

66330-391

01-04-2011

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

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

Johnathan A. Janis  
Arysta LifeScience North America, LLC  
15401 Weston Parkway, Suite 150  
Cary, NC 27513

JAN 4 2011

Subject: Label Notification; Per PR-Notice 98-10  
Arysta LifeScience North America, LLC ARY 0454-105 SC Herbicide  
EPA Reg. No. 66330-391  
Date Submitted: December 5, 2011 (resubmitted on January 3, 2012)

Dear Mr. Janis:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 dated January 3, 2012 for the product referenced above. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls 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 regarding this letter, please contact Jasmine Branch at (703) 347-0351 or [branch.jasmine@epa.gov](mailto:branch.jasmine@epa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Kable Davis", written over a horizontal line.

Kable Davis  
Product Manager 25  
Herbicide Branch  
Registration Division (7505P)

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

<input type="checkbox"/>	Registration
<input type="checkbox"/>	Amendment
<input checked="" type="checkbox"/>	Other

OPP Identifier Number

Application for Pesticide - Section I

1. Company/Product Number Arysta LifeScience North America, LLC. / 66330-391	2. EPA Product Manager Bo Davis	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Arysta LifeScience North America, LLC ARY 0454-105 SC Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Arysta LifeScience North America, LLC 15401 Weston Parkway, Suite 150 Cary, NC 27513 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. <u>NOTIFICATION</u> Product Name <u>JAN 04 2011</u>	

Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<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: Included in this submission- 2 copies of the proposed labeling for the product ARY 0454-105 SC Herbicide (EPA Reg. No. 66330-391). This notification is consistent with the provisions of PR Notice 98-10 and the EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling. I understand that it is a violation of 18 U.S. C. Sec. 1001 to willfully make any false statements 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

Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Metal <input 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" Package wgt. No. per container		
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input 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 type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled			<input type="checkbox"/> Other _____		

Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Jonathan A. Janis	Title Regulatory Manager	Telephone No. (Include Area Code) 919-678-4917
<b>Certification</b> 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.		6. Date Application Received  <b>(Stamped)</b>
2. Signature	3. Title Regulatory Manager	
4. Typed Name Jonathan A. Janis	5. Date January 3, 2012	

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Arysta LifeScience

**REGISTRATION ACTION:  
NOTIFICATION**

FEE CATEGORY:  
REGISTRATION FEE: NO FEE ASSOCIATED WITH THIS ACTION

January 3, 2012

Courier delivery via FEDEX

Mr. Bo Davis, Product Manager 25  
Document Processing Desk (NOTIF)  
Office of Pesticide Programs (7504P)  
U.S. Environmental Protection Agency  
One Potomac Yard, 2777 South Crystal Drive  
Arlington, VA 22202-4501

Dear Mr. Davis:

**Subject: ARY 0454-105 SC Herbicide, EPA Reg. No. 66330-391.  
Notification.**

Arysta LifeScience North America, LLC is notifying the Agency of the addition of a county restriction to the ARY-0454-105 SC Herbicide (EPA Reg. No. 66330-391) product. Enclosed please find two copies of the ARY 0454-105 SC Herbicide label with the changes (one copy of the label identifies the changes).

Should you have any questions or comments pertaining to the Arysta ARY 0454-105 SC Herbicide registration, please feel free to contact me via email at [jonathan.janis@arystalifescience.com](mailto:jonathan.janis@arystalifescience.com) or via phone at 919-678-4917.

