



## OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

WASHINGTON, D.C. 20460

October 15, 2024

Tais Huber  
tais.huber@adama.com  
MAKHTESHIM AGAN OF NORTH AMERICA, INC.

Subject: Non-PRIA (Pesticide Registration Improvement Act) Labeling Amendment - Indicated  
Revision Reviewed - Revisions to aerial application restrictions  
Product Name: ADA 51802  
Admin Number: 66222-283  
EPA Receipt Date: 06/26/2024  
Action Case Number: 00621821

Dear Tais Huber:

The amended labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable.

This approval does not affect any terms or conditions that were previously imposed on this registration. You continue to be subject to existing terms or conditions on your registration and any deadlines connected with them.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one (1) copy of the final printed labeling before you release this product for shipment with the new labeling. In accordance with 40 CFR § 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR § 152.3.

The label submitted with the application has been stamped "Accepted Only Indicated Revisions Reviewed" and is enclosed for your records.

Should you wish to add/retain a reference to your company's website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by EPA. If the website is false or misleading, the product will be considered to be misbranded and sale or distribution of the product is unlawful under FIFRA section 12(a)(1)(E). 40 CFR § 156.10(a)(5) lists examples of statements the 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 EPA find or if it is brought to our attention that a website contains statements or claims substantially differing from statements or claims made in connection with obtaining a FIFRA section 3 registration, the website will be referred to the EPA's Office of Enforcement and Compliance Assurance.

Your release for shipment of this product constitutes acceptance of these terms. If these terms are not complied with, this registration will be subject to cancellation in accordance with FIFRA section 6.

If you have questions, please contact Margaret Golembiewski via email at [golembiewski.margaret@epa.gov](mailto:golembiewski.margaret@epa.gov).

Sincerely,

*Kable Bo Davis*

Kable Bo Davis, Senior Advisor  
HB, RD  
Office of Pesticide Programs

SUBLABEL A	AGRICULTURAL CROP USES Only
------------	-----------------------------

Group	4	Herbicide
-------	---	-----------

ADA 51802

(Alternate Brand name: Zurax L)

Herbicide For Use on Wheat, Sorghum, and Rice

<b>ACTIVE INGREDIENT:</b>	<b>% BY WT.</b>
Dimethylamine salt of quinclorac: 3,7-dichloro-8-quinolinecarboxylic acid .....	17.79%
<b>OTHER INGREDIENTS:</b> .....	82.21%
<b>Equivalent to:</b>	
1.50 lbs quinclorac: 3,7-dichloro-8-quinolinecarboxylic acid equivalent per gallon	<b>TOTAL:</b> 100.00%

KEEP OUT OF REACH OF CHILDREN

CAUTION / PRECAUCIÓN

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.)

FIRST AID	
<b>IF SWALLOWED:</b>	<ul style="list-style-type: none"> <li>• Call poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• <b>DO NOT</b> induce vomiting unless told to do so by the poison control center or doctor.</li> <li>• <b>DO NOT</b> give anything by mouth to an unconscious person.</li> </ul>
<b>IF IN 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 to 20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF IN EYES:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF INHALED:</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance; then give artificial respiration, preferably by mouth to mouth, if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact <b>Prosar</b> at 1-877-250-9291 for emergency medical treatment information.	

In case of spills, fire, leaks or accident, call INFOTRAC at 1-800-535-5053.

[Optional Text: See inside label booklet for [First Aid,] additional Precautionary Statements, Directions for Use and Storage and Disposal Instructions.]

Manufactured for:  
 Makhteshim Agan of North America, Inc. (d/b/a ADAMA)  
 8601 Six Forks Road, Suite 300  
 Raleigh, NC 276153120 Highwoods Blvd., Suite 100  
 Raleigh, NC 27604

How can we help? 1-866-406-6262

EPA Reg. No. 66222-283

EPA Est. No. xxxxx-xx-xxx

NET CONTENTS: \_\_\_\_\_

ACCEPTED  
 ONLY INDICATED  
 REVISIONS REVIEWED  
 10/15/2024

# PRECAUTIONARY STATEMENTS

## HAZARDS TO HUMANS AND DOMESTIC ANIMALS

### CAUTION

Harmful if swallowed. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Avoid contact with eyes or clothing.

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

#### Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of 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. Keep and wash PPE separately from other laundry.

### USER SAFETY RECOMMENDATIONS

#### Users should:

- Wash hands thoroughly after handling and 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.

**ENGINEERING CONTROL STATEMENTS:** When handlers use closed systems or enclosed cabs 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.

### ENVIRONMENTAL HAZARDS

This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

**DO NOT** apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. **DO NOT** contaminate water by cleaning of equipment or disposal of rinsate.

For terrestrial uses **DO NOT** apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark, except as specified on this label for use on rice. Keep out of lakes, ponds, and streams. **DO NOT** contaminate water by cleaning of equipment or disposal of rinsate.

### DIRECTIONS FOR USE

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

**DO NOT** apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

**DO NOT** enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.

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, and water is:

- Coveralls
- Chemical-resistant gloves made of butyl rubber ≥ 14 mils, natural rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, or nitrile rubber ≥ 14 mils
- Shoes plus socks

### SPRAY DRIFT MANAGEMENT

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment- and weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. The following drift management requirements must be followed to avoid off-target movement from aerial applications to agricultural field crops. These requirements **DO NOT** apply to forestry applications, public health uses, or to applications using dry formulations.

1. The distance of the outer most nozzles on the boom must not exceed  $\frac{3}{4}$  the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downward more than 45 degrees. Where states have more stringent regulations, they must be observed.

The applicator should be familiar with and take into account the information covered in the aerial drift reduction advisory information presented below.

### Importance of 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 Inversion** sections of this label).

### Controlling Droplet Size

- **Volume**-Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets. Apply ADA 51802 in 3-10 gallons of spray volume per acre.
- **Pressure**-Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. **WHEN HIGHER FLOW RATES ARE NEEDED, USE HIGHER FLOW RATE NOZZLES INSTEAD OF INCREASING PRESSURE.** Use a maximum of 40 psi (measured at the boom, not at the pump or in the line).
- **Number of Nozzles**-Use the minimum number of nozzles with the highest flow rate that provide uniform coverage.
- **Nozzle Orientation**-Orienting nozzles so that the spray is released backward (the downward angle of the nozzles on fixed wing aircraft should not be greater than 20°) or parallel to the airstream on helicopters, will produce larger droplets than other orientations. 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. Some nozzle examples are CP Lund or flat fans with angles of 25°-65°. Solid stream nozzles oriented straight back produce larger droplets than other nozzle types. If using nozzle screens, **DO NOT** use screens finer than the 50-mesh size as nozzle plugging is possible.
- **Boom Length**-For some use patterns, reducing the effective boom length to less than ¾ of the wingspan or rotor length may further reduce drift without reducing swath width.
- **Application Height**-Applications may 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 2-10 mph. Factors to be considered include droplet size and equipment type determine drift potential at any given speed, avoid application below 2 mph due to variable wind direction and high inversion potential. **DO NOT** apply ADA 51802 when wind is blowing more than 10 mph. **Note:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect 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 wind conditions are both hot and dry.

