

264-1103

08-02-2010

1/13



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

EPA Reg.

Number:

264-1103

Date of Issuance:

AUG - 2 2010

Term of Issuance: Conditional

Name of Pesticide Product:

Atlantis Herbicide

NOTICE OF PESTICIDE:

Registration  
 Reregistration

(under FIFRA, as amended)

Name and Address of Registrant (include ZIP Code):

Bayer Cropscience  
PO Box 12014, 2 T.W. Alexander Dr.  
Research Triangle Park, NC 27709

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/reregistered 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 conditionally registered in accordance with FIFRA section 3(c)(7)(A) provided you agree in writing to:

1. Submit the outstanding conditions of registration 830.6317 and 830.6320 (storage stability and corrosion characteristics)
2. Add an appropriate EPA Establishment number to the label.
3. Change the Registration Number from 264-RRNG to 264-1103.
4. Add appropriate Net Contents Information on page 11 of the label.

Signature of Approving Official:

Jim Tompkins, Product Manager (25)  
Herbicide Branch, Registration Division (7505P)

Date:

AUG - 2 2010

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EPA Reg. No. 264-1103

5. Revise "IF INHALE" to "IF INHALED" in the First Aid Statements
6. Remove "or aircraft" from the Engineering Control Statement
7. Remove "For all non-aerial applications" from page 9, as aerial application is prohibited
8. On page 9, remove "or an aircraft smoke generator" as aerial application is prohibited
9. On page 9, revise the Rotational Crop Intervals as follows:
  - a. Revise Soybeans to 10 months
  - b. Revise Cotton to 18 months
  - c. Add "All other crops: 18 months"

The basic formulation CSF [dated 10/20/2008] and the alternate CSFs 1, 2, and 3 [dated 10/21/2008, 10/22/2008 and 10/23/2008 respectively] of the product referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act is acceptable. The basic CSF and alternate CSFs 1, 2, and 3 will be added to your file.

You will submit one (1) copy of your final printed labeling before you release the product for shipment. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(e). A stamped copy of labeling is enclosed for your records. If you have any questions, please contact Hope Johnson at 703-305-5410.



Jim Tompkins  
Product Manager (25)  
Herbicide Branch  
Registration Division (7505P)

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# RESTRICTED USE PESTICIDE

Due to acute eye irritation toxicity  
For retail sale and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's Certificate.

## ATLANTIS™ Herbicide

**A Herbicide for the Control of Annual Grass and Broadleaf Weeds in Fall - sown or Winter Wheat and Fall – sown Triticale**

**ACTIVE INGREDIENTS:**

Iodosulfuron-Methyl-Sodium (CAS Number 144550-36-7).....0.6%

Mesosulfuron-Methyl (CAS No.: 208465-218).....3.0%

OTHER INGREDIENTS:.....96.4%

ACCEPTED  
with COMMENTS  
in EPA Letter Dated  
AUG - 2 2010  
Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
as amended, for the pesticide  
registered under EPA Reg. No. TOTAL: 100.0%

Contains petroleum distillates.

This product is a water dispersible granule containing 0.6% of the active ingredients Iodosulfuron-methyl-sodium and 3.0% of mesosulfuron-methyl by weight.

264-1103

EPA Reg. No. 264-RRNG

EPA Est.

### KEEP OUT OF REACH OF CHILDREN DANGER-PELIGRO

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

For MEDICAL And TRANSPORTATION Emergencies ONLY Call 24 Hours A Day 1-800-334-7577

For PRODUCT USE Information Call 1-866-99BAYER (1-866-992-2937)

#### FIRST AID

<b>IF IN EYES:</b>	<ul style="list-style-type: none"> <li>Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>Remove contact lenses, if present, after the first 5 minutes, then continue rinsing.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF SWALLOWED:</b>	<ul style="list-style-type: none"> <li>Immediately call a poison control center or doctor for treatment advice.</li> <li>Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>Do not give any liquid to the person.</li> <li>Do not give anything by mouth to an unconscious person.</li> </ul>
<b>IF INHALE:</b>	<ul style="list-style-type: none"> <li>Move person to fresh air</li> <li>If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible</li> <li>Call a poison control center or doctor for treatment advice</li> </ul>
<b>IF ON SKIN OR CLOTHING:</b>	<ul style="list-style-type: none"> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>

**For MEDICAL Emergencies Call 24 Hours A Day 1-800-334-7577.**

**Have the product container or label with you when calling a poison control center or doctor or going for treatment.**

**NOTE TO PHYSICIAN:** No specific antidote is available. Possible mucosal damage may contraindicate the use of gastric lavage. May pose an aspiration pneumonia hazard.

## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

#### DANGER

Corrosive. Causes irreversible eye damage. Wear protective eyewear (goggles, safety glasses or face shield). Harmful if swallowed, inhaled or absorbed through skin. Do not get in eyes or on skin or clothing.

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

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

**Applicators and other handlers must wear:** Long-sleeved shirt and long pants, socks, shoes, chemical resistant gloves and protective eyewear.

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.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining Personal Protective Equipment (PPE).

#### 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

##### Users should:

- Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco
- 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, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate any body of water and do not apply when/where conditions favor runoff. Do not contaminate water by cleaning of equipment or disposal of equipment washwaters.

### DIRECTIONS FOR USE

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

Do not use this product until you have read the entire label. 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.

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, wear: coveralls over long-sleeved shirt and long pants; socks and chemical resistant footwear. Wear goggles or face shield, and chemical resistant gloves (such as nitrile, butyl, neoprene, and/or barrier laminate).

## STORAGE AND DISPOSAL

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

### PESTICIDE STORAGE:

Store in cool, dry place. Keep container tightly closed when not in use. Avoid cross contamination with other pesticides.

### PESTICIDE DISPOSAL:

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

### CONTAINER DISPOSAL:

Non-refillable container. Do not reuse or refill this container. Offer for recycling, if available. Triple 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 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.

Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration.

## USE INFORMATION

Atlantis™ herbicide is a postemergence herbicide with foliar and some root activity against competitive weeds including wild oats, Italian ryegrass, common chickweed and henbit in fall sown and winter wheat and fall-sown triticale.

## ENVIRONMENTAL AND BIOLOGICAL ACTIVITY

Best weed control is obtained when Atlantis™ Herbicide is applied to young actively growing weeds in vigorously growing fall-sown or winter wheat or fall-sown triticale that will shade competitive weeds. Atlantis™ Herbicide is absorbed through the foliage of plants, rapidly inhibiting growth of susceptible weeds. Visual symptoms progress from yellowing to necrosis of the growing point and eventual plant death. Abnormal environmental conditions (excess soil moisture or drought, extreme cold weather) may cause temporary damage to the crop or reduce levels of weed control. This may result in weed stunting, rather than weed death. However, weed competition will be greatly reduced, and should permit normal crop development. Crop response may occur when frost occurs shortly after application to actively growing wheat.

## APPLICATION TIMING and RATE

### Fall-sown or Winter Wheat and Fall-sown Triticale Application Timing

Apply Atlantis™ Herbicide from emergence up to the jointing stage of growth.

Specific Regional Directions:

- In California, apply Atlantis™ Herbicide from emergence to 2 tiller wheat (Feekes 5).
- In Montana, North Dakota, South Dakota, Idaho, Oregon and Washington states, Atlantis™ Herbicide may be applied from emergence up to the 2<sup>nd</sup> node stage of growth.

### Weed Application Timing

Atlantis™ Herbicide is a postemergence herbicide and best results are obtained when applications are made to young actively growing weeds. Atlantis™ Herbicide effectively controls the weeds listed in Weed Control Directions. Treat grass weeds at the 2-leaf to 2-tiller stage of growth and optimum grass weed control will be obtained when all grass weeds are emerged at the time of spraying. For broadleaf weed control, time application when broadleaf weeds are 3 inches or less in height.

### Application Rate

Apply 6 ounces of Atlantis™ Herbicide per acre in all regions except apply 7 oz per acre in Washington, Idaho and Oregon.

For control of wild oat, windgrass, Persian darnel or canarygrass a reduced rate of 4.75 ounces per acre of Atlantis™ Herbicide per acre may be used.

## SPRAY ADDITIVES

Atlantis™ Herbicide is a water dispersible granule that does not include an adjuvant. A recommended adjuvant **must** be tank mixed with Atlantis™ Herbicide according to the guidelines as described in the Mixing Instructions section.

Application of Atlantis™ Herbicide must include a non-ionic surfactant plus ammonium nitrogen fertilizer or a methylated seed oil. Use only spray grade quality urea ammonium nitrogen fertilizer (28-0-0 to 32-0-0 at 1 – 2 qt/acre) or ammonium sulfate fertilizer (21-0-0-24 at 1.5 – 3 lbs/acre). When ammonium nitrogen fertilizer is used in tank mixture with Atlantis, transient leaf burn may occur.