*This notification is consistent with the provisions of PR Notice 98-10 and the EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling. I understand that it is a violation of 18 U.S. C. Sec. 1001 to willfully make any false statements 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.*

Regards,

Jonathan A. Janis  
Regulatory Manager

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Arysta LifeScience

GROUP 2 HERBICIDE

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**ARY 0454-105 SC HERBICIDE**  
FOR POSTEMERGENCE CONTROL  
OF WILD OAT, GREEN FOXTAIL AND OTHER GRASS  
AND BROADLEAF WEEDS IN SPRING AND WINTER WHEAT  
[ALTERNATE BRAND NAME- EVEREST® 2.0 HERBICIDE]

**NOTIFICATION**  
**JAN 04 2011**

Active Ingredient	By weight
Flucarbazono-sodium, 4,5-Dihydro-3-methoxy-4-methyl-5-oxo-N- [[2-(trifluoromethoxy)phenyl]sulfonyl]-1H- 1,2,4-triazole-1-carboxamide, sodium salt .....	35.0%
Other Ingredients .....	65.0%
Total.....	100.0%

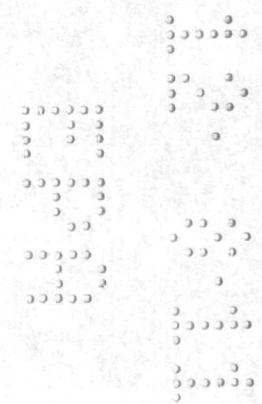
This formulation contains 3.5 lbs of Flucarbazono-Sodium active ingredient per gallon (419 g ai/l)  
Nonrefillable Container  
Net Contents: 60 ounces to 250 gallons.

**Read entire label before use**  
**KEEP OUT OF REACH OF CHILDREN**  
**CAUTION/PRECAUCION**

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

[See back panel for additional precautionary statements]

PRODUCED FOR  
ARYSTA LIFESCIENCE NORTH AMERICA, LLC  
15401 Weston Parkway, Suite 150  
Cary, North Carolina 27513  
EPA Registration No. 66330-391  
EPA Establishment No. 70815-GA-002 OR 11773-1A  
AD092811N1



FIRST AID	
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 to 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. 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>
<p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment.  <b>FOR 24-HOUR MEDICAL EMERGENCY ASSISTANCE CALL PROSAR:</b>  <b>1-866-303-6952 or 1-651-632-8946</b>  <b>FOR 24-HOUR CHEMICAL EMERGENCY: Spill, leaks, fire, exposure or accident</b>  <b>call CHEMTREC 1-800-424-9300 or 1-703-527-3887</b>  <b>FOR PRODUCT INFORMATION: 1-866-761-9397</b></p>	
<p><b>Note To Physician:</b> No specific antidote is available. Treat the patient symptomatically.</p>	

**PRECAUTIONARY STATEMENTS**

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**CAUTION:** Harmful if absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves (Category A) made of materials such as butyl rubber ≥14 mils, natural rubber ≥14 mils, neoprene rubber ≥14 mils, or nitrile rubber ≥14 mils
- Shoes plus socks

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

**ENGINEERING CONTROL STATEMENT**

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:**

User 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.

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### 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 apply when weather conditions favor drift from areas treated. Do not contaminate water when disposing of equipment washwaters or rinseate.

Do not allow sprays to drift onto adjacent desirable plants.

#### Important

Read these entire DIRECTIONS FOR USE and WARRANTY AND DISCLAIMER STATEMENT before using this product.

### 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 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 following application.**

Exception: 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 (Category A) made of materials such as butyl rubber ≥14 mils, natural rubber ≥14 mils, neoprene rubber ≥14 mils, or nitrile rubber ≥14 mils, shoes plus socks.

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### PRODUCT INFORMATION

ARY 0454-105 is labeled for use at 0.5-1 fl oz/A in spring, durum and winter wheat. ARY 0454-105 controls wild oat, green foxtail, yellow foxtail, Italian ryegrass, windgrass, barnyardgrass, brome species and numerous broadleaf weeds, including redroot pigweed, wild mustard and shepherd's purse. ARY 0454-105 also suppresses additional grass and broadleaf weeds, including downy brome, and wild buckwheat.