### Temperature Inversions

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

### Sensitive Areas

This pesticide may only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, nontarget crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

**FOR WEED CONTROL IN PREPLANT WHEAT (SEE USE DIRECTIONS FOR GEOGRAPHIC LIMITATIONS), PREPLANT AND IN-CROP SORGHUM, AND NONCROP AREAS IN THE FOLLOWING STATES: CO, DE, ID, IL, KS, MD, MN, MO, MT, ND, NE, NM, NV, OK, OR, PA, SD, UT, WA, WY, VA, AND DESIGNATED COUNTIES OF TX- INFORMATION**

ADA 51802 is a dry flowable formulation to be diluted with water prior to application using common agricultural spray equipment. When used as directed, ADA 51802 will provide suppression or control of weed species listed in **Table 1**.

ADA 51802 is a systemic herbicide. The weed foliage and roots absorb ADA 51802 and translocate it throughout the weed. Treated weeds will show signs of leaf and stem curling or twisting, stunting, change color from green to white (chlorosis), finally to red, and become necrotic before finally dying. Annual plants treated with ADA 51802 may not show symptoms for up to two weeks after application and up to three weeks for death of the weed. Perennial weeds treated with ADA 51802 may not show symptoms for several weeks after application and the full effect occurring 3 to 6 months after application.

Thorough coverage of emerged weeds with the ADA 51802 spray is essential in order for the weed foliage to absorb the ADA 51802. Control may be more difficult in fields where larger leaves cover smaller weeds preventing thorough spray coverage of the smaller weeds.

#### Restrictions:

- **DO NOT** apply more than a total of 64 fl oz (0.75 lb ae) of ADA 51802 per acre per calendar year. The maximum single application rate for quinclorac is 0.75 lbs ae/acre.
- Crop Rotation Restrictions:
  - ❖ **Immediate replant allowed after crop failure:** Spring or winter wheat or grain sorghum
  - ❖ **Replant allowed 24 months after application:** alfalfa, clover, dry beans, flax, peas, lentils, safflower, solanaceous crops (listed below), and sugar beets. A bioassay must be conducted before planting these crops.
  - ❖ **Replant allowed 309 days (10 months) after application:** all other crops
- **DO NOT** use recirculating sprayers, wiper applicators, or shielded applicators.
- ADA 51802 is rain fast 6 hours after application.
- **DO NOT** apply through any type of irrigation equipment.
- **DO NOT** apply to irrigation ditches or areas that act as a channel for water entering cropland.
- **DO NOT** apply by ground in Arkansas in an area from one mile west of Highway No. 1 to one mile east of Highway No. 163 from the Craighead/Poinsett county line to the Cross/Poinsett county line. **Do not apply ADA 51802 by air in all counties**
- **State Specific Restrictions:** Because there are additional state restrictions in Arkansas, contact the Arkansas [State](#) Plant board or a representative for specific instructions about applying ADA 51802 in Arkansas.
- **NOT** apply to exposed feeder roots of trees or ornamentals. Be particularly careful within the drip line of trees and other ornamental species.
- **DO NOT** apply into any ornamental bed.
- **DO NOT** use clippings as mulch or compost around flowers, ornamentals, trees, or in vegetable gardens.
- **DO NOT** plant eggplant or tobacco within 12 months on fields treated with ADA 51802.
- **DO NOT** plant tomatoes or carrots within 24 months on fields treated with ADA 51802.
- **DO NOT** apply when conditions favor drift from target area. Apply when wind speed is less than 10 mph as drift may cause damage or death of nontarget area vegetation.
- **DO NOT** allow spray mist to come into contact with vegetables, flowers, ornamentals, shrubs, trees, and other desirable plants, especially plants belonging to the *Solanaceae* family (tomatoes, eggplant, and bell peppers). **DO NOT** pour spray solutions near these plants.
- **DO NOT** apply to weeds or grasses under stress due to lack of moisture, herbicide injury, mechanical injury or extreme temperatures.
- **DO NOT** use to formulate or reformulate any other pesticide product which is not registered by EPA.

#### DRIFT Restrictions

- **DO NOT** apply by air in states and counties listed in the **AERIAL APPLICATION** section of this label.
- **DO NOT** apply ADA 51802 by ground when wind is greater than 10 mph by ground or 10 mph by air.
- **DO NOT** allow ADA 51802 to drift onto other desirable plants, especially sensitive crops belonging to the following plant families:
  - ❖ *Solanaceae* (tomato, potato, tobacco, eggplant, peppers (*Capsicum*), among others)
  - ❖ *Umbelliferae* (celery, parsley, carrots, among others)
  - ❖ *Leguminosae* (alfalfa, green bean, among others)
  - ❖ *Convolvulaceae* (sweet potato, among others)
  - ❖ *Chenopodiaceae* (spinach, sugar beet, among others)
  - ❖ *Malvaceae* (okra, among others)
  - ❖ *Cucurbitaceae* (watermelon, cucumber, cantaloupe, squash, pumpkin, among others)
  - ❖ *Compositae* (lettuce, sunflowers, among others)
  - ❖ *Linaceae* (flax)
- **DO NOT** allow spray containing ADA 51802 to drift onto areas where tomatoes are to be planted, have been planted, or onto emerged tomatoes, as severe injury will occur.
- **DO NOT** use ADA 51802 in tank mixes not specified on this label or ADAMA technical bulletins.
- **DO NOT** premix ADA 51802 with fungicides, herbicides, insecticides, additives, or fertilizers as contamination of mixing equipment and movement of ADA 51802 to off-site mixing areas can occur.

#### Precautions:

- To ensure adequate weed control, **DO NOT** apply to weeds or grasses under stress due to lack of moisture, herbicide injury, mechanical injury or extreme temperatures.
- To prevent crop injury, **DO NOT** apply to crops under stress due to hail damage, flooding, drought, injury from other herbicides, or widely fluctuating temperatures.
- Use a lawn-type sprayer with coarse spray to reduce drift from wind.