Do not use additives that alter the spray solution below 6.0 pH. Best results are obtained at spray solution pH of 6.0 – 8.0.

Organosilicone-based surfactants or crop oil concentrate surfactants are not recommended for use with Atlantis.

**Non-ionic Surfactant (NIS) + Ammonium Nitrogen Fertilizer (in water carrier solutions)**

Use a non-ionic surfactant at a concentration of 0.5% v/v (2 qts per 100 gallons of spray solution) with ammonium nitrogen fertilizer. At least 80% of the surfactant product must be active non-ionic surfactant. Avoid products that do not accurately define their ingredients. Products must contain only EPA-exempt ingredients (40 CFR 1001).

In Washington, Oregon and Idaho: When tank mixing Atlantis™ Herbicide with an EC broadleaf herbicide, reduce the NIS rate from 0.5% to 0.25%.

Use a spray grade quality urea ammonium nitrogen fertilizer (28-0-0 to 32-0-0 at 1 – 2 qt/A) or ammonium sulfate fertilizer (21-0-0-24 at 1.5 – 3 lb/A).

**Methylated Seed Oil (MSO)**

A high quality methylated seed oil may be used in tank mixture with Atlantis™ Herbicide at a rate of 1.25 – 1.50 pt/A, however, potential for crop response may be increased compared to non-ionic surfactant plus ammonium nitrogen fertilizer. The MSO should contain at least 80% MSO and 10% emulsifier or greater.

When a methylated seed oil is used, ammonium nitrogen or ammonium sulfate fertilizer are not recommended.

**APPLICATION METHODS**

Uniform, thorough spray coverage is important to achieve consistent weed control. The use of nozzles and spray pressure that deliver medium spray droplets as indicated in the nozzle manufacturer's catalogs and in accordance with ASAE Standard S-572 are highly recommended for optimum spray coverage and canopy penetration. Do not use flood-jet nozzles, controlled droplet application equipment, or cone nozzles. Use of certain nozzle types as described in the **Spray Drift Management** section of this label may result in reduced coverage and weed control.

Do not apply Atlantis™ Herbicide using aerial application.

**Ground Application**

Atlantis™ Herbicide can be applied broadcast in 10 or more gallons of water per acre. Good weed coverage is an important aspect of successful control. Increase water carrier to a minimum of 15 GPA if application speed will exceed 10 MPH. For weed control in dense weed canopies, use 15 or more gallons of water per acre. The use of 80-degree or 110-degree flat-fan nozzles is highly recommended for optimum spray coverage and canopy penetration. Use a spray pressure of 35 to 40 pounds per square inch (measured at the nozzle). Air induction nozzles should be used at or near 60 psi to produce a medium droplet size. Use screens that are 50 mesh or larger.

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

See the **Spray Drift Management** section of this label for additional information on proper application of Atlantis™ Herbicide.

**ENDANGERED SPECIES**

To avoid adverse effects on endangered dicot species, the following mitigation measures will be required where endangered species occur in Counties listed in the table below.

For ground applications, the applicator must:

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

State	Counties
Idaho	Idaho, Lewis, Nez Perce
Montana	Flathead, Lake
Oregon	Benton, Clackamas, Lane, Linn, Marion, Polk, Union, Wallowa, Washington, Yamhill
Washington	Asotin, Chelan, Cowlitz, Lewis, Lincoln, Spokane, Whitman
Wyoming	Laramie

**MIXING INSTRUCTIONS**

Atlantis™ Herbicide must be applied with clean and properly calibrated equipment. Prior to adding Atlantis™ Herbicide to the spray tank, ensure that the spray tank, filters and nozzles have been thoroughly cleaned.

All ground application equipment must be properly maintained and calibrated using appropriate carriers.

**Mixing Order**

1. Fill the tank 1/4 to 1/3 full of water.
2. While agitating, add the required amount of Atlantis™ Herbicide.
3. Continue agitation until the Atlantis™ Herbicide is fully dispersed, at least 5 minutes.
4. Once Atlantis™ Herbicide is fully dispersed, maintain agitation and continue filling tank with water. Atlantis™ Herbicide should be fully mixed with water before adding any other material.
5. As the tank is filling, add the required amount of spray adjuvant (methylated seed oil or basic blend or non-ionic surfactant) and ammonium nitrogen fertilizer. Add additional pesticide tank mix partner, if desired.
6. Continue agitation during herbicide application to ensure uniform spray coverage. If the mixture is not continuously agitated, settling may occur. If settling occurs, thoroughly re-agitate spray solution for at least 15 minutes before application. Use spray solution within 24 hours after mixing.

