

60063-22

12-04-2009

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

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

Joseph W. Burley, Ph.D.  
Sipcam Agro USA, Inc.  
2520 Meridian parkway, Ste 525  
Durham, NC 27713

DEC 4 2009

Subject: Label Notification(s) for Pesticide Registration Notices 2007-4 and 98-10  
1. Other minor revisions

Dear Dr. Burley:

The Agency is in receipt of your Application(s) for Pesticide Notification under Pesticide Registration Notices (PRN) 2007-4 and 98-10 dated August 5, 2009 for:

**EPA Registration 60063-22      Stalwart C**

The Registration Division (RD) has conducted a review of this request for applicability under PR Notices 2007-4 and 98-10 and finds that the label changes requested falls within the scope of PR Notices 2007-4 and 98-10. The label has been date-stamped "Notification" and will be placed in our records.

Please be reminded that 40 CFR Part 156.140(a)(4) requires that a batch code, lot number, or other code identifying the batch of the pesticide distributed and sold be placed on nonrefillable containers. The code may appear either on the label (and can be added by non-notification/PR Notice 98-10) or durably marked on the container itself.

If you have any questions, please contact me directly at 703-305-6249 or Nicole Williams of my staff at 703-308-5551.

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

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Please read instructions on reverse before completing form.

Form Approved. OMB No. 2070-0060. Approval Expires 05-31-98.



United States  
**Environmental Protection Agency**  
Washington, DC 20460

Registration  
 Amendment  
 Other

OPP Identifier Number

**Application for Pesticide - Section I**

1. Company/Product Number <b>60063-22</b>	2. EPA Product Manager <b>Joanne Miller</b>	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product Name <b>Stalwart C</b>	PM# <b>23</b>	
5. Name and Address of Applicant (Include ZIP Code) <b>Sipcam Agro USA, Inc. 2520 Meridian Parkway, Suite 525 Durham, NC 27713</b>	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 _____	

Check if this is a new address

**Section - II**

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____	<b>NOTIFICATION</b> <b>DEC - 4 2009</b>
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.	
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.	

**Explanation:** Use additional page(s) if necessary. (For section I and Section II.)  
Notification of label change per PR Notice 2007-4. This notification is consistent with the guidance in PR Notice 2007-4 and the requirements of EPA's regulations at 40 CFR §§ 156.10, 156.140, 156.144, 156.146 and 156.156. No other changes have been made to the labeling or the Confidential Statement of Formula for this project except as certified in the paragraph below. 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 the amended label is not consistent with the requirements of 40 CFR §§ 156.10, 156.140, 156.144, 156.146 and 156.156, 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. [See attached page for further certification statement.]

**Section - III**

1. Material This Product Will Be Packaged In:			
Child-Resistant Packaging <input type="checkbox"/> Yes* <input checked="" 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	2. Type of Container <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" Unit Packaging wgt.      No. per container	If "Yes" Unit Packaging wgt.      No. per container
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container	4. Size(s) Retail Container 2.5 gal., 260 gal., bulk	5. Location of Label Directions <input checked="" type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input checked="" type="checkbox"/> Paper glued <input type="checkbox"/> Other _____ <input type="checkbox"/> Stenciled			

**Section - IV**

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name <b>Joseph W. Burley</b>	Title <b>Regulatory Manager</b>	Telephone No. (Include Area Code) <b>(919) 226 1297</b>
2. Signature 		6. Date Application Received <b>(Stamped)</b>
3. Title <b>Regulatory Manager</b>		
4. Typed Name <b>Joseph W. Burley</b>	5. Date <b>08/05/2009</b>	

**Section II Explanation (continued):**

Notification of addition of EPA approved language regarding certified adjuvants per PR Notice 98-10. 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 except as certified in the paragraph above. 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.



Annotated Copy

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**SIPCAM AGRO USA, INC.**

**Stalwart® C**

**NOTIFICATION**

For weed control in corn (all types).

DEC - 4 2009

**Active Ingredient:**

Metolachlor: 2-chloro- N-(2-ethyl-6-methylphenyl)-N-(2-methoxy-1-methylethyl)  
acetamide ..... 84.1%

**Other Ingredients:** ..... 15.9%

**Total:** ..... 100.0%

Contains 7.8 lbs. of metolachlor active ingredient per gallon.

**KEEP OUT OF REACH OF CHILDREN**

**CAUTION**

**FIRST AID**

IF INHALED	<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 mouth to mouth if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
IF ON SKIN OR CLOTHING	<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>
IF IN EYES	<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>
IF SWALLOWED	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have affected person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
<b>Emergency phone numbers</b>	(800) 424-9300 CHEMTREC (transportation and spills) (800) 900-4044 Poison Control Center (human health) (800) 345-4735 ASPCA (animal health)

See additional precautionary statements and directions for use inside booklet.

**Net Contents: 2.5 Gallons (9.46 Liters)**

EPA Reg. No. 66063-22  
EPA Est.

Sipcam Agro USA, Inc.  
2520 Meridian Parkway, Suite 525  
Durham, NC 27713

**PRECAUTIONARY STATEMENTS**

**Hazards to Humans and Domestic Animals**

**CAUTION:** Harmful if swallowed. Causes moderate eye irritation. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Avoid contact with eyes or clothing. Wear protective eye wear. Wear: Long-sleeved shirt and long pants, Socks, Shoes, and gloves.

**Personal Protective Equipment**

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

**Applicators and other handlers must wear:**

- Coveralls over short-sleeved shirt and short pants
- Chemical-resistant gloves, such as barrier laminate or viton
- Chemical-resistant footwear plus socks
- Chemical-resistant headgear for overhead exposure
- Chemical-resistant apron when cleaning equipment

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**

Mixers and loaders supporting aerial applications are required to use closed systems. The closed system must be used in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240(d)(4)). When using the closed system, the mixers and loaders PPE requirements may be reduced or modified as specified in the WPS.

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 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**

Do not apply directly to water, or 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 waters or rinsate.

**Ground Water Advisory**

This chemical is known to leach through soil into ground water under certain conditions as a result of agricultural use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

**Surface Water Advisory**

Metolachlor can contaminate surface water through ground spray drift. Under some conditions, metolachlor may also have a high potential for runoff into surface water (primarily via dissolution in runoff water) for several months post-application. These include poorly draining or wet soils with

readily visible slopes toward adjacent surface waters, frequently flooded areas, areas over-laying extremely shallow ground water, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas over-laying tile drainage systems that drain to surface water.

### Mixing/Loading Instructions

Care must be taken when using this product to prevent back-siphoning into wells, spills, or improper disposal of excess pesticide, spray mixtures, or rinsates. Check-valves or antisiphoning devices must be used on all mixing and/or irrigation equipment.

This product may not be mixed or loaded within 50 ft. of perennial or intermittent streams and rivers, natural or impounded lakes and reservoirs. This product may not be mixed/loaded or used within 50 ft. of all wells, including abandoned wells, drainage wells, and sink holes. Operations that involve mixing, loading, rinsing, or washing of this product into or from pesticide handling or application equipment or containers within 50 ft. of any well are prohibited, unless conducted on an impervious pad constructed to withstand the weight of the heaviest load that may be positioned on or moved across the pad. Such a pad shall be designed and maintained to contain any product spills or equipment leaks, container or equipment rinse or wash water, and rain water that may fall on the pad. Surface water shall not be allowed to either flow over or from the pad, which means the pad must be self-contained. The pad shall be sloped to facilitate material removal. An unroofed pad shall be of sufficient capacity to contain at a minimum 110% of the capacity of the largest pesticide container or application equipment on the pad. A pad that is covered by a roof of sufficient size to completely exclude precipitation from contact with the pad shall have a minimum containment capacity of 100% of the capacity of the largest pesticide container or application equipment on the pad. Containment capacities as described above shall be maintained at all times. The above-specified minimum containment capacities do not apply to vehicles when delivering pesticide shipments to the mixing/loading site.

### DIRECTIONS FOR USE

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

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 12 hours.** Exception: If the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated. PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is:

- Coveralls
- Chemical-resistant gloves, such as barrier laminate or viton

- Shoes plus socks

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

**Note: Not for sale, use, or distribution in Nassau County or Suffolk County, New York.**

To avoid spray drift, do not apply under windy conditions. Avoid spray overlap, as crop injury may result.

#### STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal. Open dumping is prohibited.

**Storage:** This product may be stored at temperatures down to -30°F. 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.

**Pesticide Disposal:** Wastes resulting from the use of this product are toxic. Improper disposal of unused pesticide, spray mixture, or rinsate is a violation of federal law. Pesticide, spray mixture, or rinsate that cannot be used according to label instructions must be disposed of according to federal, state, or local procedures. For guidance in proper disposal methods, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office.

#### Container Disposal:

**For Containers < 5 gallons:** Nonrefillable container. Do not reuse or refill this container. Triple 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. Offer for recycling, if available, or puncture and dispose of in a sanitary landfill, by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**For Minibulk Containers:** Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follow: 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. Offer for recycling, if available, or puncture and dispose of in a sanitary landfill, by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**For Bulk Containers:** 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 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. When the container is empty, replace the cap and seal all openings that have been opened during use; and return to the point of

purchase, or to a designated location named at the time of purchase of this product. 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 or leaking, call Chem-Trec. If the container is damaged and leaking or material has been spilled, follow these procedures:

- Cover spill with absorbent material.
- Sweep into disposal container.
- Wash area with detergent and water and follow with clean water rinse.
- Do not allow to contaminate water supplies.
- Dispose of according to instructions.

If not returned to the point of purchase or to a designated location, clean empty container as instructed above and offer for recycling. Disposal of this container must be in compliance with state and local regulations.

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## A. GENERAL INFORMATION

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Observe all precautions and limitations on the labels of each product used in tank mixtures. Tank mixtures are permitted only in those states where the tank mix partner is registered.

**Stalwart C** is a selective herbicide recommended as a preplant surface-applied, preplant incorporated, or preemergence treatment in water or fluid fertilizer for control of most annual grasses and certain broadleaf weeds in corn (all types).

**Note:** Do not use in nurseries, turf, or landscape plantings.

Do not apply under conditions which favor runoff or wind erosion of soil containing this product to nontarget areas.

To prevent off-site movement due to runoff or wind erosion:

1. Avoid treating powdery dry or light sand soils when conditions are favorable for wind erosion. Under these conditions, the soil surface should first be settled by rainfall or irrigation.
2. Do not apply to impervious substrates, such as paved or highly compacted surfaces.
3. Do not use tailwater from the first flood or furrow irrigation of treated fields to treat nontarget crops, unless at least 1/2 inch of rainfall has occurred between application and the first irrigation.

Where directions on this label specify a **Stalwart C** tank mixture with atrazine, follow the rates, recommendations, and limitations on the labeling of the atrazine product used.

**Note:** Certain states may have established rate limitations for atrazine within specific geographical areas. Consult your state lead pesticide control agency for additional information. It is a violation of this label to deviate from state use regulations.

If **Stalwart C** is incorporated, any supplemental tillage before planting must not exceed the depth of incorporation.

Dry weather following preemergence application of **Stalwart C** or a tank mixture may reduce effectiveness. Cultivate if weeds develop.

Where reference is made to weeds partially controlled, partial control can either mean erratic control from good to poor, or consistent control at a level below that generally considered acceptable for commercial weed control.



### 1. SOIL TEXTURES AND HERBICIDE RATES

Where rates are based on *coarse-*, *medium-*, or *fine-textured soils*, it is understood that soil textural classes are generally categorized as follows:

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

Within rate ranges in the rate tables and elsewhere on this label, use the lower rate on soils relatively coarse-textured or low in organic matter; use the higher rate on soils relatively fine-textured or high in organic matter.

**Note:** Stalwart C may be applied preemergence alone, or in combination with tank mix partners specified on this label, following preplant incorporated herbicides when used according to their label recommendations, provided that such use is not prohibited on the respective labels.

Thoroughly clean sprayer or other application device before using. Dispose of cleaning solution in a responsible manner. Do not use a sprayer or applicator contaminated with any other materials, or crop damage or clogging of the application device may result.

### 2. MIXING INSTRUCTIONS

**Stalwart C Alone:** Mix Stalwart C with water or fluid fertilizer and apply as a spray. Fill the spray tank 1/2-3/4 full with water or fluid fertilizer, add the proper amount of Stalwart C, then add the rest of the water or fluid fertilizer. Provide sufficient agitation during mixing and application to maintain a uniform emulsion.

**Tank Mixtures:** Fill the spray tank 1/4 full with water, and start agitation; add 2,4-D, Atrazine, Banvel®, Lorox®, Marksman®, Sim-Trol®, Prowl® or Atrazine + Sim-Trol, and allow it to become dispersed; then add Stalwart C; then add Gramoxone® Extra, Landmaster BW®, or Roundup® if these products are being used; and finally the rest of the water. For tank mixtures with Atrazine, Banvel, Lorox, Marksman, Sim-Trol, Prowl\*, or Atrazine + Sim-Trol, fluid fertilizers may replace all or part of the water as carrier, except in the Atrazine postemergence and the Banvel post-emergence tank mixes. For tank mixtures with Atrazine, see additional mixing instructions on the atrazine label. For each mixture, check compatibility with fluid fertilizer, as described in Appendix A, before mixing in spray tank. For all tank mixtures, agitate during mixing and application to maintain a uniform suspension.

\*See **Special Mixing Instructions** for tank mixtures with Atrazine or Sim-Trol + Prowl under the appropriate tank mixture section.

For directions on how to conduct a compatibility test, see **Appendix A**.

### 3. APPLICATION PROCEDURES

#### Application Timing

Stalwart C alone or in some tank mixtures with other labeled herbicides may be applied for weed control in corn at various times. Refer to the given section of the label to determine if application timings listed below are recommended.

- a. **Preplant Surface-Applied:** For minimum-tillage or no-tillage systems only, Stalwart C alone and some Stalwart C tank mixtures may be applied up to 45 days before planting. Use only split applications for treatments made 30-45 days before planting, with 2/3 the recommended broadcast

rate for soil texture applied initially and the remaining 1/3 at planting. Treatments less than 30 days before planting may be made either as a split or a single application.

If weeds are present at the time of treatment, apply in a tank mixture combination with a contact herbicide (for example, Gramoxone Extra or Roundup). Observe directions for use, precautions, and restrictions on the label of the contact herbicide. To the extent possible, do not move treated soil out of the row or move untreated soil to the surface during planting, or weed control will be diminished.

- b. **Preplant Incorporated:** Apply **Stalwart C** to the soil and incorporate into the top 2 inches of soil within 14 days before planting, using a finishing disk, harrow, rolling cultivator, or similar implement capable of providing uniform 2-inch incorporation. Use a preplant incorporated application if furrow irrigation is used or when a period of dry weather after application is expected. If corn will be planted on beds, apply and incorporate **Stalwart C** after bed formation, unless specified otherwise.
- c. **Preemergence:** Apply **Stalwart C** during planting (behind the planter) or after planting, but before weeds or corn plants emerge.

#### 4. SPECIAL APPLICATION PROCEDURES

**CA Only (Corn): Preplant Incorporated:** Broadcast **Stalwart C** alone or with tank mix partners listed on this label to the soil and thoroughly incorporate with a disk or similar implement set to till 4-6 inches deep. For more thorough incorporation, till the soil in 2 different directions (cross-till). Corn may be planted on flat surface or on beds. Caution should be used when forming the beds that only soil from the **Stalwart C** treated zone is used (i.e., untreated soil should not be brought to soil surface). If the application is made to pre-formed beds, incorporate **Stalwart C** with a tillage implement set to till 2-4 inches deep. Care should be taken during tilling to keep the tilled (**Stalwart C** treated) soil on the beds.

**Preemergence:** Apply **Stalwart C** after planting. Water with sprinkler or flood irrigation within 7-10 days.

**Fall Application (Only in IA, MN, ND, SD, WI, and portions of NE and IL - See specific instructions in the Corn section of this label for timing of application and other information):** Do not apply to frozen ground. Use on medium and fine soils with greater than 2.5% organic matter that will be planted to corn the next spring. Ground may be tilled before or after application. Do not exceed a 2 to 3-inch incorporation depth if tilled after treatment. **Note:** If a spring application is made, the total rate of the fall plus spring applications must not exceed the maximum total rate for the corn, or illegal residues may result.

