Banvel® + MCPA Ester (assume 4 lb./gal.)	2 oz./A + 0.5-0.75 pt./A	S	S	--	C	--
Bronate Advanced <sup>B,D</sup>	0.6-1.2 pt./A	C	C	C	C	C
Buctril® <sup>C,E</sup>	0.75-1.5 pt./A	C	C	C	C	C
Buctril <sup>C,E</sup> + MCPA Ester (assume 4 lb./gal.)	0.75-1.5 pt./A + 0.5-0.75 pt./A	C	C	C	C	C
Clarity® + MCPA Ester (assume 4 lb./gal.)	2 oz./A + 0.5-0.75 pt./A	S	S	--	C	--
Curtail™ M	1.75 pt./A	C	C	C	--	--
Express® <sup>A,I</sup>	0.17-0.25 oz./A	C	--	--	--	C
Finesse® <sup>A</sup>	0.2-0.4 oz./A	--	--	--	--	C
Harmony® Extra <sup>A,G</sup>	0.3-0.6 oz./A	C	C	C	C	C
Harmony Extra <sup>A,G</sup> + MCPA Ester (assume 4 lb./gal.)	0.3-0.5 oz./A + 0.5-0.75 pt./A	C	C	C	C	C
Harmony® GT <sup>A,H</sup>	0.3-0.6 oz./A	C	C	C	C	C
Harmony GT <sup>A,H</sup> + Bronate Advanced <sup>B</sup>	0.3-0.5 oz./A + 0.6-1 pt./A	C	C	--	--	--
Harmony GT <sup>A,H</sup> + Buctril <sup>C</sup>	0.3-0.5 oz./A + 0.75-1.5 pt./A	C	C	--	--	--
Harmony GT <sup>A,H</sup> + MCPA Ester (assume 4 lb./gal.)	0.3-0.5 oz./A + 0.5-0.75 pt./A	C	C	C	C	C
MCPA Ester (assume 4 lb./gal.)	0.5-0.75 pt./A	C	C	C	C	C
Peak® <sup>A</sup>	0.25-0.5 oz./A	C	--	--	--	C
Starane™	0.67 pt./A	C	C	C	C	C
Starane + Bronate Advanced <sup>B,D</sup>	0.67 pt./A + 0.6-1 pt./A	C	C	C	C	C
Starane + Harmony Extra <sup>A,G</sup>	0.67 pt./A + 0.3-0.4 oz./A	C	C	C	--	C
Starane + Harmony GT <sup>A,H</sup>	0.67 pt./A + 0.3-0.5 oz./A	C	C	C	--	C
Starane + Sword®	1.125 pt./A	C	C	C	C	C
WideMatch™	1 pt./A	C	C	C	C	C



		Weeds Controlled by Axial XL Herbicide at 16.4 oz./A*				
Broadleaf Herbicide	Rate	Wild Oat	Volunteer Oat	Green Foxtail	Yellow Foxtail	Italian Ryegrass
WideMatch + Harmony GT <sup>AH</sup>	1 pt./A + 0.3-0.4 oz./A	C	C	C	C	C
WideMatch + MCPA Ester (assume 4 lb./gal)	1 pt./A + 0.5-0.75 pt./A	C	C	C	C	C

\*C = Control; S = Suppression (indicates "Partial Control" which means significant activity but not always at a level generally considered acceptable for commercial weed control).

<sup>A</sup>Addition of surfactants is not required.

<sup>B</sup>Other equivalent products containing the active ingredients bromoxynil/MCPA esters may be used. Consult the specific product label for specified rates.

<sup>C</sup>Other equivalent products containing the active ingredient bromoxynil may be used. Consult the specific product label for specified rates.

<sup>D</sup>Do not exceed 0.8 pt./A of Bronate Advanced in a tank mix for control of Italian (annual) ryegrass, green foxtail, or yellow foxtail.

<sup>E</sup>Do not exceed 1.25 pt./A of Buctril in a tank mix for control of Italian (annual) ryegrass, green foxtail, or yellow foxtail.

<sup>F</sup>Ally XP may be used.

<sup>G</sup>Harmony Extra XP may be used.