**Application in Fluid Fertilizer Carrier Solution**

Atlantis™ Herbicide provides consistent performance when applied with water as the spray carrier with a non-ionic surfactant and ammonium nitrogen fertilizer is added to the spray solution. However, Atlantis™ Herbicide may be applied using a liquid nitrogen solution (28-0-0 to 32-0-0) as the spray carrier. The fertilizer spray solution should not exceed 15% liquid nitrogen (1.5 gallons of liquid nitrogen in 10 gallons of spray solution per acre). A non-ionic surfactant at a maximum concentration of 0.25% v/v (1 quart per 100 gallons of spray solution) is required in spray solutions containing liquid nitrogen carrier.

Due to the activity of fertilizer on the crop, temporary injury may result when liquid nitrogen is used as a spray carrier. Crop response symptoms due to the use of liquid nitrogen as a spray carrier may include discoloration and leaf burn.

**Washington, Oregon and Idaho Only - Atlantis™ Herbicide in Liquid Nitrogen Solutions™ as a Portion of the Spray Carrier**

Apply Atlantis™ Herbicide by ground only from emergence up to the second node of crop development in spray solutions containing liquid nitrogen carrier.

Use 4.75 - 7 ounces Atlantis™ Herbicide/A by ground in tank mixture with 0.25% v/v non-ionic surfactant up to 3 gallons of liquid nitrogen (20-0-0 to 32-0-0) in a minimum 10 gallon mix per acre.

**RE-SUSPENDING WG PRODUCTS IN SPRAY SOLUTION**

Like other water dispersible granules or suspension concentrates (SC's), Atlantis™ Herbicide will settle if left standing without agitation. If the spray solution is allowed to settle for one hour or more, re-agitate the spray solution for a minimum of 15 minutes before application. Apply Atlantis™ Herbicide spray mixtures within 24 hours of mixing to avoid product degradation.

**COMPATIBILITY**

If Atlantis™ Herbicide is to be tank mixed with other herbicides; compatibility should be tested prior to mixing. To test for compatibility, use a small container and mix a small amount (0.5 to 1 qt) of spray solution, combining all ingredients in the same ratio as the anticipated use. If any indications of physical incompatibility develop, do not use this mixture for spraying. Indications of incompatibility usually occur within 5-15 minutes after mixing. Read and follow the label of each tank mix product used for precautionary statements, directions for use, geographic and other restrictions.

**WEED CONTROL DIRECTIONS**

Atlantis™ Herbicide is readily translocated within the target weed, inhibiting growth within hours of application. Symptoms progress from yellowing to necrosis resulting in eventual plant death within 1-4 weeks after application. The actual time taken for herbicidal symptoms to appear and death varies between weed species, timing of application and weather conditions. Optimum grass weed control will be obtained when all grass weeds are emerged at spraying.

Atlantis™ Herbicide effectively controls the following ALS sensitive weeds when applied as directed and weeds are actively growing. Best control is achieved when grass weeds are treated at the 2-leaf to 2-tiller stage of growth and before broadleaf weeds reach 3 inches in height. Treat heavy weed infestations before they become competitive with the crop. Atlantis™ Herbicide will affect weeds that are larger than the labeled height, however, speed of activity and overall control may be reduced. Atlantis™ Herbicide will provide short term residual of small seeded broadleaf weeds.