**Ground Application:** Apply **Stalwart C** alone or in tank mixtures by ground equipment in a minimum of 10 gals. of spray mixture per acre, unless otherwise specified. Use sprayers that provide accurate and uniform application. For **Stalwart C** tank mixtures with wettable powder or dry flowable formulations, screens and strainers should be no finer than 50-mesh. Rinse sprayer thoroughly with clean water immediately after use.

Calculate the amount of herbicide needed for band treatment by the formula:

$$\frac{\text{band width in inches}}{\text{row width in inches}} \times \text{broadcast rate per acre} = \text{amount needed per acre of field}$$

**NOTE:** For information on applying in lower volumes of carrier, see **Low Carrier Application in Appendix B.**

For application by air or through center pivot systems, see **Appendices C and D.** Appendix C includes **Aerial Drift Management** and **Aerial Drift Reduction Advisory** sections.

For information on impregnating dry fertilizer, see **Appendix E**.

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## B. STALWART C APPLIED ALONE

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### 1. WEEDS CONTROLLED

Barnyardgrass (watergrass)	green foxtail	woolly cupgrass*	carpetweed
bristly foxtail	prairie cupgrass	yellow foxtail	common waterhemp
crabgrass	red rice	yellow nutsedge	Eastern black nightshade
crowfootgrass	robust foxtails (purple, white)		Florida pusley
fall panicum	signalgrass ( <i>Brachiaria</i> )		galinsoga
foxtail millet	southwestern cupgrass		pigweed
giant foxtail	wild proso millet *		tall waterhemp
goosegrass	witchgrass		

\*For control of these weeds in corn only, refer to the **Corn - Woolly Cupgrass and Wild Proso Millet Control Program** section of this label.

**Weeds Partially Controlled\***: common purslane, eclipta, Florida beggarweed\*\*, hairy nightshade, sandbur, seedling johnsongrass, shattercane, Texas panicum\*\*\*, volunteer sorghum, wild proso millet, and woolly cupgrass.

\*See **General Information** section. Control of these weeds can be erratic, due partially to variable weather conditions. Control may be improved by following these suggested procedures:

1. In **corn**, use 2.0-2.67 pts./A or the preplant surface-applied rates for **Stalwart C** alone or in tank mixture, if allowed, when making preplant incorporated or preemergence applications.
2. **Thoroughly till moist soil** to destroy germinating and emerged weeds. If **Stalwart C** is to be applied preplant incorporated, this tillage may be used to incorporate **Stalwart C** if uniform 2-inch incorporation is achieved as recommended under **Application Procedures**.
3. Plant corn into moist soil **immediately after tillage**. If **Stalwart C** is to be used preemergence, apply at planting or immediately after planting.
4. If available, **sprinkler irrigate** within 2 days after application. Apply 1/2-1 inch of water. Use lower water volume (1/2 inch) on *coarse-textured* soils and higher volume (1 inch) on *fine-textured soils*. Also, refer to the section on **Center Pivot Irrigation Application** for this method of applying **Stalwart C**.
5. If irrigation is not possible and rain does not occur within 2 days after planting and application, weed control may be decreased. Under these conditions, a uniform, shallow cultivation is recommended as soon as weeds emerge.

\*\* For partial control of this weed, use a minimum of 2.0 pts./A and apply preemergence.

\*\*\* For partial control of this weed, use a minimum of 2.0 pts./A and apply through a center pivot irrigation system.

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### 2. ROTATIONAL CROPS

**Stalwart C Alone:** (1) If corn crop treated with **Stalwart C** alone is lost, corn may be replanted immediately. Do not make a second broadcast application of **Stalwart C**. If the original application was banded and the second crop is planted in the untreated row middles, a second banded treatment may be applied. (2) Barley, oats, rye, or wheat may be planted 4-1/2 months following treatment; alfalfa may be planted 4 months following application. Tomatoes may be planted 6 months following application. (3) Corn, in addition to cotton, peanuts, pod crops, potatoes, safflower, grain or forage sorghum, soybeans, root crops, tobacco, barley, buckwheat, milo, oats, rice, rye, wheat, cabbage, or

peppers, may be planted in the spring following treatment. Clover may be seeded 9 months following application. Do not graze or feed forage or fodder from cotton to livestock. (4) Following a lay-by treatment or multiple treatments applied the previous season, corn, in addition to tobacco, cabbage, or peppers, may be planted in the spring. All other rotational crops may be planted 12 months after a lay-by application.

**Stalwart C Tank Mixtures:** For **Rotational Crops** restrictions for **Stalwart C** used in tank mixtures, refer to the statements/restrictions above for **Stalwart C** and to the respective product labels of any mixing partner(s) for additional statements/restrictions.

**Important Notes:** To avoid injury to rotational alfalfa or clover: (1) Do not apply more than 2.0 lbs. a.i. of metolachlor per acre (2.0 pts. of **Stalwart C**) preemergence (including preplant surface, preplant incorporated, postplant incorporated, etc.), and (2) Do not make lay-by or other postemergent applications of **Stalwart C**.

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## C. CORN (ALL TYPES) – STALWART C ALONE

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Apply **Stalwart C**, either preplant surface, preplant incorporated, or preemergence, using the appropriate rate specified below.

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### 1. PREPLANT SURFACE-APPLIED

Refer to instructions for use of **Stalwart C** alone under **Application Procedures**.

**a. Fall Application (Apply after September 30 in MN, ND, SD, WI, and north of Route 30 in IA; Apply after October 15 north of Route 91 in NE and south of Route 30 in IA; Apply after October 31 north of Route 136 in IL):**

In all locations, apply to crop stubble after harvest when the sustained soil temperature at a 4-inch depth is less than 55°F and falling. In minimum-till or no-tillage systems on soils having greater than 2.5% organic matter, use 1.67-2.0 pts./A on *medium-textured* and 2.0 pts./A on *fine-textured soils*. Do not apply to frozen ground. A tillage operation may precede the application. A fall and/or a spring tillage may follow application, but do not exceed an incorporation depth greater than 2-3 inches. Minimize furrow and ridge formation in the tillage operations. **Note:** If a spring application is made, the total rate of the fall plus spring applications must not exceed the maximum total rate for corn, or illegal residues may result.

**b. Use on *medium-* and *fine-textured soils* with minimum-tillage or no-tillage systems in CO, IA, IL, IN, KS, KY, MN, MO, MT, ND, NE, SD, TN, WI, and WY. Apply 2/3 the recommended rate of **Stalwart C** (1.67 pts./A on *medium soils* and 2.0 pts./A on *fine soils*) as a split treatment 30-45 days before planting and the remainder at planting. Applications made less than 30 days prior to planting may be as either a split or single treatment. Apply 1.33 pts./A on *coarse soils* not more than 2 weeks prior to planting.**

**c. On *medium-* and *fine-textured soils* with minimum- or no-tillage systems in CT, DE, MA, MD, ME, MI, NH, NY, OH, PA, RI, VA, VT, and WV, preplant surface applications may be applied following the directions for use above. If the amount of rainfall results in unsatisfactory length of weed control following the earlier treatment, a post-emergence application of an appropriately labeled broadleaf and/or grass weed herbicide may be used, i.e., Atrazine, Beacon®, Bicep®, Exceed®, Accent®, Banvel, Basagran®, bromoxynil (Brominal® or Buctril®), or 2,4-D. If the postemergence treatment includes the herbicide used preplant surface-applied, do not exceed the total labeled rate for corn on a given soil texture. Observe all directions for use, precautions, and limitations on the label of the postemergent herbicide.**

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## 2. PREPLANT INCORPORATED OR PREEMERGENCE

Follow instructions for use of **Stalwart C** alone under **Application Procedures**. On *coarse soils*, apply 1.0-1.33 pts./A of **Stalwart C** if organic matter content is less than 3%, or 1.33 pts./A if organic matter content is 3% or greater. On *medium soils*, apply 1.33-1.67 pts./A of **Stalwart C**. On *fine soils*, apply 1.33-1.67 pts./A of **Stalwart C** if organic matter content is less than 3%, or 1.67-2.0 pts./A if organic matter content is 3% or greater.