ARY 0454-105 is absorbed by foliage and roots of susceptible weeds, which cease growth soon after application. Weed emergence is not necessary for control due to the soil residual activity provided by ARY 0454-105. Maximum weed control is achieved one to two weeks after application, though susceptible weeds will stop growing and will no longer be competitive soon after application. For broader spectrum activity, ARY 0454-105 may be tank mixed with a broadleaf herbicide listed on this label. See **TANK MIXES** section for recommended products.

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### RESISTANCE MANAGEMENT

ARY 0454-105 is an acetolactate synthase (ALS) inhibitor, and will therefore control weed biotypes which have developed target site resistance to certain classes of herbicides, including ACCase inhibitors, dinitroanilines and triallates.

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Any weed population may contain or develop plants naturally resistant to an herbicidal mode of action. Weed populations resistant to ALS inhibiting herbicides already exist. ARY 0454-105 will not control ALS resistant weeds. Resistant biotypes may eventually dominate the weed population if herbicides with an identical mode of action are used repeatedly in the same field and weed control may fail. Where possible, rotate the use of ARY 0454-105 with herbicides that have a different mode of action.

Other resistance mechanisms that are not linked to site of action, but specific for individual chemicals, such as enhanced metabolism, may also exist. The use of ARY 0454-105 should conform to resistance management strategies established for the use area. Consult your agricultural advisor for resistance management strategies and recommended pest management practices for your area.

**Read the entire DIRECTIONS FOR USE before using ARY 0454-105.**

**USE RESTRICTIONS**

- For use only in wheat.
- Make only one application per year.
- Do not graze livestock or harvest forage for hay from treated areas for a minimum of 30 days following application.
- Do not mix, load or clean spray equipment within 33 feet of well-heads or aquatic systems, including marshes, ponds, ditches, streams, lakes, etc.
- Do not apply within 50 feet of well-heads or the above mentioned aquatic systems.
- Do not apply postemergence when rain is expected within the next hour after application.
- Do not allow this chemical to drift onto other crops.
- Do not harvest grain for 60 days following application.
- Do not apply this product through any type of irrigation system.
- For Idaho, use only in the counties of Benewah, Boundary, Bonner, Clearwater, Idaho, Kootenai, Latah, Lewis, Nez Perce, and Shoshone. Use in all other counties of Idaho is prohibited.

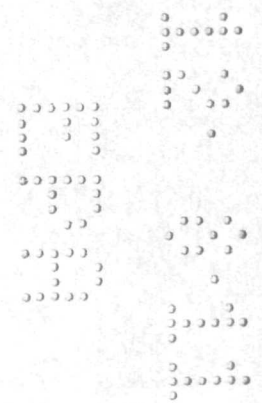
**POSTEMERGENCE USE DIRECTIONS  
FOR SPRING, DURUM AND WINTER WHEAT**

**APPLICATION PROCEDURES**

**MIXING INSTRUCTIONS**

Ensure the spray tank is clean. In-line strainers and nozzle screens should be clean and 50 mesh or coarser.

1. Fill the spray tank ¼ to ½ full with clean water and begin agitation or bypass.
2. Add the appropriate rate of ARY 0454-105 directly to the spray tank.
3. Add the broadleaf weed herbicide.
4. Add the surfactant.
5. Add micronutrients (if needed).
6. Fill the spray tank to the required level.
7. Maintain sufficient agitation during both mixing and application of ARY 0454-105.
8. Apply within 24 hours after mixing.



**GROUND APPLICATION**

Apply in a spray volume of 5 to 10 gal/A (or 50 to 100 L/ha) at 30 to 50 psi to ensure proper weed coverage. Use nozzles that provide a medium to coarse size droplet for best coverage and drift control.

**AERIAL APPLICATION**

Apply in water using a minimum spray volume of 3 gal/A (or 30 L/ha). For best results, use a minimum of 5 gal/A (or 50 L/ha) under dry conditions or heavy weed infestations. Use nozzles that provide 200 to 350 micron size droplets for best results and to insure uniform spray coverage. Aerial applications with ARY 0454-105 must be made with low drift nozzles at a maximum height of 10 feet above the crop and at a maximum pressure of 40 psi. Do not apply aerially when wind speed is greater than 10 mph. Do not allow spray to drift onto adjacent crops, as injury or loss may occur.

