



U.S. ENVIRONMENTAL PROTECTION AGENCY

Office of Pesticide Programs
Registration Division (7505P)
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20460

EPA Reg. Number:

66330-429

Date of Issuance:

5/4/16

NOTICE OF PESTICIDE:

Registration
 Reregistration
(under FIFRA, as amended)

Term of Issuance:

Unconditional

Name of Pesticide Product:

X1581AA Herbicide

Name and Address of Registrant (include ZIP Code):

Arysta LifeScience
15401 Weston Parkway, Suite 150
Cary, NC 27513

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is unconditionally registered in accordance with FIFRA section 3(c)(5) provided that you:

1. Submit and/or cite all data required for registration/reregistration/registration review of your product when the Agency requires all registrants of similar products to submit such data.

Signature of Approving Official:

Heather Garvie, Product Manager 24
Fungicide and Herbicide Branch, Registration Division (7505P)

Date:

5/4/16

2. Make the following label changes before you release the product for shipment:
 - Revise the EPA Registration Number to read, “EPA Reg. No. 66330-429.”
3. Submit one copy of the revised final printed label for the record before you release the product for shipment.

Should you wish to add/retain a reference to the company’s website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product’s label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA’s Office of Enforcement and Compliance.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6. Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records. Please also note that the record for this product currently contains the following CSFs:

- Basic CSF dated 10/14/2015
- Alternate CSF 1 dated 10/14/2015
- Alternate CSF 2 dated 10/14/2015
- Alternate CSF 3 dated 10/14/2015

If you have any questions, please contact Lisa Pahel by phone at (703) 347-0459, or via email at pahel.lisa@epa.gov

Enclosure: Product Chemistry Review dated 03/29/2016; DP#430129; Acute Toxicity Review dated 02/04/2015; DP#430131

[Text in brackets is optional]



GROUP	2	HERBICIDE
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ACCEPTED
05/04/2016
Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 66330-429

x1581aa HERBICIDE

FOR POSTEMERGENCE CONTROL OF WILD OAT, GREEN FOXTAIL AND OTHER GRASS AND BROADLEAF WEEDS IN SPRING AND WINTER WHEAT

INGREDIENTS: _____ **% BY WT.**

ACTIVE INGREDIENT:

Flucarbazono-sodium:

4,5-Dihydro-3-methoxy-4-methyl-5-oxo-*N*-[[2-(trifluoromethoxy)phenyl]sulfonyl]-1*H*-

1,2,4-triazole-1-carboxamide, sodium salt20.6%

OTHER INGREDIENTS:79.4%

TOTAL:100.0%

This formulation contains 1.75 lb of Flucarbazono-Sodium active ingredient per gallon (210 g ai/l).

Read entire label before use

KEEP OUT OF REACH OF CHILDREN

CAUTION / PRECAUCIÓN

Si usted no entiende la etiqueta, busque á alguien para que se la explique á usted en detalle.

(If you do not understand this label, find someone to explain it to you in detail.)

See inside booklet for additional First Aid, Precautionary Statements, and Directions for Use

FIRST AID	
IF ON SKIN OR CLOTHING:	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor for treatment advice.
IF IN EYES:	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
Note To Physician: No specific antidote is available. Treat the patient symptomatically.	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
FOR 24-HOUR MEDICAL EMERGENCY ASSISTANCE CALL PROSAR: 1-866-303-6952 or 1-651-603-3432.	
FOR 24-HOUR CHEMICAL EMERGENCY (Spill, leaks, fire, exposure or accident) CALL CHEMTREC: 1-800-424-9300 or 1-703-527-3887.	

For Product Use Information Call 1-866-761-9397

EPA Registration No. 66330-xxx

EPA Est. No.:

NET CONTENTS:

Produced For:
ARYSTA LIFESCENCE NORTH AMERICA, LLC
15401 Weston Parkway, Suite 150
Cary, North Carolina 27513

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Harmful if absorbed through skin. Avoid contact with skin, eyes, or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Wear long-sleeved shirt and long pants, socks, shoes, and chemical resistant gloves. Remove and wash contaminated clothing before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of 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.

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 washwater or rinsate.

Do not allow sprays to drift onto adjacent desirable plants.

PHYSICAL AND CHEMICAL HAZARDS

Do not mix or come into contact with oxidizing agents. Hazardous chemical reaction may occur.

Important

Read the 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 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.