**a. Lay-by:** To extend the duration of weed control in corn, a maximum rate of 2.0 pts./A of **Stalwart C** may be applied after crop emergence until the corn plants reach 40 inches in height, following any preplant surface-applied, preplant incorporated, or preemergence herbicide application, including **Stalwart C**. For best results, applications should be made to soil free of emerged weeds and directed towards the base of the corn plants in excess of 5 inches tall. The total **Stalwart C** rate applied on corn during any one crop year should not exceed 4.0 pts./A, depending on soil texture.

**Note for all applications to corn:** To avoid possible illegal residues, do not graze or feed forage from treated areas for 30 days following application.

**b. Shattercane, Wild Proso Millet, Woolly Cupgrass, and Eclipta - Partial Control:** For more consistent partial control of shattercane, wild proso millet, woolly cupgrass, or eclipta, apply 2.0-2.55 pts./A as a single application; or apply 1.0-1.33 pts./A of **Stalwart C** preplant incorporated followed by 1.0-1.33 pts./A of **Stalwart C** preemergence; however, do not apply more than a total of 2.55 pts./A. Make the preemergence application during or after planting, but before weeds and corn plants emerge. Apply the 1.33 pts./A rate of **Stalwart C** when a heavy infestation of shattercane, wild proso millet, woolly cupgrass, or eclipta is expected. A shallow cultivation may be needed to control any late emerging weeds.

**c. Woolly Cupgrass and Wild Proso Millet Control Program:** For control of these species, use the following 3-step program: (1) Apply **Stalwart C** early preplant, preplant incorporated, or preemergence at 1.67 pts./A on *medium soils* and 2.0 pts./A on *fine-textured soils*, up to the maximum label rate. Lightly incorporate with a rotary hoe if rainfall does not occur within 5-7 days; (2) Apply a postemergence tank mix of Beacon at 0.38 oz./A or Exceed at 1 packet per 4 acres plus Accent SP at 0.33 oz./A plus 1.0 qt. of crop oil concentrate plus 1.0 gal./A of 28% nitrogen, or the equivalent amount of ammonium sulfate, when grasses are 2-3 inches tall and the corn plant is at least 4 inches tall; and (3) Cultivate 14-21 days after the postemergence application.

**Notes:** (1) Do not apply more than the labeled application rate for a given soil texture per year, either as a single or split treatment, or illegal residues may result. (2) In corn, **Stalwart C** may be used up to 2.75 pts./A as either a preplant surface, preplant incorporated, or preemergence treatment on soils having an organic matter content between 6% and 20% or up to 2.0 pts./A on any soil for extended residual control and where severe stands of problem weeds are expected. (3) In the event of escape of annual weeds following a preplant surface, preplant incorporated, or pre-emergence treatment of **Stalwart C**, follow with a postemergence application of an appropriately labeled broadleaf and/or grass weed herbicide, i.e., Atrazine, Beacon, Bicep, Exceed, Accent, Banvel, Basagran, bromoxynil (Brominal or Buctril), or 2,4-D. If the postemergence treatment includes the herbicide used in the earlier treatment, i.e., Atrazine, do not exceed the total labeled rate for corn on a given soil texture. (4) Brominal or Buctril may be applied postemergence alone or in tank mix combination with Atrazine. Do not exceed 1.2 lbs. a.i./A of Atrazine in tank mix combination with Brominal or Buctril postemergence. Refer to the Atrazine, Brominal, and Buctril labels for specific rates and precautions. (5) Do not use **Stalwart C** on peat or muck soils.

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#### D. CORN (ALL TYPES) - STALWART C COMBINATIONS

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**Stalwart C** in any tank mixture for corn (except **Stalwart C + Atrazine** postemergence and **Stalwart C + Banvel** postemergence) may be applied in water or fluid fertilizer. Use only water in the **Stalwart C + Atrazine** or the **Stalwart C + Banvel** postemergence tank mixes.

**Note:** For all applications to corn, do not graze or feed forage from treated areas for 30 days following application, or possible illegal residues may result.

**IMPORTANT: FOR TANK MIXTURES WITH ATRAZINE (OR OTHER BRANDS OF ATRAZINE)**

- If applying **Stalwart C** in tank mixture with Atrazine, all the restrictions and rate limitations on the Atrazine label must be followed if more restrictive/protective than those on this label. In addition, if Atrazine is/must be applied at rates lower than those recommended on this label, broadleaf weed control may be affected. Refer to the Atrazine label for weeds controlled at the reduced rates.

Chart 1: Stalwart C Tank Mixtures for Corn - Additional Weeds Controlled and Special Instructions

	Stalwart C + Atrazine and/or Sim-Trol (Preplant Surface, PPI, PRE)	Stalwart C + Atrazine (Post)	Stalwart C + Banvel (Field Corn)	Stalwart C + Atrazine + Lorox	Stalwart C + Atrazine or Sim-Trol + Prowl	Stalwart C + Marksman
Section	D1	D2	D3	D4	D5	D8
Special Mixing Instructions					1	
Comments	2,3,4,5,7,8	2,3,4,5		2,3,4,5,6	2,3,4,5	7
Browntop panicum	a			a	a	
Cocklebur	a	b	b	a	a	a
Common purslane	a			a	a	a
Hairy nightshade	a			a	a	a
Jimsonweed		a	b			a
Kochia		a				a
Lambsquarters	a	a	a	a	a	a
Morningglory	a	b	b	a	a	a
Mustard		a				a
Pigweed				a	a	a
Prickly sida		a				a
Ragweed	a	a	a	a	a	a
Smartweed	a	a	a	a	a	a
Velvetleaf	a	a	b	a	a	a

a = control; b = partial control.

### Comments

#### 1. Special Mixing Instructions for Stalwart C + Atrazine or Sim-Trol and Prowl

- (1) Fill the spray tank 1/4 full with water or fluid fertilizer and start agitation. (2) To aid compatibility, add a compatibility agent, such as Unite® or X-77®, at 4.0 pts./100 gals. of spray mixture. (3) Then add the Atrazine or Sim-Trol and allow it to become dispersed. (4) Then add Stalwart C and Prowl 4E. (5) Add the rest of the water.
2. Although a single formulation for Atrazine or Sim-Trol is listed in the rate tables, other formulations may be substituted using the following formula:
  - 1.0 lb. of Sipcam Atrazine 90DF or Sim-Trol 90DF = 1.8 pts. of Sipcam Atrazine 4L or Sim-Trol 4L.
3. Although directions specify Atrazine formulations in tank mixture with Stalwart C, other brands of atrazine may be used. Follow the rates, recommendations, and limitations on the atrazine label.
4. See additional mixing instructions on the Atrazine label.
5. *Precaution: Do not exceed a total of 2.5 lbs. a.i. of atrazine per acre per year. However, certain states may have established rate limitations for atrazine within specific geographical areas. Consult your state lead pesticide control agency for additional information. It is a violation of this label to deviate from state use regulations.*
6. Other formulations of Lorox can be used: 1.0 lb. of Lorox DF = 1.0 pt. of Lorox L.
7. In Minimum-Tillage and No-Tillage systems, mix with Gramoxone Extra for control of most emerged annual weeds and suppression of perennial weeds; or with Landmaster BW for suppression of emerged field bindweed and control or suppression of annual weeds; or with Roundup for control of most emerged annual and perennial weeds.
8. Refer to label section D7 for specific directions for 2,4-D or Banvel burndown combinations in Minimum-Tillage and No-Tillage systems.

Stalwart C in any tank mixture for corn may be applied in water or fluid fertilizer, except as noted.

**Notes:** (1) For all applications to corn, do not graze or feed forage from treated areas for 30 days following application, or possible illegal residues may result. (2) When applying Stalwart C in tank mixture with Atrazine, do not exceed a total of 2.5 lbs. a.i. of atrazine per acre per year. (3) Refer to **Section C. Corn (All Types) - Stalwart C Alone**, for recommended sequential postemergence treatments if escape weeds develop. (4) In corn, Stalwart C may be used up to 2.0 pts./A in combinations on any soil for extended residual control and where severe stands of problem weeds are expected.