**SPRAY DRIFT MANAGEMENT**

Avoiding spray drift is the responsibility of the applicator. The interaction of many equipment- and-weather-related factors determines the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

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

- The distance of the outer most nozzles on the boom must not exceed ¾ the length of the wingspan or rotor.
- Nozzles must always point backward, parallel with the air stream and never be pointed downwards more than 45 degrees.

When applying ARY 0454-105 in a tank mix with other herbicides (e.g. 2,4-D, bromoxynil, dicamba, MCPA, sulfonyleurea herbicides) in eastern Washington, observe all applicable Washington State Department of Agriculture herbicide rules.

The applicator must be familiar with and take into account the information covered in the *SPRAY DRIFT MANAGEMENT* section.

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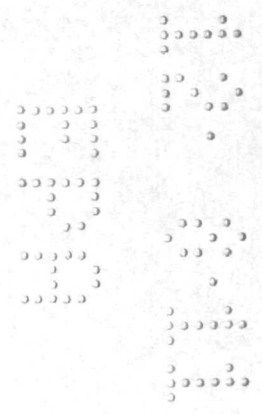
**Information On Droplet Size**

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*).

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

**Swath Adjustment**

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

**Wind**

Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application must be avoided below 2 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator must be familiar with local wind patterns and how they affect spray drift.

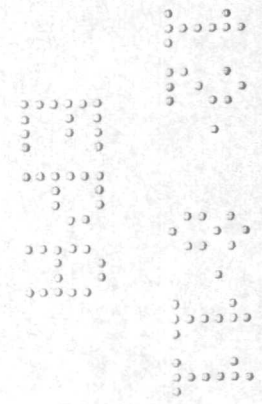
**Temperature and Humidity**

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.

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**Temperature Inversions**

Applications must 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 in 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.



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**ENDANGERED SPECIES PROTECTION**

To avoid adverse effects on endangered dicot plant species, the following measures will be required where endangered plant species occur in the counties listed in the table below:

State	County
Idaho	Idaho, Lewis, Nez Perce
Minnesota	Brown, Cottonwood, Goodhue, Jackson, Renville
Montana	Flathead, Lake
Oregon	Benton, Clackamas, Lane, Linn, Marion, Polk, Union, Wallowa, Washington, Yamhill
Washington	Asotin, Chelan, Cowlitz, Lewis, Lincoln, Spokane, Whitman
Wyoming	Laramie

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For ground applications, the applicator must:

- Apply when there is sustained wind away from native plant communities, OR
- Use low-pressure nozzles according to manufacturer's specifications that produce only coarse or very coarse droplets, OR
- Leave a 50 foot untreated buffer between the treatment and native plant communities

For aerial applications, the applicator must:

- Apply only when there is sustained wind away from native plant communities, OR
- Leave a 350 foot untreated buffer between the treatment and native plant communities

**USE RATES AND TIMING OF APPLICATION**

Best weed control is observed when environmental conditions support vigorous growth of crop and weeds. Research has demonstrated that optimum wheat yield is obtained by early removal of grassy weeds.

Apply ARY 0454-105 to spring, durum and winter wheat from one leaf to jointing. Winter wheat applications can be made in the fall or spring.

Do not apply more than 1 fl oz/A of ARY 0454-105 (0.027 lbs active ingredient (ai)/A flucarbazone-sodium) per year.

If PRE-PARE Herbicide has been applied either preplant or preemergence to the crop, do not exceed a combined total of 0.027 pounds of active ingredient/acre of PRE-PARE Herbicide and ARY 0454-105 per year. Follow directions in the table, **Use Rates of ARY 0454-105 following a PRE-PARE® Herbicide Application**, for each product when used in the same growing season.