<sup>H</sup>Harmony GT XP may be used.

<sup>I</sup>Express XP may be used.

When tank mixing, add the broadleaf herbicide(s) to the spray tank first followed by Axial XL Herbicide.

*Precaution: Temporary crop injury may occur with tank mixes under extreme weather conditions or when the crop is suffering from stress due to inadequate or abnormally high moisture levels or extreme temperatures.*

**Note:** Tank mixing is not recommended with any chemical additives, pesticides, or fertilizers that are not recommended on this label or other Syngenta labeling as reduced annual grass control (antagonism) and/or crop injury may occur. Herbicides not approved on this label for tank mixing with Axial XL Herbicide may be applied sequentially. Always apply Axial XL Herbicide first and allow at least 4 days after application of Axial XL Herbicide before applying these herbicides sequentially.

**Tank-Mix Application With Tilt Fungicide**

Axial XL Herbicide may be tank mixed with Tilt Fungicide for annual grass and disease control. Apply Axial XL Herbicide at 16.4 oz./A in a tank mix with Tilt at labeled use rates. Add Tilt to the tank first, followed by Axial XL Herbicide. Refer to the Tilt label for specific use directions, application rates, restrictions, and a list of diseases controlled.

### **Tank-Mix Application With Quilt Fungicide**

Axial XL Herbicide may be tank mixed with Quilt Fungicide for annual grass control and early season disease suppression. Apply Axial XL Herbicide at 16.4 oz./A in a tank mix with Quilt Fungicide at 7 oz./A. Add Quilt to the tank first, followed by Axial XL Herbicide. Refer to the Quilt label for specific use directions, application rates, restrictions, and a list of diseases suppressed and/or controlled. **Note:** Under certain environmental conditions, tank mixes of Quilt Fungicide plus herbicides may cause crop injury.

### **Tank-Mix Application With Warrior Insecticide with Zeon Technology**

Axial XL Herbicide may be tank mixed with Warrior Insecticide with Zeon Technology for annual grass and insect control ~~on wheat. Do not use this tank mix for use on barley.~~ Apply Axial XL Herbicide at 16.4 oz./A in a tank mix with Warrior Insecticide with Zeon Technology at labeled use rates. Add Warrior Insecticide with Zeon Technology to the tank first, followed by Axial XL Herbicide. Refer to the Warrior Insecticide with Zeon Technology label for specific use directions, application rates, restrictions, and a list of insects controlled.

### **Mixtures With Liquid Nitrogen Fertilizers**

Axial XL Herbicide may be mixed in a spray solution containing up to 50% liquid nitrogen fertilizer. Add Axial XL Herbicide to the water first. Mix thoroughly, then add the liquid nitrogen fertilizer in an amount no greater the 50% of the final volume. **Note:** Under certain environmental conditions, mixtures of liquid nitrogen fertilizers as a partial carrier may cause crop burn.

When using Axial XL Herbicide with approved herbicide tank-mix partners, consult the label of the partner product and follow any additional instructions or restrictions on that label which relate to mixture with liquid nitrogen fertilizers.

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## **STORAGE AND DISPOSAL**

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

### **Pesticide Storage**

Store in a cool, dry place. Do not store near seeds, fertilizers, or foodstuffs.

### **Pesticide Disposal**

Pesticide wastes are toxic. Improper disposal of excess pesticides, 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 Disposal

### [Packaged Product 1-10 gallon]:

Do not reuse empty container. Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.


### [Bulk/Mini-Bulk]:

When this container is empty replace cap and seal all openings that have been opened during use, and return the container to the point of purchase or to a designated location named at time of purchase of this product. The container must only be refilled with this pesticide product. **DO NOT REUSE THE CONTAINER FOR ANY OTHER PURPOSE.** Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn-out threads and closure devices. Check for leaks after refilling and before transporting. Do not transport if this container is damaged or leaking. If the container is damaged, leaking or obsolete, contact Syngenta Crop Protection, Inc. at 1-800-888-8372. If not returned to the point of purchase or to a designated location, triple rinse emptied container and offer for recycling. Disposal of this container must be in compliance with state and local regulations.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire, or other emergency, call 1-800-888-8372, day or night.