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#### 1. TANK MIXTURE WITH ATRAZINE OR SIM-TROL, OR ATRAZINE + SIM-TROL- PREPLANT SURFACE, PREPLANT INCORPORATED, OR PREEMERGENCE

In addition to the weeds controlled by Stalwart C alone, Stalwart C + Atrazine or Sim-Trol, or Stalwart C + Atrazine + Sim-Trol, applied preplant surface, preplant incorporated, or preemergence, also controls the following weeds: browntop panicum, cocklebur, common purslane, hairy nightshade, lambsquarters, morningglory, ragweed, smartweed, and velvetleaf.

Apply Stalwart C + Atrazine or Sim-Trol, or Stalwart C + Atrazine + Sim-Trol either preplant surface, preplant incorporated, or preemergence.

**Preplant Surface-Applied:** Follow instructions for use of Stalwart C alone under **Application Procedures** and under application instructions for Stalwart C alone on corn. Apply Stalwart C + Atrazine or Sim-Trol, or Stalwart C + Atrazine + Sim-Trol on *medium soils* (1.67 pts./A of Stalwart C + 3.2-4.0 pts./A of Sipcam Atrazine 4L or Sim-Trol 4L, or Sipcam Atrazine 4L + Sim-Trol 4L combined) and on *fine soils* (1.67-2.0 pts./A of Stalwart C + 4.0-5.0 pts./A of Sipcam Atrazine 4L or Sim-Trol 4L, or Sipcam Atrazine 4L + Sim-Trol 4L combined) in minimum-tillage and no-tillage systems in CO, IA, IL, IN, KS, KY, MN, MO, MT, ND, NE, SD, TN, WI, and WY. Apply the tank mixtures as a split or



single treatment in those states and as indicated in the **Stalwart C Alone - Preplant Surface-Applied** section of the label. On *coarse soils*, apply 1.33 pts./A of **Stalwart C** and 3.2 pts./A of Sipcam Atrazine 4L or Sim-Trol 4L, or Sipcam Atrazine 4L + Sim-Trol 4L combined.

**Preplant Incorporated or Preemergence:** Follow instructions for use of **Stalwart C** alone under **Application Procedures**. Apply **Stalwart C** + Atrazine or Sim-Trol, or **Stalwart C** + Atrazine + Sim-Trol, using the appropriate rates from Table 1.

**Note:** Do not apply more than the labeled rate for a given soil texture per year, either as a split or single treatment, or illegal residues may result.

**Shattercane, Wild Proso Millet, Woolly Cupgrass, and Eclipta - Partial Control**

For more consistent partial control of shattercane, wild proso millet, woolly cupgrass, or eclipta, where **Stalwart C** is applied in tank mixture or sequentially with other registered corn herbicides, apply 2.0-2.33 pts. as a single application, or the following applications may be made:

1. Apply 1.0-1.33 pts./A of **Stalwart C** + 2.0 lbs. a.i./A of Atrazine or Sim-Trol preplant incorporated, followed by 1.0-1.33 pts./A of **Stalwart C** preemergence. Make the preemergence application during or after planting, but before weeds and corn plants emerge.
2. Apply **Stalwart C** at 1.33 pts./A alone or in tank mix combination with up to 2.0 lbs. a.i./A of Atrazine or Sim-Trol, preplant incorporated. Do not exceed the total rate of triazine herbicide recommended for corn grown on a given soil texture. Follow with a post-directed application of Evik® 80W at 2.5 lbs./A. Refer to the Evik 80W label for specific directions for the post-directed application.
3. Apply Eradicane® or Sutan® (or equivalent EPTC or butylate formulations) at labeled rates preplant incorporated, followed by a preemergence application of **Stalwart C** at 1.0-1.33 pts./A. Do not use Eradicane or Sutan on soils where rapid degradation has been shown to occur. Make the preemergence application during or after planting, but before weeds and corn plants emerge.

*Precaution: When following the application regimes in numbers 1-3 above, a shallow cultivation may be needed after the preemergence or postemergence application to help control any late emerging shattercane or wild proso millet plants.*

**Table 1: Stalwart C + Atrazine or Sim-Trol, or Stalwart C + Atrazine + Sim-Trol, Preplant Incorporated, or Preemergence - Corn (All Types)**

Soil Texture	Broadcast Rates Per Acre			
	Less than 3% Organic Matter		3% Organic Matter or Greater	
	Stalwart C + Atrazine 90DF* OR Sim-Trol 90DF*	Stalwart C + Atrazine 90DF** + Sim-Trol 90DF**	Stalwart C + Atrazine 90DF* OR Sim-Trol 90DF*	Stalwart C + Atrazine 90DF** + Sim-Trol 90DF**
<b>COARSE</b>	0.85-1.0 pts. + 1.1-2.2 lbs.	0.85-1.0 pts. + 0.6-1.1 lbs. + 0.6-1.1 lbs.	1.0 pts. + 1.3-2.2 lbs.	1.0 pts. + 0.7-1.1 lbs. + 0.7-1.1 lbs.
<b>MEDIUM</b>	1.0-1.33 pts. + 1.3-2.2 lbs.	1.0-1.33 pts. + 0.7-1.1 lbs. + 0.7-1.1 lbs.	1.33 pts. + 1.8-2.2 lbs.	1.33 pts. + 0.9-1.1 lbs. + 0.9-1.1 lbs.
<b>FINE</b>	1.33 pts. + 1.8-2.2 lbs.	1.33 pts. + 0.9-1.1 lbs. + 0.9-1.1 lbs.	1.33-1.67 pts. + 1.8-2.2 lbs.***	1.33-1.67 pts. + 0.9-1.1 lbs.*** + 0.9-1.1 lbs.***
<b>Muck or Peat</b> (soils with more than 20% organic matter)	<b>DO NOT USE</b>			

\* Use Sim-Trol in preference to Atrazine when heavy infestations of crabgrass or fall panicum are expected. On soils having between 6% and 20% organic matter, **Stalwart C** may be used up to 2.33 pts./A in tank mix combination with 2.2 lbs./A of Sipcarn Atrazine 90DF, or equivalent rates of Sipcarn Atrazine 4L. Refer to the Atrazine label for weeds controlled at this reduced rate.

\*\* When using the tank mixture of **Stalwart C** + Sipcarn Atrazine 90DF + Sim-Trol 90DF, use equal rates of each as shown when heavy broadleaf weed infestations are expected. When heavy infestations of crabgrass or fall panicum are expected, use a 1:2 ratio of Atrazine + Sim-Trol instead of the 1:1 ratio given in Table 1. (Example: Total Sipcarn Atrazine 90DF + Sim-Trol 90DF = 1.2 lbs./A, use 0.4 lb. of Sipcarn Atrazine 90DF + 0.8 lb. of Sim-Trol 90DF, respectively.) Refer to Comment No. 2 following Chart 1 for Atrazine 4L and Sim-Trol 4L conversions.

\*\*\* For cocklebur, yellow nutsedge, and velvetleaf control on fine-textured soils above 3% organic matter, apply 2.25 lbs./A of Sipcarn Atrazine 90DF, or equivalent rates of Sipcarn Atrazine 4L, or the same total amount of Atrazine + Sim-Trol with 1.33-1.67 pts./A of **Stalwart C**.

**2. TANK MIXTURE WITH ATRAZINE- POSTEMERGENCE**

Weeds Controlled				Weeds Partially Controlled
Barnyardgrass (watergrass)	giant foxtail	Kochia	Purslane	cocklebur
crabgrass	green foxtail	Lambsquarters	Ragweed	morningglory
crowfootgrass	yellow foxtail	Mustard	smartweed	yellow nutsedge
fall panicum	_____	pigweed	velvetleaf	
	jimsonweed	prickly sida		

Apply 1.0 pt./A of **Stalwart C** + 1.3 lbs./A of Sipcam Atrazine 90DF\* on *coarse soils*, 1.33 pts./A of **Stalwart C** + 1.8 lbs./A of Sipcam Atrazine 90DF on *medium soils*, or 1.33-1.67 pts./A of **Stalwart C** + 1.8-2.2 lbs./A\*\* of Sipcam Atrazine 90DF on *fine soils*. Apply this tank mixture before grass and broadleaf weeds pass the 2-leaf stage and before corn exceeds 5 inches in height. Application to weeds larger than the 2-leaf stage will generally result in unsatisfactory control.