Use Rates of ARY 0454-105 following a PRE-PARE® Herbicide Application	
PRE-PARE® Use Rate	Maximum ARY 0454-105 Use Rate
0.20 oz/A	0.65 fl oz/A
0.25 oz/A	0.60 fl oz/A
0.30 oz/A	0.50 fl oz/A

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Do not make more than one post emergence application of ARY 0454-105 per year.

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Rates of Application for Grass and Broadleaf Weed Control (C) or Suppression (S)					
Target Grass Weed	Stage	ARY 0454-105 Rate			
		0.5 fl oz/A	0.75 fl oz/A	1 fl oz/A	PRE-PARE <sup>5</sup> fb ARY 0454-105
Green Foxtail	1- 4 leaves	C	C	C	C
Wild Oat	1-4 leaves		C <sup>1</sup>	C	C
Volunteer Tame Oat	1-4 leaves		C <sup>1</sup>	C	C
Barnyardgrass <sup>3</sup>	1-4 leaves		C <sup>1, 4</sup>	C <sup>4</sup>	C
Windgrass	1-4 leaves		C	C	C
Cheat (True Cheat)	actively growing			C/S <sup>2</sup>	C
California Brome	actively growing			C/S <sup>2</sup>	C
Japanese Brome <sup>3</sup>	actively growing			C/S <sup>2</sup>	C
Downy Brome <sup>3</sup>	actively growing			S	S
Italian Ryegrass <sup>3</sup>	1-4 leaf prior to tillering		S	C <sup>4</sup>	C
Persian Darnel <sup>3</sup>	1-4 leaf prior to tillering		S	C <sup>4</sup>	S
Yellow Foxtail <sup>3</sup>	1-4 leaf prior to tillering		S	C <sup>4</sup>	S
Foxtail Barley <sup>3</sup>	1-4 leaf prior to tillering			S	S
<b>Target Broadleaf Weeds</b>					
Redroot Pigweed	4 inch	C	C	C	C
Wild Mustard	4 inch	C	C	C	C
Black Mustard	4 inch		C	C	C
Blue Mustard	4 inch		C	C	C
Curly Dock	4 inch		C	C	C
Field Pennycress	4 inch		C	C	C
Flixweed	4 inch		C	C	C
Ladysthumb	4 inch		C	C	C
Pennsylvania Smartweed	4 inch		C	C	C
Shepherd's purse	4 inch		C	C	C
Tansy Mustard	4 inch		C	C	C
Tumble Mustard	4 inch		C	C	C
Volunteer Canola	4 inch		C	C	C
Wild Turnip	4 inch		C	C	C
Small Seeded False Flax	2 inch			S	S
Burr Buttercup	2 inch			S	S
Common Waterhemp	2 inch			S	S
Tall Wormseed Wildflower	2 inch			S	S
Wild Buckwheat	2 inch			S	S
<sup>1</sup> Control of low to moderate infestations. Use 1 fl/oz per acre for high infestations					
<sup>2</sup> Fall application control Spring application suppression					

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Rates of Application for Grass and Broadleaf Weed Control (C) or Suppression (S)					
Target Grass Weed	Stage	ARY 0454-105 Rate			
		0.5 fl oz/A	0.75 fl oz/A	1 fl oz/A	PRE-PARE <sup>5</sup> fb ARY 0454-105
<sup>3</sup> Best activity is achieved by applying a basic blend adjuvant at 1% v/v or 1 quart of non-ionic surfactant per 100 gallons of spray solution (0.25 %v/v) + either liquid nitrogen fertilizer at 2 qt/A OR ammonium sulfate fertilizer at 1.5 lb/A.					
<sup>4</sup> A tank_mix with AUDIT <sup>®</sup> Herbicide or other herbicides containing Tribenuron is required to achieve control of these weeds.					
<sup>5</sup> Column refers to weeds controlled or suppressed when using PRE-PARE Herbicide prior to crop emergence followed by a sequential application of ARY 0454-105.					