PRODUCT INFORMATION

x1581aa HERBICIDE is labeled for use at 1- 2 fluid ounces per acre in spring, durum and winter wheat. **x1581aa HERBICIDE** 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. **x1581aa HERBICIDE** also suppresses additional grass and broadleaf weeds, including downy brome, and wild buckwheat.

x1581aa HERBICIDE is absorbed by foliage and roots of susceptible weeds, which cease growth soon after application. 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, **x1581aa HERBICIDE** may be tank mixed with a broadleaf herbicide listed on this label. See **TANK MIXES** section for recommended products.

RESISTANCE MANAGEMENT

x1581aa HERBICIDE 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.

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. **x1581aa HERBICIDE** 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 **x1581aa HERBICIDE** 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 **x1581aa HERBICIDE** 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 x1581aa HERBICIDE.

This product is not recommended for use on flood irrigated fields

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 aquatic systems, including marshes, ponds, ditches, streams, lakes, etc.
- Do not apply post emergence 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 1/4 to 1/2 full with clean water and begin agitation or bypass.
2. Add the appropriate rate of **x1581aa HERBICIDE**.
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 **x1581aa HERBICIDE**.
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 **x1581aa HERBICIDE** 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 3/4 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 **x1581aa HERBICIDE** 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.

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 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.

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.

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 following table:

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

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 **x1581aa HERBICIDE** to spring, durum and winter wheat from one leaf up to 60 days prior to harvest. Winter wheat applications can be made in the fall or spring.

RESTRICTIONS

- Do not apply more than 2 fl oz/A of **x1581aa HERBICIDE** (0.027 lb 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 0.027pounds of active ingredient/acre of PRE-PARE HERBICIDE and **x1581aa HERBICIDE** per year. Follow directions in the table, **Use Rates of**

x1581aa HERBICIDE following a PRE-PARE HERBICIDE Application for each product when used in the same growing season.

Use Rates of x1581aa HERBICIDE following a PRE-PARE HERBICIDE Application	
PRE-PARE HERBICIDE Use Rate	Maximum x1581aa HERBICIDE Use Rate
0.20 oz/A	1.3 fl oz/A
0.25 oz/A	1.2 fl oz/A
0.30 oz/A	1.0 fl oz/A

Do not make more than one post emergence application of **x1581aa HERBICIDE** per year.

Rates of Application for Grass and Broadleaf Weed Control (C) or Suppression (S)					
Target Grass Weed	Stage	x1581aa HERBICIDE Rate			
		1 fl oz/A	1.5 fl oz/A	2 fl oz/A	PRE-PARE⁵ fb x1581aa HERBICIDE
Green Foxtail	1 to 4 leaves	C	C	C	C
Wild Oat	1 to 4 leaves		C ¹	C	C
Volunteer Tame Oat	1 to 4 leaves		C ¹	C	C
Barnyardgrass ³	1 to 4 leaves		S	C ⁴	C
Windgrass	1 to 4 leaves		C	C	C
Cheat (True Cheat)	1 to 4 leaves actively growing			C/S ²	C
California Brome	1 to 4 leaves actively growing			C/S ²	S
Japanese Brome ³	1 to 4 leaves actively growing			C/S ²	C
Rattail Fescue ³	1 to 4 leaves actively growing			S ⁴	S
Downy Brome ³	1 to 4 leaves actively growing			S	S
Rescuegrass ³	1 to 4 leaves actively growing			S	S
Italian Ryegrass ³	1 to 4 leaf prior to tillering		S	C ⁴	C
Persian Darnel ⁹	1 to 4 leaf prior to tillering		S	C ⁴	S
Yellow Foxtail ³	1 to 4 leaf prior to tillering		S	C ⁴	S
Foxtail Barley ³	1 to 4 leaf prior to tillering			S ⁴	S
Target Broadleaf Weeds					
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

Rates of Application for Grass and Broadleaf Weed Control (C) or Suppression (S)					
Target Grass Weed	Stage	x1581aa HERBICIDE Rate			
		1 fl oz/A	1.5 fl oz/A	2 fl oz/A	PRE-PARE ⁵ fb x1581aa HERBICIDE
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
Tall Wormseed Wildflower	2 inch			S	S
Wild Buckwheat	2 inch			S	S
<ol style="list-style-type: none"> Control of low to moderate infestations. Use 2 fluid ounce per acre for high infestations. Fall application control Spring application suppression. 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. A tank mix with AUDIT[®] HERBICIDE or other herbicides containing Tribenuron is required to achieve control of these weeds. Column refers to weeds controlled or suppressed when using PRE-PARE HERBICIDE prior to crop emergence followed by a sequential application of x1581aa HERBICIDE. 					