**Lay-by:** Apply to corn plants not more than 12 inches tall. Applications to corn plants in excess of 5 inches should be directed to the base of the plants; whereas, applications to plants less than 5 inches tall may be made over the top. Occasionally, some corn leaf burn may result, but this should not affect later growth or yield. Do not apply this postemergence tank mixture in fluid fertilizer, or severe crop injury may occur.

\* When using Sipcam Atrazine 4L, use equivalent rates. One lb. of Sipcam Atrazine 90DF equals 1.8 pts. of Sipcam Atrazine 4L.

\*\* For better control of cocklebur, morningglory, velvetleaf, and yellow nutsedge on *fine-textured soils* above 3% organic matter, apply 2.2 lbs./A of Sipcam Atrazine 90DF, or equivalent rate of Sipcam Atrazine 4L, with 1.33-1.67 pts./A of **Stalwart C**.

Tank mixtures of **Stalwart C** + Atrazine may be applied following use of any registered preplant surface-applied, preplant incorporated, or preemergence corn herbicide, including **Stalwart C** + Atrazine.

**Note:** The total **Stalwart C** rate should not exceed 4.0 pts., nor the Atrazine rate more than 2.5 lbs. a.i./A during any one crop year, or illegal residues may result. Refer to the Atrazine label for geographic, soil-texture, and rotational restrictions.

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### 3. TANK MIXTURE WITH BANVEL

**Preemergence:** Use this tank mixture only on field corn, which is flat-planted (no furrows) in CO, IA, IL, IN, KS, MN, NE, OH, SD, and WI.

In addition to the weeds controlled by **Stalwart C** alone, **Stalwart C** + Banvel, applied preemergence, also controls lambsquarters, ragweed, smartweed, cocklebur\*, jimsonweed\*, morningglory\*, and velvetleaf\*.

\*Partially controlled.

Apply **Stalwart C** + Banvel preemergence. Broadcast 1.0 pt./A of Banvel with 1.33 pts./A of **Stalwart C** on *medium soils*, or with 1.33-1.67 pts./A of **Stalwart C** on *fine soils*. Do not apply on *coarse soils* or on soils with less than 2.5% organic matter. Apply this tank mixture to the soil surface at planting or after planting, but before field corn emerges. Plant seed at least 1.5 inches deep and apply behind planting equipment, avoiding incorporation by the planter wheel or other seed-covering device. Do not incorporate before corn plants emergence. If it is necessary to rotary hoe to break the soil crust, do not disturb the soil more than 1/2 inch deep.

**Precautions:** (1) Avoid drift to sensitive nontarget plants, such as soybeans, during application, or injury may occur. (2) Do not apply with aircraft.

**Postemergence for Control of Pigweed (Mid-Atlantic states, including DE, MD, PA, VA, and WV):** Apply 1.0-1.5 pts. of **Stalwart C** + 0.5-1.0 pt./A of Banvel by ground equipment when pigweed plants are less than 3 inches tall and before field corn exceeds 5 inches in height in a minimum of 20 gals. of spray per acre. Use the lower rate on *coarse-textured* and low organic matter soils. Use the higher rate on *fine-textured* and high organic matter soils. Banvel SGF® and Clarity® may be used at equivalent lbs. of active ingredient per acre.

*Precautions: (1) Avoid drift to sensitive nontarget plants, such as soybeans, during application, or injury may occur. (2) Do not apply with aircraft.*

**4. TANK MIXTURE WITH ATRAZINE AND LOROX FOR CONTROL OF LAMBSQUARTERS AND PIGWEED**

For prolonged control of lambsquarters and pigweed in DE, MD, NJ, NY, PA, VA, and WV, **Stalwart C** may be applied preemergence in tank mix combination with Atrazine + Lorox. Apply **Stalwart C** and Atrazine according to the rates in Table 1 and Lorox according to the following rates.

Soil Texture	Broadcast Rate Per Acre
Sandy loam (1-3% organic matter)	0.67 lb. Lorox
Sandy loam (3-6% organic matter)	1.0 lb. Lorox
Medium- and fine-textured soils (1-6% organic matter)	1.0 lb. Lorox

Observe all directions for use, precautions, and limitations on the **Stalwart C**, Atrazine, and Lorox labels when applying these products in tank mix combinations.

**5. TANK MIXTURE WITH ATRAZINE OR SIM-TROL + PROWL FOR PROLONGED CONTROL OF LAMBSQUARTERS AND PIGWEED IN FIELD CORN ONLY (NORTHEAST U.S., INCLUDING MI, IN, KY, AND STATES EAST OF THESE)**

For prolonged control of lambsquarters and pigweed, in addition to a broad spectrum of annual broadleaf and grass weeds, **Stalwart C** in tank mix combination with Atrazine \* or Sim-Trol + Prowl may be applied after planting, but before field corn or weeds emerge. Apply by ground equipment in a minimum of 10 gals. of water or 20 gals. of liquid fertilizer.

Apply by air in a minimum of 5.0 gals. of water. Refer to Table 1 of this label for rates of **Stalwart C**, Atrazine, or Sim-Trol to be applied. Apply Prowl 4E according to the following rates in Table 2.

\*Do not apply **Stalwart C** in tank mix combination with Atrazine 80W + Prowl, as this combination is not compatible. Other Atrazine formulations may be used.

**Mixing Instructions:** See Comment No. 1 following Chart 1.

**Table 2: Prowl 4E - Broadcast Rates Per Acre**

Soil Texture	Percent Organic Matter in Soil		
	Less Than 1.5%	1.5-3%	Over 3%
<b>COARSE</b>	1.5-2.0 pts.	2.0 pts.	3.0 pts.
<b>MEDIUM</b>	2.0 pts.	3.0 pts.	3.0 pts.
<b>FINE</b>	2.0 pts.	3.0 pts.	3.0 pts.

Observe all directions for use, precautions, and limitations on the respective product labels when applying these products in tank mix combination. Refer to the Prowl 4E label for replanting instructions in the event of crop loss.

**6. TANK MIXTURE WITH ATRAZINE OR SIM-TROL, OR ATRAZINE + SIM-TROL, WITH GRAMOXONE EXTRA, LANDMASTER BW, OR ROUNDUP FOR MINIMUM-TILLAGE OR NO-TILLAGE SYSTEMS**

\*See Comment No. 1 following Chart 1 for special mixing instructions.

In minimum-tillage or no-tillage systems where corn is planted directly into a cover crop, stale seedbed, established sod, or previous crop residues, the contact herbicides Gramoxone Extra, Landmaster BW, or Roundup may be added to a tank mix of **Stalwart C + Atrazine** or **Sim-Trol, Stalwart C + Atrazine + Sim-Trol**. See Comment No. 7 following Chart 1. The **Stalwart C + Atrazine** or **Sim-Trol, or Stalwart C + Atrazine + Sim-Trol** portion of the tank mixture provides preemergence control of the weeds listed on this label in the tank mixture section for **Stalwart C + Atrazine or Sim-Trol, or Stalwart C + Atrazine + Sim-Trol- Preplant Surface, Preplant Incorporated, or Preemergence**.

**Application:** Apply before, during, or after planting, but before the corn emerges, at the rates specified below. Add Gramoxone Extra, Landmaster BW, or Roundup at the following broadcast rates:

**Gramoxone Extra:** 1.5-2.0, 2.0-2.5, or 2.5-3.0 pts./A to 1-3 inches, 3-6 inches, or 6-inch tall weeds, respectively. Apply surfactant at 1.0 or 2.0 pts./100 gals. of spray mixture with 75% or greater or 50-74% nonionic active ingredient, respectively. This treatment will not control weeds taller than 6 inches.

**Note:** Do not apply combinations containing Gramoxone Extra in suspension-type liquid fertilizers, as the activity of paraquat will be reduced.

**Landmaster BW:** 27-54 oz./A depending on weed species and size. See the Landmaster BW label for weeds controlled, recommended rates for specific weeds, and other information concerning use.

**Roundup:** See the Roundup or Roundup RT label for weeds controlled, recommended rates, and other use directions.

Apply in 20-60 gals. of water or fluid fertilizer per acre with ground equipment.