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Wheat exposed to water logged or saturated soils or temperature extremes such as hot or freezing weather, drought, low fertility or plant disease immediately prior to or after application could result in unacceptable injury symptoms. Weed control may also be reduced by these same conditions.

**ADJUVANT USE RATES**

ARY 0454-105 as a standalone or tank mix treatment may be mixed with adjuvants according to the following recommendations. When an adjuvant is to be used with this product, Arysta recommends the use of a Chemical Producers and Distributors Association (CPDA) certified adjuvant.

Specified Adjuvant Use Rates For Durum, Spring and Winter Wheat	
ARY 0454-105 alone or in tank mixtures	<ul style="list-style-type: none"> <li>A high quality basic blend at 2-4 qt per 100 gal (0.5-1% v/v) is the preferred adjuvant for ARY 0454-105 Herbicide.</li> </ul> <p>If a basic blend adjuvant is not available:</p> <p>Use:</p> <ul style="list-style-type: none"> <li>non-ionic surfactant at 1-2 qt per 100 gal (0.25-0.5% v/v) OR</li> <li>methylated seed oil (MSO) at 1% v/v.</li> </ul> <p>(It is recommended to use a liquid nitrogen fertilizer (28%UAN) at 1-2 qt/A or ammonium sulfate fertilizer (AMS) at 1-2 lb/A (8.5-17.5 lbs/100 gal of spray solution) when using a non-ionic surfactant or methylated seed oil.)</p>
	<ul style="list-style-type: none"> <li>Follow the adjuvant recommendations listed above unless restricted by the tank_mix partner</li> </ul>
ARY 0454-105 with Emulsifiable Concentrate (EC)-based Herbicides	<ul style="list-style-type: none"> <li>Follow the adjuvant recommendations listed above unless restricted by the tank_mix partner</li> </ul>

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**TANK MIXES**

For broader spectrum control of broadleaf weeds, ARY 0454-105 may be mixed with the broadleaf herbicides listed in the following table. Depending on the tank mix partner, an adjuvant may be included in the spray solution. See ADJUVANT USE RATES section.

With all tank mix partners, read and follow the use directions, rates, precautions, timing, recropping restrictions, grazing interval restrictions and recommendations on broadleaf

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herbicide and surfactant labels. The tank mix must be used in accordance with the more restrictive label limitations and precautions for all pesticides used.

ARY 0454-105 Tank Mix <sup>1</sup> Partners
Audit®
Affinity Tank Mix
Affinity BroadSpec
Ally
Ally Extra
Amber
2,4-D Amine (4 lbs/gal)
2,4-D Lo Volatile Ester (4 lbs/gal)
2,4-D Lo Volatile Ester (6 lbs/gal)
Aim
Aim EW
Bromoxynil (2 lbs/gal)
Bromoxynil + MCPA (2 + 2 lbs/gal)
Bronate Advanced
Curtail
Curtail M
Banvel <sup>2</sup>
Double-Up B+D
Express
Finesse
Harmony Extra
Harmony GT
Hat Trick
Huskie
Maverick
MCPA Amine or Ester
Olympus
Orion
Peak
Starane
Stinger
Supremacy®
Weco Max
WideMatch (clopyralid+fluroxypyr)
<sup>1</sup> For tank mix partner rate directions follow the label of the tankmix partner.
<sup>2</sup> If ARY 0454-105 is applied in a tank mix combination with a dicamba-containing broadleaf herbicide; grass control will be reduced, with the exception of green foxtail.