#### Mode of Action

ADA 51802 is an auxin agonist classified as a quinoline carboxylic acid, is a systemic herbicide with plant uptake through both foliage and roots. Herbicide symptoms on susceptible plants include twisting, stunting, reddening and chlorosis.

**On Annual Weeds:** Symptoms may take up to two weeks after application to develop with death occurring in about three weeks.

**On Perennial Weeds:** Symptoms may not be evident for several weeks after application; full effect may not be evident for 3 to 6 months.

#### Resistance Management

ADA 51802 is a Group 4 herbicide which contains the active ingredient quinclorac. Some biotypes of barnyardgrass are known to be resistant to ADA 51802. Where naturally resistant biotypes occur, control can be achieved by sequentially applying or tank mixing this product with a registered product with a different mode of action. Fields should be scouted prior to application to identify

the weed species present and their growth state to determine if the intended application will be effective. Fields should be scouted after application to verify that the treatment was effective.

Suspected herbicide-resistant weeds may be identified by these indicators:

- \*Failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds;

- \*A spreading patch of non-controlled plants of a particular weed species; and

- \*Surviving plants mixed with controlled individuals of the same species. Plant into weed-free fields and keep fields as weed-free as possible.

To the extent possible, use a diversified approach toward weed management. Whenever possible incorporate multiple weed-control practices such as mechanical cultivation, biological management practices, and crop rotation.

Fields with difficult to control weeds should be rotated to crops that allow the use of herbicides with alternative modes of action or different management practices.

To the extent possible **DO NOT** allow weed escapes to produce seeds, root or tubers. Manage weed seeds at harvest and post-harvest to prevent a buildup of the weed seed bank.

Prevent field-to-field and within-field movement of weed seed or vegetative propagules. Thoroughly clean plant residues from equipment before leaving fields.

Prevent an influx of weed into the field by managing field borders.

Identify weeds present in the field through scouting and field history and understand their biology. The weed-control program should consider all of the weeds present.

Difficult to control weeds may require sequential application of herbicides with differing mechanisms of action.

Apply this herbicide at the correct timing and rate needed to control the most difficult weed in the field.

Use a broad spectrum soil-applied herbicide with a mechanism of action that differs from this product as a foundation in a weed-control program. **DO NOT** use more than two applications of this or any other herbicide with the same mechanism of action within a single growing season unless mixed with an herbicide with another mechanism of action with an overlapping spectrum for the difficult-to-control weeds.

Contact your local sales representative, crop advisor, or extension agent to find out if suspected resistant weeds to this MOA have been found in your region. If resistant biotypes of target weeds have been reported, use the application rates of this product specified for your local conditions. Tank mix products so that there are multiple effective mechanisms of actions for reach target weed.

If resistance is suspected, treat weed escapes with a herbicide having a different mechanism of action and/or use non-chemical means to remove escapes, as practical, with the goal of preventing further seed production. If resistance appears likely contact your retailer representative or call ADAMA at 866-406-6262.



## WEEDS CONTROLLED OR SUPPRESSED

When used as directed, ADA 51802 will provide suppression or control of weed species listed in **Table 1**.

**Table 1: Target Weeds**

Weeds Controlled	Weeds Suppressed*
<b>Annual Grasses</b> Barnyardgrass Crabgrass, large Foxtail, giant, green, yellow Junglerice Signalgrass, broadleaf <b>Annual Broadleaves</b> Bedstraw, catchweed (cleavers) Clovers Eclipta Jointvetch, Indian Jointvetch, Northern Lettuce, prickly Morningglory spp. Flax, volunteer Sesbania, hemp.	<b>Perennial Broadleaves</b> Bindweed <sup>1</sup> , field, hedge <b>Annual Broadleaves</b> Alligatorweed Kochia Lambsquarters, common Ragweed, common, giant Sunflower, wild Thistle <sup>3</sup> , Russian Velvetleaf <b>Perennial Broadleaves</b> Dandelion Sowthistle <sup>3</sup> , perennial Spurge <sup>2</sup> , leafy Thistle <sup>3</sup> , Canada
<p>*<b>DO NOT</b> apply more than a total of 64 fl oz of ADA 51802 per acre (0.75 lbs ae/acre) per calendar year. Make applications at yellow bract (pre-bloom) or in the fall before first severe frost. For best performance to control these species, apply 32 oz per acre of ADA 51802 as a tank mix with a dicamba-based herbicide.</p> <p>Improved control is achieved by tank mixing ADA 51802 with another herbicide that controls these listed species.</p> <p><sup>1</sup> See additional use directions under <b>FIELD AND HEDGE BINDWEED CONTROL DIRECTIONS</b> section of this label.</p> <p><sup>2</sup> <b>DO NOT</b> apply more than a total of 64 fl oz of ADA 51802 per acre per calendar year. Apply 32 to 64 fl oz of ADA 51802 per acre in non-crop areas for suppression and annual growth control. Make applications at yellow bract (pre-bloom) or in the fall before first severe frost. For best performance to control this species, apply 16 fl oz per acre of ADA 51802 as a tank mix with a dicamba-based herbicide.</p> <p><sup>3</sup> <b>DO NOT</b> apply more than a total of 32 oz of ADA 51802 per acre per calendar year. Apply 32 fl oz of ADA 51802 per acre for suppression and annual growth control. Make applications at rosette stage or bud stage and <b>DO NOT</b> make application when seed stalk is bolting. For best performance on this species, tank mix 32 fl oz per acre of ADA 51802 with a dicamba-based herbicide.</p>	

## FIELD AND HEDGE BINDWEED CONTROL DIRECTIONS

Application of ADA 51802 herbicide in the fall just prior to the first severe frost provides the most effective bindweed control. Make applications to bindweed plants that are actively growing and at least 4 inches long. Wait a minimum of 30 days for bindweed plants to regrow after tillage (if tillage is a part of the local postharvest practice) before making the ADA 51802 application. If applied yearly at 21 to 32 fl oz per acre in the fall, ADA 51802 will provide long-term bindweed control. The higher rate within the rate range is used when plants are large or densely populated. Refer to **Table 2-3** in the **SPRAY ADDITIVES** section of this label for additional requirements.

## CANADA THISTLE, PERENNIAL SOWTHISTLE AND RUSSIAN THISTLE

Use 32 fl oz/A of ADA 51802 for suppression and annual growth control of Canada thistle, perennial sowthistle and Russian thistle. Apply ADA 51802 at rosette stage or bud state. **DO NOT** make application when seed stalk is bolting. For best performance in pasture (including pasture grown for hay), rangeland, and Conservation Reserve Program Land (CRP) on Canada thistle, perennial sowthistle and Russian thistle, tank mix 32 fl oz/A of ADA 51802 with a dicamba-based herbicide

## LEAFY SPURGE

Use 32 to 64 fl oz/A of ADA 51802 in noncrop areas for suppression and annual growth control of leafy spurge. Apply ADA 51802 at yellow bract (prebloom) or in the fall before the first killing frost. For best performance in pasture (including pasture grown for hay), rangeland and Conservation Reserve Program Land (CRP) on leafy spurge, tank mix 32 fl oz/A of ADA 51802 with a dicamba-based herbicide.