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

x1581aa HERBICIDE 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	
x1581aa HERBICIDE alone or in tank mixtures	<ul style="list-style-type: none"> A high quality basic blend at 2-4 qt per 100 gal (0.5-1% v/v) is the preferred adjuvant for x1581aa HERBICIDE. <p>If a basic blend adjuvant is not available:</p>
	<p>Use:</p> <ul style="list-style-type: none"> non-ionic surfactant at 1-2 qt per 100 gal (0.25-0.5% v/v) OR methylated seed oil (MSO) at 1% v/v. <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 lb/100 gal of spray solution) when using a non-ionic surfactant or methylated seed oil.)</p>

Specified Adjuvant Use Rates For Durum, Spring and Winter Wheat	
x1581aa HERBICIDE with Emulsifiable Concentrate (EC)- based Herbicides	<ul style="list-style-type: none"> Follow the adjuvant recommendations listed in this section unless restricted by the tank mix partner

TANK MIXES

For broader spectrum control of broadleaf weeds, **x1581aa HERBICIDE** 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 herbicide and surfactant labels. The tank mix must be used in accordance with the more restrictive label limitations and precautions for all pesticides used.

x1581aa HERBICIDE Tank Mix ¹ Partners	
AUDIT	Double Up [®] B+D
AUDIT 1:1	Express [®]
AUDIT 4:1	Finesse [®]
Affinity [®] Tank Mix	Harmony [®] Extra
Affinity BroadSpec	Harmony GT
Ally [®]	Hat Trick [®]
Ally Extra	Huskie [®]
Amber [®]	Outrider [®]
2,4-D Amine (4 lb/gal)	MCPA Amine or Ester
2,4-D Lo Volatile Ester (4 lb/gal)	Olympus [™]
2,4-D Lo Volatile Ester (6 lb/gal)	Peak [®]
Aim [®]	Starane [®]
Aim EW	Starane Flex
Bromoxynil (2 lb/gal)	Stinger [®]
Bromoxynil + MCPA (2 + 2 lb/gal)	SUPREMACY [®]
Bronate Advanced [™]	Orion [®]
Curtail [®]	WideMatch [®] (clopyralid+fluroxypyr)
Curtail M	Carnivore [®]
Banvel ²	Weld [®]
Colt [®] AS	Deadbolt [®]
Colt [®] Salvo	FullDeck
Colt [®] Sword	Trump Card
¹ For tank mix partner rate directions follow the label of the tank mix partner.	
² If x1581aa HERBICIDE is applied in a tank mix combination with a dicamba-containing broadleaf herbicide; grass control will be reduced, with the exception of green foxtail.	

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 for the states of North Dakota, Minnesota, Montana and South Dakota

Crops	Interval for soils with a pH < 8.0	Intervals for soils with a pH at or > 8.0
Spring and Winter Wheat	0 days	0 days
Durum Wheat	4 months	4 months
Sunflower	4 months	4 months
STS Soybeans	6 months	6 months
Barley	9 months	9 months
Canola	9 months	9 months
Dry Edible Beans	9 months	9 months
Flax	9 months	9 months
Potatoes ¹	9 months	9 months
Safflower	9 months	9 months
Soybeans	9 months	9 months
Sugarbeets ¹	9 months	9 months
Alfalfa	11 months	18 months
Corn	11 months	11 months
Field peas	11 months	18 months
Garbanzo bean (Chickpea)	11 months	18 months
Clearfield Lentils	18 months	18 months
Lentils	18 months	24 months
Oat	18 months	24 months
Sorghum or forage millet	18 months	18 months
Mustard	24 months	24 months

¹Due to lower organic matter, seasonal moisture and irrigation practices, potatoes and sugarbeet grown in western North Dakota or South Dakota (west of highway 281) or Montana must not be planted until 24 months after application.

As **x1581aa HERBICIDE** is degraded by soil microbes, environmental conditions that decrease microbial activity must be considered when making rotational cropping decisions. These environmental conditions include less than the 10 year average precipitation, cold temperatures within and following the cropping season, as well as soils with both low Organic Matter (OM) and high pH. If these conditions exist, or for crops not listed on the **CROP ROTATION RESTRICTIONS** for the states of ND, MN, MT and SD a soil bioassay may be necessary to ensure rotational crop safety. Previous herbicide history must be known prior to planting the crops listed in this section. Long-residual ALS inhibitors can remain for several years after application and increase the chance of rotational crop injury.