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**ADDITIONAL INFORMATION**

**SPRAYER CLEAN-UP**

Clean sprayer using the following procedures:

1. Drain the tank and thoroughly rinse spray tank, boom and hoses with clean water especially all visible deposits.
2. Fill the tank with water and add household ammonia to make a 1% v/v solution (1 gal/100 gal). Flush the hoses, boom and nozzles with the cleaning solution. Circulate for at least 15 minutes. Flush hoses, boom and nozzles once more and then drain the tank.
3. Clean nozzles and screens in a separate container using the 1% v/v solution of ammonia and water.
4. Repeat Step 2.
5. Rinse tank and flush boom and hoses with clean water.

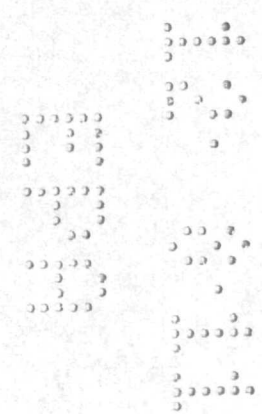
Do not clean sprayer near desirable vegetation, wells or other water sources:

1. Dispose of all rinsate in accordance with pertinent regulations.
2. Check tank mix partner label for any additional clean-up procedures.

**CROP ROTATION RESTRICTIONS**

Interval	Crops
0 Days	Spring and Winter Wheat
4 Months	Durum Wheat
6 Months	STS Soybeans
9 Months	Barley
	Canola
	Dry Edible Beans
	Flax
	Potatoes
	Safflower
	Soybeans
	Sugarbeets
11 Months	Corn
	Field peas
24 Months	Lentils
	Mustard

As ARY 0454-105 is degraded by soil microbes, environmental conditions that decrease microbial activity must be considered when making rotational cropping decisions. These environmental conditions include prolonged drought and/or cold temperatures within and following the cropping season, as well as soils with both low Organic Matter (OM) (less than 2%) and high pH (greater than 7.5). If these conditions exist, a soil bioassay may be necessary to ensure rotational crop safety.



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### STORAGE AND DISPOSAL

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

**Pesticide Storage:** Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of reach of children, preferably in a locked storage area.

Handle and open container in a manner as to prevent spillage. If the container is leaking or material spilled for any reason or cause, carefully sweep material into a pile. Refer to Precautionary Statements on label for hazards associated with the handling of this material. Do not walk through spilled material. Dispose of pesticide as directed below. In spill or leak incidents, keep unauthorized people away. For help with any spill, leak, fire or exposure involving this material, call day or night CHEMTREC (703) 527-3887 or (800) 424-9300.

**Pesticide Disposal:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

#### Container Handling:

##### **Rigid, Non-refillable containers small enough to shake (i.e., with capacities equal to or less than 5 gallons).**

Non-refillable container. Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Offer for recycling, if available.

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 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, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal.

Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Offer for recycling, if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

##### **Rigid Non-refillable containers that are too large to shake (i.e., with capacities greater than 5 gallons or 50 lbs).**

Non-refillable container. Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

Offer for recycling, if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Pressure rinse as follows: empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal.

Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Offer for recycling, if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.



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**Warranty and Disclaimer Statement**

The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Such risks may arise from weather conditions, soil factors, off-target movement, unconventional farming techniques, the presence of other materials, the manner of use or application, or other unknown factors, all of which are beyond the control of Arysta LifeScience North America, LLC ("Arysta"), and can cause crop injury, injury to non-target crops or plants, ineffectiveness of the product, or other unintended consequences. All such risks shall be assumed by the user or buyer.

Arysta 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 described above, when used in accordance with the Directions for Use under normal conditions. This warranty does not extend to the use of this product contrary to label instructions or under conditions not reasonably foreseeable to Arysta, and is subject to the inherent risks described above.

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**TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE TOTAL LIABILITY OF ARYSTA, MANUFACTURER, AND SELLER, SHALL BE LIMITED TO THE PURCHASE PRICE PAID, OR AT ARYSTA'S ELECTION, THE REPLACEMENT OF THE PRODUCT.**

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Maverick is a trademark of Monsanto Technology LLC.

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Patent Pending.

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