Weed Spectrum

Grass Weeds Controlled		Grass Weeds Partially Controlled	
Blackgrass	<i>Alopecurus myosuroides</i>	Brome, downy	<i>Bromus tectorum</i>
Bluegrass, Kentucky	<i>Poa pratensis</i>	Brome, Japanese	<i>Bromus japonicus</i>
Bluegrass, annual	<i>Poa annua</i>	Brome, rigpgut	<i>Bromus rigidus</i>
Bluegrass, roughstalk	<i>Poa trivialis</i>	Brome, soft	<i>Bromus hordeaceus</i>
Canarygrass, hood	<i>Phalaris paradoxa</i>	Cheat	<i>Bromus secalinus</i>
Canarygrass, littleseed	<i>Phalaris minor</i>	Hairy chess	<i>Bromus commutatus</i>
Darnel, Persian	<i>Lolium persicum</i>	Jointed goatgrass	<i>Aegilops cylindrica</i>
Ryegrass, Italian	<i>Lolium multiflorum</i>	Quackgrass	<i>Elytrigia repens</i>
Wild oat	<i>Avena fatua</i>		
Windgrass	<i>Apera spica-venti</i> & <i>Apera interrupta</i>		

Broadleaf Weeds Controlled	
Alfalfa	<i>Medicago sativa</i>
Bittercress, hairy	<i>Cardamine hirsute</i>
Burcucumber	<i>Sicyos angulatus</i>
Burdock, common	<i>Arctium minus</i>
Canola, volunteer	<i>Brassica napus</i> & <i>Brassica rapa</i>
Chickweed, common	<i>Stellaria media</i>
Chickweed, mouse-ear	<i>Cerastium vulgatum</i>
Dock, curly	<i>Rumex crispus</i>
Hempnettle, common	<i>Galeopsis tetrahit</i>
Henbit	<i>Lamium amplexicaule</i>
Horsenettle	<i>Solanum carolinense</i>
Marestail (including glyphosate resistant)	<i>Hippuris vulgaris</i>
Mustard, bead-podded / blue	<i>Chorispora tenella</i>
Mustard, tumble	<i>Sisymbrium altissimum</i>
Mustard, wild	<i>Brassica kaber</i>
Nightshade, hairy	<i>Solanum sarrachoides</i>
Pennycress, field	<i>Thlaspi arvense</i>
Pigweed, redroot	<i>Amaranthus retroflexus</i>
Plantain, broadleaf	<i>Plantago major</i>
Purple deadnettle	<i>Lamium purpurea</i>
Radish, wild	<i>Raphanus raphanistrum</i>
Shepherd's purse	<i>Capsella bursa-pastoris</i>
Sunflower, volunteer	<i>Helianthus annuus</i>
Tansymustard, pinnate	<i>Descurainia pinnata</i>
Turnipweed	<i>Raphanus rugostrum</i>



Broadleaf Weeds Partially Controlled*	
Buttercup, corn	<i>Ranunculus arvensis</i>
Catchweed bedstraw/cleavers	<i>Galium aparine</i>
Carrot, wild	<i>Dacus carota</i>
Chamomile, mayweed	<i>Anthemis cotula</i>
Chamomile, scentless	<i>Matricaria inodora</i>
Clover, white	<i>Melilotis alba</i>
Cowcockle	<i>Vaccaria pyramidata</i>
Dandelion	<i>Taraxacum officianale</i>
Eveningprimrose, cutleaf	<i>Oenothera lacinata</i>
Knawel	<i>Scleranthus annuus</i>
Thistle, Russian	<i>Salsola kali</i>
Vetch	<i>Vicia spec.</i>

\* Partially controlled weeds will be stunted in growth and/or be reduced in number as compared to non-treated areas but performance may not be commercially acceptable. Some weed biotypes (e.g. Italian ryegrass, mayweed chamomile) have developed resistance to ALS herbicides which may lead to poor control.

### TANK MIX RECOMMENDATIONS

Atlantis™ Herbicide may be tank mixed with the herbicides listed below to provide broad-spectrum weed control. When using Atlantis™ Herbicide in tank mix combinations, follow the precautions and directions of the most restrictive label. It is recommended that herbicides not specifically listed on this label for tank mixing with Atlantis™ Herbicide be applied sequentially, 5 days prior to or 5 days after an Atlantis™ Herbicide treatment. Do not tank mix Atlantis™ Herbicide with 2,4-D or dicamba.

Abnormally large temperature fluctuations between daytime highs and nighttime lows at the time of application may influence crop tolerance. Frost occurrence the night before or within two days after application may increase crop response. These effects can be quite marked when Atlantis™ Herbicide is tank mixed with EC partners. Consult with your Bayer CropScience representative for further guidance concerning tank mixes under these conditions.

In Washington, Oregon and Idaho: When tank mixing Atlantis™ Herbicide with an EC broadleaf herbicide, reduce the NIS rate from 0.5% to 0.25%.

Refer to the appropriate label of each tank mix partner for recommendations regarding application rates required to control weeds not listed on this label.