## ADA 51802 HERBICIDE APPLICATION AREA

ADA 51802 may be applied in the following states: Alabama, Arkansas, Colorado, Delaware, Idaho, Illinois, Kansas, Kentucky, Louisiana, Maryland, Minnesota, Mississippi, Missouri, Montana, North Dakota, Nebraska, New Mexico, Nevada, Oklahoma, Oregon, Pennsylvania, South Dakota, Tennessee, Utah, Virginia, Washington, Wyoming, and the following counties in Texas: Archer, Armstrong, Bailey, Baylor, Borden, Briscoe, Brown, Callahan, Carson, Castro, Childress, Clay, Cochran, Coke, Coleman, Collin, Collingsworth, Concho, Cooke, Cottle, Crosby, Dallam, Dawson, Deaf Smith, Denton, Dickens, Donley, Fisher, Floyd, Foard, Garza, Glasscock, Gray, Grayson, Hale, Hall, Hansford, Hardeman, Hartley, Haskell, Hemphill, Hockley, Hutchinson, Jack, Jones, Kent, King, Know, Lamb, Lipscomb, Lubbock, Lynn, McCulloch, Montague, Moore, Motley, Nolan, Chiltree, Oldham, Parmer, Potter, Randall, Roberts, Runnels, Schackelford, Scurry, Sherman, Sterling, Stonewall, Swisher, Taylor, Terry, Throckmorton, Wheeler, Wichita, Wilbarger, Wise, Yoakum, and Young. **Prior to application of ADA 51802, obtain and follow all Texas state requirements for such uses.**



## APPLICATION INFORMATION

ADA 51802 may be applied to the sites indicated in this section of the label by ground or aerial application equipment.

Make ADA 51802 applications by broadcast or spot sprays when weeds are actively growing. Optimum results are achieved for most broadleaf weeds from application of ADA 51802 when weeds are small. If the weeds become too large, adequate control may not be obtained. If weeds are not actively growing, irrigation prior to application may be required to ensure effective control.

Refer to the **RESTRICTIONS** section and the **AERIAL APPLICATION** section for specific state and county restrictions.

### GROUND APPLICATION (Broadcast)

**DO NOT** apply when wind speeds are more than 10 mph at the application site.

**DO NOT** release spray at a height greater than 30 inches above the ground

Make applications of ADA 51802 in properly calibrated ground equipment. Apply in 5-40 gallons of water per broadcast acre. Consult spray tip performance and **DO NOT** exceed manufacturer-recommended spray pressures. For many nozzle types, lower pressure produces larger droplet sizes. When higher flow rates are needed use higher flow rate nozzles instead of increasing pressure. Ensure that sprayer rate controller systems (if so equipped) does not allow pressure to increase above the desired range. For dense weed foliage, use the higher spray volumes.

Use only nozzles that will produce uniform spray patterns and thorough coverage and medium or coarser droplets (ASABE standard 572). Place nozzles up to 20 inches apart. Select nozzles which are designed to produce minimal amounts of fine spray particles. **DO NOT** use controlled droplet applicator (CDA) nozzles which can cause erratic weed coverage and lead to inconsistent weed control. **DO NOT** use selective application equipment such as recirculating sprayers or wiper applicators. Recommended nozzles for drift reduction include Delavan® Raindrop Drift Reduction Flat Spray Tip, RF Tips, XR Tee Jet™ Extended range Flat Spray Tips, or other brands with similar capabilities.

Refer to Table [2-3](#) in the **SPRAY ADDITIVES** section of this label for additional requirements.

### AERIAL APPLICATION

Make applications of ADA 51802 in properly calibrated aerial application equipment.

Apply 5 or more gallons of water per acre.

Medium or coarser spray droplets (ASABE standard 572).

The maximum release height must be 10 feet from the top of the canopy, unless a greater application height is required for pilot safety.

**DO NOT** make aerial application when:

- Prohibited by state regulations
- Wind speeds are more than 8 mph at the application site
- Air temperature is more than 90° F or when environmental conditions exist for temperature inversions

**DO NOT** apply aerial application on Turfgrass.

Flaggers and other personnel working on the ground to help guide aerial applications must not make contact with spray mist and must wear personal protective equipment (PPE) and protective eyewear.

Refer to **Table 2A** in the section **SPRAY ADDITIVES** section of this label for additional requirements. ADA 51802 may be applied by air in states listed in Table 2A

Do not apply ADA 51802 by air in the following counties. The possible presence of endangered plant species in these counties might be impacted by aerial applications of ADA 51802.

**Table 2A. ADA 51802 Aerial Application Permitted**

State	Counties
Arkansas	Do not apply ADA 51802 by air in all counties
Arkansas	The area of Poinsett County one-mile west of Highway No. 1 to two miles west of Highway number 1 and one mile east of Highway No. 163 to Ditch No. 10 from Craighead/Poinsett county line to the Cross/Poinsett county line.  See also Arkansas restrictions section for areas where ADA 51802 herbicide use is prohibited by ANY method of application.
Colorado	Boulder, Delta, Garfield, Jefferson, La Plata, Mesa, Montezuma, Montrose, Morgan, Rio Blanco, San Miguel, Weld
Idaho	Idaho, Kootenai, Latah
Kansas	Allen, Anderson, Atchison, Bourbon, Coffey, Crawford, Douglas, Franklin, Jackson, Jefferson, Johnson, Leavenworth, Linn, Lyon, Miami, Neosho, Osage, Pottawatomie, Riley, Shawnee
Louisiana	Do not apply ADA 51802 by air in all counties
Mississippi	Do not apply ADA 51802 by air in all counties
Montana	Lake, Missoula
Nebraska	Box Butte, Cherry, Garden, Hall, Lancaster, Morrill, Seward, Sheridan
New Mexico	Chaves, Dona Ana, Eddy, San Miguel
North Dakota	Ransom, Richard
Oklahoma	Choctaw, Craig, Rogers
Oregon	Benton, Clackamas, Coos, Douglas, Harney, Klamath, Lane, Linn, Marion, Polk, Wallowa, Washington, Yamhill
South Dakota	Bennett, Brookings, Brown, Clay, Coddington, Day, Deuel, Grant, Lincoln, Minnehaha, Moody, Roberts, Todd, Turner, Union, Yankton
Texas	Bandera, Brazos, Burleson, Coke, El Paso, Fort Bend, Freestone, Harris, Hays, Hudspeth, Jim Wells, Kerr, Kimble, Kleberg, Leon, Live Oak, Madison, Mitchell, Nueces, Pecos, Refugio, Robertson, Runnels, San Patricio, Starr, Uvalde, Washington
Utah	Cache, Carbon, Duchesne, Emery, Garfield, Kane, Salt Lake, San Juan, Sanpete, Sevier, Tooele, Uintah, Utah, Washington, Wayne, Weber
Washington	Chelan, Clark, Cowlitz, Island, Spokane