On *coarse soils*, apply 1.0 pt./A of **Stalwart C** with 1.3 lbs. of Sipcam Atrazine 90DF\* or Sim-Trol 90DF\*, or with 0.7 lb. of Sipcam Atrazine 90DF\*\* + 0.7 lb. of Sim-Trol 90DF\*\*. On *medium soils*, apply 1.33 pts./A of **Stalwart C** with 1.8 lbs. of Sipcam Atrazine 90DF or Sim-Trol 90DF, or with 0.9 lb. of Sipcam Atrazine 90DF + 0.9 lb. of Sim-Trol 90DF. On *fine soils*\*\*\*, apply 1.33-1.67 pts./A of **Stalwart C** with 1.8-2.2 lbs. of Sipcam Atrazine 90DF or Sim-Trol 90DF, or with 0.9-1.1 lbs. of Sipcam Atrazine 90DF + 0.9-1.1 lbs. of Sim-Trol 90DF.

\* Use Sim-Trol in preference to Atrazine when heavy infestations of crabgrass or fall panicum are expected.

\*\* When using the tank mixture of **Stalwart C + Sipcam Atrazine 90DF + Sim-Trol 90DF**, use equal rates of Atrazine and Sim-Trol as shown when heavy broadleaf weed infestations are expected. When heavy infestations of crabgrass or fall panicum are expected, use a 1:2 ratio of Atrazine + Sim-Trol instead of the 1:1 ratio given. (Example: Total Sipcam Atrazine 90DF + Sim-Trol 90DF = 1.8 lbs./A, use 0.6 lb. of Sipcam Atrazine 90DF + 1.2 lbs. of Sim-Trol 90DF, respectively.) Refer to Comment No. 2 following Chart 1 for Sipcam Atrazine 4L and Sim-Trol 4L conversions.

\*\*\* For cocklebur, yellow nutsedge, and velvetleaf control on *fine-textured soils* above 3% organic matter, apply 2.25 lbs./A of Sipcam Atrazine 90DF, or equivalent rate of Sipcam Atrazine 4L, or the same total amount of Atrazine + Sim-Trol, with 1.33-1.67 pts./A of **Stalwart C**.

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## 7. TANK MIXTURE WITH ATRAZINE; OR ATRAZINE + 2,4-D; OR ATRAZINE + 2,4-D + BANVEL FOR MINIMUM-TILLAGE OR NO-TILLAGE SYSTEMS

In minimum-tillage or no-tillage systems where corn is planted directly into a cover crop, stale seedbed, established sod, or previous crop residues, **Stalwart C** applied in combination with Atrazine

will kill most emerged small annual weeds. Apply **Stalwart C + Atrazine** before, during, or after planting, but before corn emerges, according to the rates in Table 1.

Where heavy crop residues exist, add 0.8-1.6 pts./A of an appropriately labeled 3.8 lbs. a.i./gal. of 2,4-D amine (such as Weedar® 64, Weedar 64A, DMA-4 Herbicide, or Formula 40®) to the spray tank last and apply in a minimum of 25 gals. of carrier per acre.

As carriers, nitrogen solutions and complete liquid fertilizers, applied before corn emergence, enhance burndown of existing weeds, and therefore, are recommended instead of water. Add X-77 surfactant at 1.0-2.0 qts./100 gals. of diluted spray, or another appropriate surfactant at its recommended rate, or add crop oil concentrate plus 28% liquid nitrogen (or equivalent). Apply before weeds exceed 3 inches in height. If alfalfa is present, add Banvel to the spray mixture at 0.33-0.5 pt./A and apply before alfalfa exceeds 6 inches in height.

For fields with existing sod grasses (e.g., bromegrass, orchardgrass, rye, or timothy), when existing weeds exceed 3 inches in height or when very dry conditions exist, add Gramoxone Extra at the rate of 2.5 pts./A in place of or in addition to 2,4-D, as indicated above. Do not apply Gramoxone Extra in suspension-type liquid fertilizer. Observe all directions for use, precautions, and limitations on the respective product labels when applying these products in tank mix combination.

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## 8. TANK MIXTURE WITH MARKSMAN IN CONSERVATION TILLAGE - FIELD CORN

In conservation tillage systems where field corn is planted directly into a cover crop or previous crop residue, **Stalwart C + Marksman** will kill most emerged small annual weeds. Apply **Stalwart C + Marksman** before, during, or after planting, but before field corn emergence on *medium* and *fine soils* with greater than 2.5% organic matter. For fields with existing vegetation exceeding 3 inches in height or when very dry conditions exist, add Gramoxone Extra at its standard rate. **Stalwart C + Marksman** may be applied postemergence to field corn plants less than 3 inches tall and before weedy grasses exceed the 2-leaf stage. As carriers, nitrogen solutions and complete liquid fertilizers, applied before crop emergence enhance burndown of existing weeds. Do not apply Gramoxone Extra in suspension-type liquid fertilizer or use on emerged crop.

Refer to the Marksman label and follow all directions, limitations, precautions, and information regarding application and use in field corn.

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## E. APPENDICES

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### APPENDIX A: COMPATIBILITY TEST

Because liquid fertilizers can vary, even within the same analysis, always **check compatibility with herbicide(s) each time before use**. Be especially careful when using complete suspension or fluid fertilizers, as serious compatibility problems are more likely to occur. Commercial application equipment may improve compatibility in some instances. The following test assumes a spray volume of 25 gals./A. For other spray volumes, make appropriate changes in the ingredients. Check compatibility using this procedure:

1. Add 1.0 pt. of fertilizer to each of 2 one-qt. jars with tight lids.
2. To one of the jars, add 1 /4 tsp. or 1.2 milliliters of a compatibility agent approved for this use (1 /4 tsp. is equivalent to 2.0 pts./100 gals. spray). Shake or stir gently to mix. When an adjuvant is to be used with this product, Sipcam Agro USA recommends the use of Compex®, Unite® or a Chemical Producers and Distributors Association (CPDA) certified adjuvant.

3. To **both** jars, add the appropriate amount of herbicide(s). If more than one herbicide is used, add them separately with dry herbicides first, flowables next, and emulsifiable concentrates last. After each addition, shake or stir gently to thoroughly mix. The appropriate amount of herbicides for this test follows:

**Dry herbicides:** For each pound to be applied per acre, add 1.5 level teaspoons to each jar.

**Liquid herbicides:** For each pint to be applied per acre, add 0.5 teaspoon or 2.5 milliliters to each jar.

**Note:** For **Stalwart C** tank mixtures with Atrazine + Sim-Trol, use 1/3-1/2 the amount of Atrazine specified above and the remainder as Sim-Trol, depending on whether the 1:2 or 1:1 ratio of Atrazine to Sim-Trol is to be applied.

4. After adding all ingredients, put lids on and tighten, and invert each jar 10 times to mix. Let the mixtures stand 15 minutes and then look for separation, large flakes, precipitates, gels, heavy oily film on the jar, or other signs of incompatibility. Determine if the compatibility agent is needed in the spray mixture by comparing the 2 jars. If either mixture separates, but can be remixed readily, the mixture can be sprayed as long as good agitation is used. If the mixtures are incompatible, test the following methods of improving compatibility: (A) slurry the dry herbicide(s) in water before addition, or (B) add 1/2 of the compatibility agent to the fertilizer and the other 1/2 to the emulsifiable concentrate or flowable herbicide before addition to the mixture. If incompatibility is still observed, do not use the mixture.

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## APPENDIX B: LOW CARRIER APPLICATION

### For Broadcast Ground Application Only

Use sprayers, such as Ag-Chem RoGator®, Hagie, John Deere Hi-Cycle™, Melroe Spra-Coupe, Tyler Patriot™, or Willmar Air Ride®, that provide accurate and uniform application. **Only water may be used as a carrier.** Screens in suction and in-line strainers should be 50-mesh. Manufacturers may require that tip screens as fine as 100-mesh be used with some nozzles. Use a pump with capacity to: (1) maintain up to 35-40 psi at the nozzles, and (2) provide sufficient agitation in tank to keep mixture in suspension. Use a minimum of 5.0 gals. of spray mixture per acre. Maximum recommended sprayer speed is 15 mph. Rinse sprayer thoroughly with clean water immediately after each use.