### Tank Mixtures for Additional Weed Control

#### Herbicides:

Huskie	Finesse®
Affinity™ /Affinity Broadspec	Harmony® / Harmony® Extra XP*
Ally®/ Ally® Extra*	MCP ester / MCP amine (0.25 – 0.5 lbs ai/A) **
Amber®	Orion™
Buctril® Herbicide*	Peak®
Bronate Advanced™ Herbicide*	Starane™/ StaraneNXT™*
CurtailM	Stinger™
Express®	WideMatch™

\* Equivalent products containing the same active ingredients may be substituted.

\*\* Various formulations of MCP Ester/Amine may be tank mixed at a dosage of 0.25 – 0.5 lb ai/A. Follow label restrictions for MCPA application and wheat stage of growth. Increased crop response or reduced grass control may occur when adding MCP amine to Atlantis™ Herbicide.

### Tank Mixtures for Disease Control

Atlantis™ Herbicide may be applied in combination with Stratego®, Tilt® or Topsin® M 70WP fungicides for weed and disease control. Refer to the specific fungicide label for use directions, application rates, restrictions and a list of diseases controlled.

### Tank Mixtures for Insect Control

Atlantis™ Herbicide may be applied with Baythroid XLR, Mustang and Warrior® Insecticides. Refer to the specific insecticide label for use directions, application rates, restrictions and a list of insects controlled.

### Tank Mix Precautions

Always follow the label instructions of the tank mix partner as well as Atlantis™ Herbicide. Check the compatibility of Atlantis™ Herbicide and the tank mix partner by mixing all components in the order specified in the **Mixing Order** section, including adjuvants and water, into a small separate container in order to evaluate compatibility prior to adding them to the tank.

### TANK CLEANUP PROCEDURE

1. Drain the tank completely, and then wash out tank, boom and hoses with clean water. Drain again.
2. Half fill the tank with clean water and add ammonia (i.e., 3% domestic ammonia solution) at a dilution rate of 1% (i.e., 1 gallon of domestic ammonia for every 100 gallons of rinsate). Complete filling of the tank with water. Agitate/recirculate and flush through boom and hoses. Leave agitation on for 10 minutes. Drain tank completely.
3. Repeat step 2.
4. Remove nozzles and screens and soak them in a 1% ammonia solution. Inspect nozzles and screens and remove visible residues.
5. Flush tank, boom, and hoses with clean water.
6. Inspect tank for visible residues. If present, repeat step 2.

### SPRAY DRIFT MANAGEMENT

Atlantis™ Herbicide is not volatile. Damage to sensitive crops can occur as a result of spray drift. Spray drift can be managed by several application factors and by spraying under the appropriate climatic conditions. Consequently, avoidance of spray drift is the responsibility of the applicator and grower.

**SENSITIVE AREAS:** The pesticide must only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitats for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

Avoiding spray drift at the application site is the responsibility of the applicator and grower. 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.

Do not apply under circumstances where possible drift to unprotected persons or to food, forage, or other plantings that might be damaged or crops thereof rendered unfit for sale, use or consumption can occur.

### INFORMATION ON DROPLET SIZE:

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 below).

Uniform, thorough spray coverage is important to achieve consistent weed control. Select nozzles and pressure that deliver medium spray droplets as indicated in nozzle manufacturer's catalogs and in accordance with ASAE Standard S-572. Nozzles that deliver coarse spray droplets may be used to reduce spray drift provided spray volume per acre (GPA) is increased to maintain coverage of weeds.

### 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 may further reduce drift without reducing swath width.

### APPLICATION HEIGHT:

For ground boom applications, apply with nozzle height no more than 4 feet above the ground or crop canopy. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

**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 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.

For all non-aerial applications, wind speed must be measured adjacent to the application site, on the upwind side, immediately prior to application.

**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. Avoid spraying during conditions of low humidity and/or high temperatures.

**TEMPERATURE INVERSIONS:**

Do not make ground applications into areas of temperature inversions 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.