Arkansas <sup>1</sup>	Nebraska <sup>1</sup>
Colorado <sup>1</sup>	Nevada
Idaho <sup>1</sup>	New Mexico <sup>1</sup>
Illinois	North Dakota <sup>1</sup>
Iowa	Oklahoma <sup>1</sup>
Kansas <sup>1</sup>	Oregon <sup>1</sup>
Louisiana	South Dakota <sup>1</sup>
Minnesota	Texas <sup>1</sup>
Mississippi	Utah <sup>1</sup>
Missouri	Washington <sup>1</sup>
Montana <sup>1</sup>	Wyoming
<sup>1</sup> See Table 2B for specific geographic restrictions where aerial application is not permitted.	

Because of the possible presence of endangered plant species as well as additional state restrictions, aerial application is **NOT** permitted in the geographic areas listed in **Table 2B**.

**Table 2B. ADA 51802 Aerial Application NOT Permitted**

State	County/Geographic Area
Arkansas <sup>1</sup>	The area of Poinsett County one-mile west of Highway No. 1 to two-miles west of Highway No. 1 and one-mile east of Highway No. 163 to Ditch No. 10 from the Craighead/Poinsett county line to the Cross/Poinsett county line See also, <b>State Specific Restrictions</b> section for areas where ADA 51802 use is prohibited by <b>ANY</b> method of application.
Colorado	Boulder, Delta, Garfield, Jefferson, La Plata, Mesa, Montezuma, Montrose, Morgan, Rio Blanco, San Miguel, Weld

<u>Idaho</u>	<u>Idaho, Kootenai, Latah</u>
<u>Kansas</u>	<u>Allen, Anderson, Atchison, Bourbon, Coffey, Crawford, Douglas, Franklin, Jackson, Jefferson, Johnson, Leavenworth, Linn, Lyon, Miami, Neosho, Osage, Pottawatomie, Riley, Shawnee</u>
<u>Montana</u>	<u>Lake, Missoula</u>
<u>Nebraska</u>	<u>Box Butte, Cherry, Garden, Hall, Lancaster, Morrill, Seward, Sheridan</u>
<u>New Mexico</u>	<u>Chaves, Dona Ana, Eddy, San Miguel</u>
<u>North Dakota</u>	<u>Ransom, Richland</u>
<u>Oklahoma</u>	<u>Choctaw, Craig, Rogers</u>
<u>Oregon</u>	<u>Benton, Clackamas, Coos, Douglas, Harney, Klamath, Lane, Linn, Marion, Polk, Wallowa, Washington, Yamhill</u>
<u>South Dakota</u>	<u>Bennett, Brookings, Brown, Clay, Coddington, Day, Deuel, Grant, Lincoln, Minnehaha, Moody, Roberts, Todd, Turner, Union, Yankton</u>
<u>Texas</u>	<u>Bandera, Coke, El Paso, Freestone, Hays, Hudspeth, Jim Wells, Kerr, Kimble, Kleberg, Leon, Live Oak, Madison, Mitchell, Nueces, Pecos, Robertson, Runnels, San Patricio, Starr, Uvalde, Washington</u>
<u>Utah</u>	<u>Cache, Carbon, Duchesne, Emery, Garfield, Kane, Salt Lake, San Juan, Sanpete, Sevier, Tooele, Uintah, Utah, Washington, Wayne, Weber</u>
<u>Washington</u>	<u>Chelan, Clark, Cowlitz, Island, Spokane</u>
<sup>1</sup> Because there are additional state restrictions in Arkansas, contact the Arkansas Plant Board or a representative for specific instructions about applying ADA 51802 in Arkansas.	

#### SPRAY ADDITIVES

The use of spray additive(s) with ADA 51802 is required in order to achieve consistent weed control. Methylated seed oil (MSO) is the recommended spray additive with ADA 51802. Crop oil concentrates may also be used with ADA 51802. Enhanced efficacy can be achieved by addition of a nitrogen fertilizer source (AMS or UAN) but cannot be used in place of methylated seed oil or crop oil concentrate. Refer to **Table 23. Spray Additive Rate Per Acre** section below for spray additive rates. Consult your local ADAMA representative for recommendations for your area.

**Table 23. Spray Additive Rate per Acre**

<b>Spray Additive</b>	<b>Amounts to use for Aerial Applications</b>	<b>Amounts to use for Ground Applications</b>
Methylated Seed Oil	1.0 – 2.0 pints <sup>2</sup>	1.0 – 2.0 pints <sup>2</sup>
Crop Oil Concentrate	2.0 pints	2.0 pints
AMS, Liquid <sup>1</sup>	1.5 quarts	--
AMS, Solid <sup>1</sup>	--	2.5 pounds
UAN Solution <sup>1</sup>	0.5 gallons	0.5 – 1 gallons

<sup>1</sup>Optional

<sup>2</sup>For best grass control, use at least 1.5 pints/acre of methylated seed oil.

#### Methylated Seed Oil or Crop Oil Concentrate:

A methylated seed oil or crop oil concentrate must meet all of the following criteria:

- Contain either a petroleum or vegetable oil base, and
- be nonphytotoxic, and
- contain only EPA-exempt ingredients, and
- provide good mixing results from the **Compatibility Test for Tank Mixtures** section of this label, and
- be successful in local experience.

Suitable products will vary in their exact composition, but vegetable and petroleum oil concentrates should contain emulsifiers that provide good mixing quality. Better results have been proved with highly refined vegetable oils than with unrefined vegetable oils.

For additional information, see **Compatibility Test for Tank Mixtures** section of this label.