CROP ROTATION RESTRICTIONS for the states of Idaho, Oregon, and Washington

Crops	Interval for soils with a pH at or < 5.5	Intervals for soils with pH 5.6 - 7.5 ¹
Spring and Winter Wheat	0 days	0 days
Durum Wheat	4 months	4 months
Sunflower	4 months	4 months
STS Soybeans	6 months	6 months
Barley	9 months	11 months
Canola	9 months	9 months
Dry Edible Beans	9 months	9 months
Flax	9 months	9 months
Safflower	9 months	9 months
Soybeans	9 months	9 months
Timothy	9 months	18 months
Alfalfa	11 months	18 months
Corn	11 months	18 months
Field peas	10 months	18 months
Garbanzo bean (Chickpea)	10 months	18 months
Clearfield Lentils	10 months	18 months
Lentils	18 months	24 months
Oat	18 months	24 months
Sorghum or forage millet	18 months	24 months
Mustard	24 months	24 months

¹For soils with a pH greater than 7.5 rotate to wheat the following season then conduct a bioassay prior to other crops.

As **x1581aa HERBICIDE** is degraded by soil microbes, environmental conditions that decrease microbial activity must be considered when making rotational cropping decisions. These environmental conditions include less than the 10 year average precipitation cold temperatures within and following the cropping season, as well as soils with both low Organic Matter (OM) and high pH. If these conditions exist, or for crops not listed on **CROP ROTATION RESTRICTIONS** for the states of ID, OR, and WA a soil bioassay may be necessary to ensure rotational crop safety. Previous herbicide history must be known prior to planting the crops listed in this section. Long-residual ALS inhibitors can remain for several years after application and increase the chance of rotational crop injury.

CROP ROTATION RESTRICTIONS for all other states where x1581aa HERBICIDE is registered for use:

Crops	Interval for soils with a pH at or < 6.5	Intervals for soils with a pH 6.6 - 7.5	Intervals for soils with a pH 7.6 – 8.0 ¹
Spring and Winter Wheat	0 days	0 days	0 days
Durum Wheat	4 months	4 months	4 months
Sunflower	4 months	4 months	9 months
STS Soybeans	4 months	6 months	6 months
Barley	9 months	11 months	18 months
Canola	9 months	9 months	11 months
Dry Edible Beans	9 months	11 months	18 months
Flax	9 months	9 months	12 months
Soybeans	6 months	9 months	12 months

Cotton	6 months	9 months	12 months
Alfalfa	9 months	18 months	24 months
Corn	9 months	15 months	18 months
Garbanzo bean (Chickpea)	9 months	15 months	18 months
Oat	9 months	18 months	18 months
Grain Sorghum	9 months	15 months	18 months
Millet or forage sorghum	9 months	15 months	24 months

¹For soils with a pH greater than 8.0 rotate to wheat the following season then conduct a bioassay prior to other crops.

As **x1581aa HERBICIDE** is degraded by soil microbes, environmental conditions that decrease microbial activity must be considered when making rotational cropping decisions. These environmental conditions include less than the 10 year average precipitation, cold temperatures within and following the cropping season, as well as soils with both low Organic Matter (OM) and high pH. If these conditions exist, or for crops not listed on **CROP ROTATION RESTRICTIONS** for all other states a soil bioassay may be necessary to ensure rotational crop safety. Previous herbicide history must be known prior to planting the crops listed in this section. Long-residual ALS inhibitors can remain for several years after application and increase the chance of rotational crop injury.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE

Do not freeze. 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, keep tightly closed, and out of reach of children, preferably in a locked storage area.

PESTICIDE DISPOSAL

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

CONTAINER HANDLING

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, 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.

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 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

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. After emptying product from container, either return container to Arysta LifeScience per instructions from Arysta LifeScience North America service center (1 866-761-9397), or rinse and either recycle or dispose of the container as follows:

Bottom Discharge IBC (e.g. Schuetz Caged IBC or Snyder Square Stackable).

Pressure rinsing the container before final disposal is the responsibility of the person disposing of the container. To pressure rinse the container before final disposal, empty the remaining contents from the IBC into application equipment or mix tank. Raise the bottom of the IBC by 1.5 inches on the side which is opposite of the bottom discharge valve to promote more complete product removal. Completely remove the top lid of the IBC. Use water pressurized to at least 40 PSI to rinse all interior portions. Continuously pump or drain rinsate into application equipment or rinsate collection system while pressure rinsing. Continue pressure rinsing for 2 minutes or until rinsate becomes clear. Replace the lid and close bottom valve.

Top Discharge IBC, Drums, Kegs (e.g. Snyder 120 Next Gen, Bonar B120, Drums, and Kegs).

Triple rinsing the container before final disposal is the responsibility of the person disposing of the container. To triple rinse the container before final disposal, empty the remaining contents from this container into application equipment or rinsate collection system. Fill the container at least 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Rinse all interior surfaces. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this procedure two more times.

Once container is rinsed, offer for recycling if available, or puncture and dispose of in a sanitary landfill.

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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