**ROTATIONAL CROP INTERVALS**

- 3 months: Soybeans
- 4 months: Barley, Triticale and Wheat
- 10 months: Cotton, Peas (dryland) green or dry, Lentils, Oats, Rye and Grain or Forage Sorghum
- 12 months: Corn (field, sweet, popcorn, corn grown for seed)
- 18 months: Alfalfa, Dry beans, Snap beans, Canola, Chickpeas, Grass grown for seed, Peanuts, Irrigated Peas, Potatoes, Sugarbeets and Sunflowers

Atlantis™ Herbicide is degraded by microbial action. Under adverse conditions such as cold temperatures, high pH and drought, degradation may be slowed. It is recommended that a field bioassay be run when adverse conditions occur. It is not recommended that Atlantis™ Herbicide be used on soils with a pH greater than 7.9.

**FIELD BIOASSAY**

A field bioassay must be completed before rotating to crops other than those specified in the "Rotational Crop Intervals" section of this label. No crop may be planted sooner than three months after an Atlantis™ Herbicide application.

To conduct an effective field bioassay, grow strips of the crop you intend to grow in the following season in a field previously treated with Atlantis™ Herbicide. The test strip should include low areas and knolls, and include variations in soil such as type and pH. Crop response to the bioassay will determine if the crop(s) grown in the test strips can be grown safely in the areas previously treated with Atlantis™ Herbicide.

**RESISTANT WEED MANAGEMENT**

Some weed populations may contain plants naturally resistant to Atlantis™ Herbicide or other herbicides with the same mode of action (ALS/AHAS enzyme inhibitors). Repeated use of herbicides with the same mode of action allows resistant weeds to spread. To manage the development and spread of resistant weed populations, use herbicides with different modes of action in tank mixture, rotation, or in conjunction with alternate cultural practices. Consult a Bayer CropScience representative for additional information.

**PRECAUTIONS FOR USE**

- Use adjuvants as specified on this label.
- Atlantis™ Herbicide is rainfast 4 hours after application. Rainfall within 4 hours may result in reduced weed control.
- Applications should be made to actively growing weeds. Weed control may be reduced when weeds are under stress due to severe weather conditions, drought, very cold temperatures, etc. Weed control may be reduced if the herbicide application is made under dry, dusty conditions – especially in the wheel track areas.
- Applications of ammonium nitrogen fertilizer independent of those made with herbicides are commonly known as topdress applications. Topdress applications of ammonium nitrogen have been shown on occasion to result in transient leaf burn or stunting when applied within 14 days of an Atlantis™ Herbicide application.
- Applications of Atlantis™ Herbicide in California should be made from emergence to 2 tiller wheat (Feekes 5).

## RESTRICTIONS FOR USE

- Do not apply Atlantis™ Herbicide to crops undersown with grass and legume species.
- Do not make more than one application of Atlantis™ Herbicide in one fall-sown or winter wheat or fall-sown triticale growing season.
- Do not apply more than 7 oz of Atlantis™ Herbicide per acre (containing 0.0026 lb iodosulfuron-methyl sodium and 0.013 lb of mesosulfuron-methyl) in one fall-sown or winter wheat or fall-sown triticale growing season.
- Do not apply more than 0.009 lbs iodosulfuron active ingredient in total per acre from all products containing iodosulfuron-methyl sodium in a 365 day period.
- Do not apply Atlantis™ Herbicide using aerial application.
- Do not apply when wind causes drift to off-site vegetation as injury may occur. Small amounts of Atlantis™ Herbicide via drift or tank contamination can cause severe damage to crops other than wheat. Careful management of spray drift and tank cleanout is required.
- Do not apply Atlantis™ Herbicide within 30 days of harvesting wheat forage, and 60 days for hay, grain and straw.
- Do not apply Atlantis™ Herbicide in tank mixture with 2,4-D or dicamba as unacceptable crop phytotoxicity or reduced grass weed control may occur.
- Do not apply Atlantis™ Herbicide in tank mixture with malathion, mancozeb, phosphorodithioate (Di-Syston®), chlorpyrifos (Lorsban™), or methyl parathion as unacceptable crop response may occur.

**IMPORTANT: READ BEFORE USE**

Read the entire Directions for Use, Conditions, Disclaimer of Warranties and Limitations of Liability before using this product. If terms are not acceptable, return the unopened product container at once.

By using this product, user or buyer accepts the following Conditions, Disclaimer of Warranties and Limitations of Liability.

**CONDITIONS:** 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. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Bayer CropScience. All such risks shall be assumed by the user or buyer.

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**Bayer CropScience**

**Bayer CropScience LP  
P.O. Box 12014, 2 T.W. Alexander Drive  
Research Triangle Park, North Carolina 27709  
1-866-99BAYER (1-866-992-2937)**

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