**For bindweed control in Oklahoma, New Mexico and the designated counties of Texas, addition of methylated seed oil plus AMS is mandatory when ADA 51802 is applied alone.**

### Nitrogen Fertilizer Sources:

1. **Urea ammonium nitrate (UAN):** These products are 28%, 30% or 32% nitrogen solutions. If including UANs in spray tanks, **DO NOT** use brass or aluminum spray nozzles.
2. **Ammonium sulfate (AMS):** AMS may be substituted for UAN. Use high-quality AMS (spray grade) to avoid plugging of nozzles. Other sources of nitrogen are not as effective as the ones mentioned above. AMS has the potential to cause precipitation in reduced carrier volumes. Use AMS only if tested in a jar test or it has been demonstrated to be successful in local experience. Because most nitrogen solutions are mildly corrosive to galvanized, mild steel, and brass spray equipment, rinse the entire spray system with water soon after use. To avoid plugging of spray nozzles: 1) Use high-quality AMS; 2) Use an AMS which is readily soluble in water and contains no insoluble materials. Local sources of high-quality, fine, feed-grade AMS may be better than fertilizer grade. Low-quality AMS may contain material that will not readily dissolve, which could result in nozzle tip plugging; 3) To determine AMS quality, perform a jar test adding 1/3 cup of ammonium sulfate to 1 gallon of water and agitate for 1 minute. If any undissolved sediment is observed, pre-dissolve the AMS in water and filter before adding it to the spray tank. If the AMS is added directly to the spray tank, add slowly while agitating. Adding the mix too quickly may clog outlet lines.

### Nonionic Surfactant:

A nonionic spray surfactant (80%) may only be used when ADA 51802 is tank mixed with other products that prohibit the use of oil additives. Reduced weed control from ADA 51802 plus the nonionic surfactant may result. Use at the nonionic surfactant rate of 1 quart per 100 gallons of water (0.25% vol./vol.). If a nonionic surfactant is used with ADA 51802, a nitrogen fertilizer source must be used as well.

### TANK MIXTURES WITH ADA 51802

Other registered products may be tank mixed with ADA 51802. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

ADAMA does not recommend using tank mixes other than those listed on ADAMA labeling. Physical incompatibility, reduced weed control, or crop injury may result from mixing ADA 51802 with other pesticides, additives, or fertilizers. Local agricultural authorities may be a source of information when using other than ADAMA recommended tank mixes.

For suppression of weeds listed in **Table 1**, use the following herbicides as tank mixes with ADA 51802. When mixing ADA 51802 as a tank mix, use a rate of 21 to 32 fl oz per acre of ADA 51802.

2,4-D  
ATRAZINE  
BROMOXYNIL  
BROMOXYNIL + ATRAZINE  
DICAMBA  
PARAQUAT  
DIFLUFENOPYR + DICAMBA  
GLYPHOSATE + DICAMBA  
DIMETHENAMID  
DIMETHENAMID-P + ATRAZINE  
GLYPHOSATE + 2,4-D  
DICAMBA + ATRAZINE  
DIMETHENAMID-PROSULFURON  
GLYPHOSATE  
DICAMBA + 2,4-D

### Compatibility Test for Tank Mixtures

Carry out this test using a one-quart jar. Add the ingredients in the order listed below. To calculate the amount to add to a one quart jar, use the following guidelines:

- For dry products applied at 64 fl oz per acre, add 5 teaspoons to a one-quart jar. For ADA 51802 at the 21 fl oz rate, use 2 teaspoons. For ADA 51802 at the 32 fl oz rate, use 2.5 teaspoons.
  - For liquid products applied at 1 pint per acre, add 1 teaspoon to a one-quart jar.
1. **Water:** For a spray volume of 20 gallons per acre, add 3.3 cups (800 ml) of water. Adjust the rates if other spray volumes are planned. Use water from the intended source.
  2. Cap the jar and invert 10 times.
  3. **Water-Dispersible (WG) Products (such as dry flowables (DF) including wettable powders (WP), suspension concentrates (SC), or suspoemulsions :** Cap the jar and invert 10 times.
  4. **Water-soluble products (Including ADA 51802):** Cap the jar and invert 10 times.
  5. **Emulsifiable concentrates, methylated seed oil, or crop oil concentrate:** Cap the jar and invert 10 times.
  6. **Water-soluble additives, including AMS or UAN:** Cap the jar and invert 10 times.

Let the test mixture stand for 15 minutes and then evaluate for uniformity and stability. The spray solution should not have free oil on the surface or fine particles that precipitate to the bottom or thick (clabbered) texture. **DO NOT** use any spray solution that could clog spray nozzles.

### DIRECTIONS FOR MIXING ADA 51802

Before mixing ADA 51802 with other products, conduct a compatibility test to determine if the spray solution is stable. Follow the directions in the section **Compatibility Test for Tank Mixtures** section of this label.

1. Use only spray tanks that have been cleaned prior to use.
2. Add  $\frac{3}{4}$  the amount of required water to the spray tank while agitating.
3. If an inductor system is used, rinse thoroughly after addition of each component.

Add products to the spray tank in the following order

- ❖ water-soluble pouches; allow the pouches to dissolve before agitation or adding the next component.
- ❖ water dispersible products including (dry flowables, wettable powders, suspension concentrates or suspoemulsions).
- ❖ water-soluble products (Including ADA 51802)
- ❖ Emulsifiable concentrates (including oil concentrates)
- ❖ Water-soluble additives (AMS or UAN)

Add the remaining amount of water to the tank and agitate to ensure a uniform distribution.

Continue agitation until spraying is completed. If the spray solution is allowed to settle, reagitate thoroughly to resuspend the mixture and then continue spray operations.

### Cleaning of Spray Equipment

Ensure that spray equipment is properly and thoroughly cleaned before and after applying ADA 51802. Use a strong detergent or commercial sprayer cleaner and follow the manufacturer's directions for use.

### CROP SPECIFIC INFORMATION

#### Crop-Specific Restrictions

- **DO NOT** allow livestock to graze in treated areas.
- Pre-Harvest Interval (PHI): **DO NOT** harvest hay from treated areas within 309 days after application.
- **DO NOT** feed treated grasses, forage hay, silage, straw, seed or seed screenings to livestock.
- **DO NOT** apply to water or to areas where surface water is present.
- **DO NOT** apply to irrigated ditches or areas that act as a channel for water entering cropland.

#### PRE-PLANT WHEAT OR PRE-PLANT SORGHUM

**DO NOT** use on preplant wheat in the following states: ID, MT, NV, OR, UT, WA or WY

Apply ADA 51802 at 21 fl oz per acre in preplant wheat (see state restrictions above) or preplant grain sorghum to control annual grasses and broadleaf weeds (see **Table 1**). For bindweed control with ADA 51802, refer to the section of this label entitled **FIELD AND HEDGE BINDWEED CONTROL DIRECTIONS** for additional use directions.