## **CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER!**

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For non-emergency (e.g., current product information), call  
Syngenta Crop Protection at 1-800-334-9481

Manufactured for:  
Syngenta Crop Protection, Inc.  
P.O. Box 18300  
Greensboro, North Carolina 27419-8300  
[www.syngenta-us.com](http://www.syngenta-us.com)

SCP 1256A

BASE

GROUP 1 HERBICIDE

Axial® XL

Herbicide

Postemergence herbicide for control of grass weeds in wheat and barley

Active Ingredient:

Pinoxaden\* ..... 5.05%

Other Ingredients: ..... 94.95%

Total: ..... 100.00%

\*CAS No. 243973-20-8

Contains petroleum distillates.

Axial XL Herbicide contains 0.42 lb. of pinoxaden active ingredient per gallon.

See additional precautionary statements and directions for use inside booklet.

**AGRICULTURAL USE REQUIREMENTS**

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

EPA Reg. No. 100-1256

EPA Est.

SCP 1256A

Net Contents

**KEEP OUT OF REACH OF CHILDREN.**

**CAUTION**

**Precautionary Statements**

**Hazards to Humans and Domestic Animals**

**CAUTION**

Causes moderate eye irritation. Avoid contact with eyes, skin or clothing. Harmful if absorbed through skin or swallowed. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

<b>FIRST AID</b>	
<b>If in eyes</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If on skin or clothing</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If swallowed</b>	<ul style="list-style-type: none"> <li>• Immediately call a poison control center or doctor.</li> <li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• Do not give <b>any</b> liquid to the person.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>If inhaled</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
Have the product container or label with you when calling a poison control center or doctor or going for treatment.	
<b>Note to Physician</b>	
Contains petroleum distillates – vomiting may cause aspiration pneumonia.	
<b>HOT LINE NUMBER</b>	
For 24 Hour Medical Emergency Assistance (Human or Animal) or Chemical Emergency Assistance (Spill, Leak, Fire, or Accident) Call <b>1-800-888-8372</b>	

## **Environmental Hazards**

For terrestrial uses: 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 disposing of equipment wash water or rinsate.

## **Physical or Chemical Hazards**

Do not use or store near heat or open flame.

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## **STORAGE AND DISPOSAL**

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

### **Pesticide Storage**

Store in a cool, dry place. Do not store near seeds, fertilizers, or foodstuffs.

### **Pesticide Disposal**

Pesticide wastes are toxic. Improper disposal of excess pesticides, 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 Disposal**

Do not reuse empty container. Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER!**

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Manufactured for:  
P.O. Box 18300  
Syngenta Crop Protection, Inc.  
Greensboro, North Carolina 27419-8300  
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SCP 1256A

AXIAL XL Notif - bb - 2-25-08

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Greensboro, NC 27419-8300  
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**FEDERAL EXPRESS**

February 25, 2008

Document Processing Desk (NOTIF)  
Office of Pesticide Programs (7504P)  
U.S. Environmental Protection Agency  
Room S-4900, One Potomac Yard  
2777 South Crystal Drive  
Arlington, VA 22202

Attention: Mr. James A. Tompkins - PM 25

Dear Mr. Tompkins:

**SUBJECT: AXIAL® XL HERBICIDE  
EPA REG. NO. 100-1256  
NOTIFICATION OF DELETION OF BARLEY RESTRICTION**

Per PR Notice 98-10, Syngenta Crop Protection, Inc. is providing a Notification and three copies of the Axial XL label with the barley restrictions deleted to correspond with the changes that were made on the Axial XL label approved on January 22, 2008. Also included on this label in the General Information and Tank Mix Application sections is Warrior with Zeon Technology®. The Warrior with Zeon Technology label with directions for use on barley was approved August 15, 2007. Enclosed are three copies of the label with the barley restriction deletion highlighted and a copy of the Warrior with Zeon Technology approved label.

To complete this notification, EPA Form 8570-1 is also enclosed. If you have any questions, please contact me at 336-632-2409.

Respectfully submitted,

Tamara Murphy  
NAFTA Regulatory Product Manager, Herbicides

Enclosures