**Note:** Low pressure nozzles are recommended to reduce drift and increase application accuracy. Care should be taken when using automatic rate-controlling devices to spray the material within the rated working pressure and flow ranges of the nozzles selected. Nozzle screens should be used when recommended by the manufacturer. All nozzles should be placed on 20-inch centers, except flooding types which should be placed on 40-inch centers. When Flat Fan-type nozzles are used, angles of 80° or 110° are recommended. Always read and follow the manufacturer's directions for optimum setup and performance of their nozzles or tips.

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## APPENDIX C: AERIAL APPLICATION

Apply **Stalwart C** in water alone or in tank mixtures with Atrazine, or Lorox in a minimum total volume of 2.0 gals./A by aircraft. **Stalwart C** may also be applied by air in combination with Prowl. Avoid application under conditions where uniform coverage cannot be obtained or where excessive spray drift may occur. In order to assure that spray will be controllable within the target area when used according to label directions, make applications at a maximum height of 10 ft., using low-drift nozzles at a maximum pressure of 40 psi, and restrict application to periods when wind speed does not exceed 10 mph. To assure that spray will not adversely affect adjacent sensitive nontarget plants, apply **Stalwart C** alone or **Stalwart C** + Atrazine by aircraft at a minimum upwind distance of 400 ft.

from sensitive plants, or apply **Stalwart C + Lorox** at a minimum upwind distance of 300 ft. from sensitive plants.

Avoid application to humans or animals. Flagmen and loaders should avoid inhalation of spray mist and prolonged contact with skin.

### **Aerial Drift Management**

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.

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  $3/4$  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 should be observed.

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

### **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  $3/4$  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 downward. 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

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, nontarget crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

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## APPENDIX D: CENTER PIVOT IRRIGATION APPLICATION

Stalwart C alone or in tank mixture with other herbicides on this label, which are registered for center pivot application, may be applied in irrigation water preemergence (after planting, but before weeds or crop emerge) at rates recommended on this label. Stalwart C also may be applied postemergence to the corn crop and preemergence to weeds in corn where postemergence applications are allowed on this label. Follow all restrictions (height, timing, rate, etc.) to avoid illegal residues. Apply this product only through a center pivot irrigation system. Do not apply this product through any other type of irrigation system. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water. If you have questions about calibration, you should contact State Extension specialists, equipment manufacturers, or other experts. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system, unless the pesticide label-prescribed safety devices for public water systems are in place. A

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

### Operating Instructions

1. The system must contain a functional check-valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water-source contamination from backflow.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check-valve to prevent the flow of fluid back toward the injection pump.
3. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being with-drawn from the supply tank when the irrigation system is either automatically or manually shut down.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump or piston pump), effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
7. Do not apply when wind speed favors drift beyond the area intended for treatment.
8. Prepare a mixture with a minimum of 1 part of water to 1 part herbicide(s) and inject this mixture into the center pivot system. Injecting a larger volume of a more dilute mixture per hour will usually provide more accurate calibration of metering equipment. Maintain sufficient agitation to keep the herbicide in suspension.
9. Meter into irrigation water during entire period of water application.
10. Apply in 1/2-1 inch of water. Use the lower water volume (1/2 inch) on *coarse-textured soils* and the higher volume (1 inch) on *fine-textured soils*. More than 1 inch of water at application may reduce weed control by moving the herbicide below the effective zone in the soil.

*Precaution for center pivot applications: Where sprinkler distribution patterns do not overlap sufficiently, unacceptable weed control may result. Where sprinkler distribution patterns overlap excessively, crop injury may result.*

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### APPENDIX E: DRY BULK GRANULAR FERTILIZERS

Many dry bulk granular fertilizers may be impregnated or coated with **Stalwart C** alone or selected **Stalwart C** tank mixtures which are registered for preplant incorporated or preplant surface application which are used to control weeds in corn on the **Stalwart C** label and are not prohibited from use on dry bulk granular fertilizers.

When applying **Stalwart C** or **Stalwart C** mixtures with dry bulk granular fertilizers, follow all directions for use and precautions on the respective product labels, regarding corn, rates per acre, soil texture, application methods (including timing of application), and rotational crops.

All individual state regulations relating to dry bulk granular fertilizer blending, registration, labeling, and application are the responsibility of the individual and/or company selling the herbicide/fertilizer mixture.

Prepare the herbicide/fertilizer mixtures by using any closed drum, belt, ribbon, or other commonly used dry bulk fertilizer blender. Nozzles used to spray **Stalwart C** and **Stalwart C** mixtures onto the

fertilizer must be placed to provide uniform spray coverage. Care should be taken to aim the spray directly onto the fertilizer only and to avoid spraying the walls of the blender.

If the herbicide/fertilizer mixture is too wet, add a highly absorptive material, such as Agsorb® or Celatom MP-79®, or similar granular clay or diatomaceous earth materials, to obtain a dry, free-flowing mixture. Absorptive materials should be added only after the herbicide has been thoroughly blended into the fertilizer mixture. Best application results will be obtained by using a granule of 6/30 particle size or of a size similar to that of the fertilizer material being used. Generally, less than 2% by weight of absorptive material will be needed. Avoid using more than 5% absorptive material by weight.

Calculate amounts of Stalwart C, Atrazine, Atrazine + Sim-Trol, or Sim-Trol by the following formula:

$$\frac{2,000}{\text{lbs. of fertilizer per acre}} \times \begin{matrix} \text{pts./A of liquid or} \\ \text{flowable product} \end{matrix} = \begin{matrix} \text{pts. of liquid or flowable} \\ \text{product per ton of fertilizer} \end{matrix}$$
$$\frac{2,000}{\text{lbs. of fertilizer per acre}} \times \begin{matrix} \text{lbs./A of} \\ \text{dry product} \end{matrix} = \begin{matrix} \text{lbs. of dry product} \\ \text{per ton of fertilizer} \end{matrix}$$

**Pneumatic (Compressed Air) Application (Stalwart C Alone):** High humidity, high urea concentrations, low fertilizer use rates, and dusty fertilizer may cause fertilizer mixture to build up or plug the distributor head, air tubes, or nozzle deflector plates. To minimize buildup, premix Stalwart C with Exxon Aromatic 200 at a rate of 1.0-4.0 pts./gal. of Stalwart C. Aromatic 200 is a noncombustible/nonflammable petroleum product. Aromatic 200 may be used in either a fertilizer blender or through direct injection systems. Drying agents should not be used when using Aromatic 200.

**Notes:** (1) Mixtures of Stalwart C and Aromatic 200 must be used on dry fertilizer only. Poor results or crop injury may result if these mixtures are used in water or liquid fertilizer solutions for spraying applications. (2) When impregnating Stalwart C in a blender before application, a drier mixture can be attained by substituting a drying agent for Aromatic 200. The use of Agsorb FG or drying agents of 6/30 particle size are recommended. (3) Drying agents are not recommended for use with On-The-Go impregnation equipment.

*Precautions: To avoid potential for explosion, (1) Do not impregnate Stalwart C or Stalwart C mixtures on ammonium nitrate, potassium nitrate, or sodium nitrate, either alone or in blends with other fertilizers. (2) Do not use Stalwart C or Stalwart C mixtures on straight limestone, since absorption will not be achieved. Fertilizer blends containing limestone can be impregnated.*

### Application

Apply 200-700 lbs. of the herbicide/fertilizer mixture per acre. For best results, apply the mixture uniformly to the soil with properly calibrated equipment immediately after blending. Uniform application of the herbicide/fertilizer mixture is essential to prevent possible crop injury. Nonuniform application may also result in unsatisfactory weed control. In areas where conventional tillage is practiced, a shallow incorporation of the mixture into the soil may improve weed control. On *fine- or medium-textured soils* in areas where soil incorporation is not planned, i.e., reduced tillage situations or in some conventional till situations, make applications approximately 30 days before planting to allow moisture to move the herbicide/fertilizer mixture into the soil. On *coarse-textured soils*, make applications approximately 14 days prior to planting.

*Precaution: To avoid crop injury, do not use the herbicide/fertilizer mixture on corn where bedding occurs.*

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