If ADA 51802 is applied as a preplant treatment in wheat, be sure that the wheat is planted at least 1" deep. Crop injury could occur if the wheat is planted in shallow (<1" deep) soil especially if the wheat is subject to drought or other conditions that lead to plant stress.

ADA 51802 may be tank mixed with 2,4-D, dicamba and glyphosate. See label of tank mixture herbicides for rate and follow the most restrictive label.

#### In-Crop Sorghum

Apply ADA 51802 to grain sorghum at 21 to 32 fl oz per acre for control of annual grasses and broadleaf weeds. Time applications to occur preemergence to postemergence (to 12" inch tall sorghum). For optimum annual grass control, apply ADA 51802 (21 to 32 fl oz per acre) in a tank mix with atrazine (see atrazine label for rate) when weeds are less than 2" tall.

**DO NOT** use liquid fertilizer as a carrier for postemergence applications of ADA 51802 to grain sorghum.

In Oklahoma, New Mexico, and in the designated counties in Texas, **DO NOT** apply more than 32 oz of ADA 51802 per acre to in-crop sorghum.

**Tank Mixes:** Other registered products may be tank mixed with ADA 51802. Before using other products in combination with ADA 51802, read and follow the restrictions and limitations and directions for use on all products' labels. The most restrictive labeling applies to tank mixes. ADA 51802 may be tank mixed with 2,4-D, atrazine, dicamba, and glyphosate at preplant timings, and 2,4-D, atrazine, dicamba, prosulfuron, bromoxynil and bromoxynil + atrazine at postemergence timings.

### RICE

ADA 51802 may be used in dry-seeded, water-seeded, and all types of rice plantings and production cultures to control weeds. ADA 51802 is a liquid formulation to be diluted with water prior to application using common agricultural spray equipment.

Rice is tolerant to ADA 51802 when used according to the use directions on this label and when typical growing conditions exist. If spray overlap is restricted, as mentioned below, then higher rates from spray overlap should not occur. Note that broadcast or water-seeded rice seeds sitting on the soil surface that come in direct contact with ADA 51802 will be most sensitive and exhibit these abnormal growth characteristics. These symptoms are typically short lived and rice usually recovers without a significant stand loss or other injury.

#### Restrictions

- ❖ **DO NOT** apply more than 43 fl oz/A of ADA 51802 per application.
- ❖ **DO NOT** apply more than 43 fl oz/A of ADA 51802 per season.
- ❖ **DO NOT** apply ADA 51802 to rice that is heading.

**Preharvest Interval (PHI): DO NOT** apply ADA 51802 within 40 days of harvest.

**Crop Rotation Restrictions:**

- ❖ Rice: In case of crop failure, only rice may be immediately replanted to fields treated with ADA 51802.
- ❖ In case of crop failure, only rice, spring or winter wheat, or grain sorghum may be immediately replanted.
- ❖ **DO NOT** plant any crop other than rice, spring or winter wheat, or grain sorghum for 10 months following application.
- ❖ Wheat: Wheat may be planted 6 months after a ADA 51802 application in the following states: Idaho, Montana, Nevada, Oregon, Utah, Washington and Wyoming
- ❖ Eggplants and tobacco: **DO NOT** plant for 12 months after application to treated fields.
- ❖ Tomatoes and carrots: **DO NOT** plant for 24 months after application to treated fields.
- ❖ Alfalfa, carrots, clover, dry beans, flax, lentils, peas, safflower, Solanaceous crops listed in Spray Drift to Sensitive Crops section, and sugar beets: **DO NOT** replant for 24 months. Conduct a bioassay before planting any of these crops
- ❖ Other Crops: **DO NOT** plant any other crop (other than rice) for 309 days (10 months) after application to treated fields.

**Soil Restrictions:**

- ❖ **DO NOT** use ADA 51802 on precision-cut fields until the second rice crop as injury can occur.
- ❖ **DO NOT** use ADA 51802 on sand and loamy sand soils.
- ❖ **DO NOT** apply to rice fields with a history of poor water-holding capacity (porous subsoil), as erratic weed control may result.
- ❖ **DO NOT** apply ADA 51802 on rice-growing soil that does not have an impermeable hard pan to provide good water holding capacity.

**Drift Concerns:**

- ❖ **DO NOT** allow ADA 51802 to drift outside the intended target areas.
- ❖ Ground application: **DO NOT** apply when wind speed is greater than 10 mph.
  - **DO NOT** release spray at a height greater than 30 inches above the ground
- ❖ Aerial application: **DO NOT** apply when wind speed is greater than 10 mph.
  - **DO NOT** release spray at a height greater than 10 feet above the crop canopy, unless a higher application height is required for reasons of pilot safety

**Temperature Inversions: DO NOT** apply ADA 51802 when air temperatures exceed 90°F.

- ❖ **DO NOT** use rice straw or processing byproducts (such as chaff, hulls, etc.) as soil amendments or mulch for high-value crops such as bedding stock, vegetable transplants, or ornamental and fruit trees.
- ❖ **DO NOT** use treated rice fields for the aquaculture of edible fish and *Crustacea* (crayfish).
- ❖ **DO NOT** use water from rice cultivation after a ADA 51802 application to irrigate any crop other than rice.
- ❖ **DO NOT** apply this product through any type of irrigation system.

**State Specific Restrictions:** Because there are additional state restrictions in Arkansas, contact the Arkansas Plant board or a representative for specific instructions about applying ADA 51802 in Arkansas.

In Arkansas, ADA 51802 must not be applied in an area from one mile west of Highway #1 to one mile east of Highway #163 from the Craighead – Poinsett County line to the Cross – Poinsett County line. No aerial application is allowed in the area of Poinsett County one mile west of Highway #1 to two miles west of Highway #1 and one mile east of Highway #163 to Ditch #10, from the Craighead – Poinsett County line to the Cross-Poinsett county line. For use in New York State by spot treatment only.

**Water Management (Irrigation and Flood Water)**

To ensure optimum weed control with ADA 51802, use proper irrigation practices including effective flush irrigation to maintain moist soil conditions and timely establishment of permanent floodwater.

ADA 51802 is a systemic herbicide. The weed foliage and roots absorb ADA 51802 and translocates it throughout the weed. Treated weeds will show signs of leaf and stem curling or twisting, stunting, change color from green to white (chlorosis), finally to red, and become necrotic before finally dying. Weeds are controlled only when moist soil conditions exist which help the weeds absorb ADA 51802. Therefore, the soil must be kept moist to maintain weed control. If the soil becomes dry and weeds emerge after a ADA 51802 application, flush-irrigate the treated field to reactivate the residual activity of the ADA 51802 while weeds are small (1" or less).

An application of ADA 51802 may be made if needed, but **DO NOT** exceed more than 57 fl oz/A per season (see **Restrictions** section of this label for further limitations). In water-seeded rice plantings and in pinpoint flood culture, drain all water from the rice field and ensure seedling rice has at least two leaves before applying ADA 51802. Injury may occur in rice seedlings without 2 leaves. For more consistent weed control, form floodwater levees before making a ADA 51802 application. Although ADA 51802 provides residual weed control, if the levee soil becomes dry, erratic weed control may result.

**DO NOT** apply ADA 51802 if heavy rain is expected. If heavy rain does occur after the application, drain any excess water from the rice field to avoid possible rice injury.

**APPLICATION INFORMATION**

ADA 51802 may be applied to rice fields to control barnyardgrass, propanil-resistant barnyardgrass, other annual grasses, and certain broadleaf weeds.

**Application Equipment:** Both ground and air applications are permitted; however, whenever possible make applications by ground application.

**DO NOT** make spray applications when wind speed is greater than 10 mph (ground) or 8 mph (air), when air temperatures exceed 90°F, or when environmental conditions exist for temperature inversions.

Use only nozzles that will produce uniform spray patterns and thorough coverage. Select nozzles designed to produce minimal amounts of fine spray particles. Always use drift control agents and apply only when wind and other weather conditions **DO NOT** favor spray drift beyond the rice field borders.

### **Ground Application**

Whenever possible, make applications of ADA 51802 using ground spray equipment.

**DO NOT** apply when wind speed is greater than 10 mph.

**DO NOT** release spray at a height greater than 30 inches above the ground

For preplant/preemergence or delayed preemergence, apply ADA 51802 in 10-40 gallons of water per broadcast acre at pressures between 25-40 psi.

For postemergence applications, apply ADA 51802 in 10-20 gallons of water per broadcast acre at pressures between 25-40 psi.

### **Air Application**

If application with ground spray equipment is not possible, application by aircraft is allowed as long as the aerial applicator understands the risks and assumes the liability associated with accidental spray drift from aerial application. **DO NOT** make spray applications when wind speed is greater than 10 mph, when air temperatures exceed 90°F, or when environmental conditions exist for temperature inversions. **DO NOT** release spray at a height greater than 10 feet above the crop canopy, unless a higher application height is required for reasons of pilot safety

Apply ADA 51802 in a minimum of 5 gallons of water per acre at a minimum pressure of 40 psi.

**DO NOT allow ADA 51802 to drift outside of the intended target areas.**

**No aerial application** is allowed in Arkansas in the area of Poinsett County one mile west of Highway #1 to two miles west of Highway #1 and one mile east of Highway #163 to Ditch #10, from the Craighead-Poinsett county line to the Cross-Poinsett county line.

**Soil Applications:** Apply ADA 51802 to the soil surface before, during, or after planting of dry-seeded rice. Once activated by rainfall or irrigation, the roots of susceptible grasses and broadleaf weeds uptake the herbicide and results in commercially acceptable weed control before weed competition reduces rice productivity. Use rates for ADA 51802 will depend on soil texture and clay content for optimum weed control. Refer to **Table 1-4** for application rates for heavier soil textures and higher clay content soil types.

### **Foliar Applications:**

When ADA 51802 is applied to target grass and broadleaf weed foliage in dry-seeded and water-seeded rice, the leaves and stems partially uptake the herbicide. After this foliar application, the rice must be flushed to ensure root absorption of ADA 51802. The combination of leaf, stem and root absorption of ADA 51802 results in commercially acceptable weed control.



Some residual weed control activity occurs from the herbicide reaching the soil surface and moving into the soil from rainfall or irrigation. The lower use rates most often control smaller weeds while the higher use rates are needed for larger weeds. Refer to **Table 14.4** for foliar application use rates which will provide commercially acceptable control of susceptible weeds based on weed size or growth stage.

**Table 14.4. Timing and Application Rate Table** (see **Restrictions** section of this label for further limitations):

	Soil application fl oz/A			Foliar application fl oz/A	
	Coarse Soil <sup>1</sup>	Medium Soil <sup>2</sup>	Fine Soil <sup>3</sup>	Small Weeds and short- term residual	Large Weeds and Long- term residual
Weeds Controlled					
Grasses					
Barnyardgrass	22 to 28	32	43	26 to 32 Up to 2 inches	26 to 43 2 to 3 Inches
Crabgrass, Large					
Jungle rice					
Signalgrass, Broadleaf					
Broadleaf Weeds					
Eclipta	22 to 28	32	43	26 to 32 Up to 2 leaves	32 to 43 Up to 3 leaves
Jointvetch, Indian					
Jointvetch, Northern					
Morningglory, Cypressvine					
Morningglory, entireleaf					
Morningglory, ivyleaf					
Morningglory, pitted					
Morningglory, purple moonflower					
Morningglory tall (common)					
Sesbania, hemp					
Alligatorweed <sup>4</sup>	n/a	n/a	n/a	43	n/a

<sup>1</sup>Sandy Loam

<sup>2</sup>Silt, loam, silty loam, sandy clay loam

<sup>3</sup>Silty clay, silty clay loam, clay loam, clay, gumbo, and buckshot

<sup>4</sup>Partial control only. Rice must be in at least the 2-leaf stage. For best control, establish permanent flood within 2 days after ADA 51802 herbicide application

#### ADDITIVES

For postemergence applications only, add 2 pints of crop oil concentrate per acre to spray tank solutions of ADA 51802 for improved leaf and stem uptake and enhanced weed control.

**Drift Control Products.** Always add a drift control agent to the spray solution to affect spray droplet size and other characteristics and to reduce the potential of off-target accidental spray drift.

#### DIRECTIONS FOR MIXING ADA 51802

1. Use only spray tanks that have been cleaned prior to use.
2. Add  $\frac{1}{4}$  the amount of required water to the spray tank while agitating. Maintain constant agitation throughout mixing and application.
3. If an inductor is used, rinse it thoroughly after the component has been added.

Add products to the spray tank in the following order:

- ❖ water-soluble pouches - allow the pouches to dissolve before agitation or adding the next component.
- ❖ water dispersible products (such as wettable powders, suspension concentrates or suspo-emulsions).
- ❖ water-soluble products
- ❖ emulsifiable concentrates
- ❖ water-soluble additives

Add the remaining amount of water to the tank and agitate to ensure a uniform distribution. Continue agitation until spraying is completed. If the spray solution is allowed to settle, re-agitate thoroughly to resuspend the mixture and then continue spray operations.

#### Cleaning of Spray Equipment

Ensure that spray equipment is properly and thoroughly cleaned before and after applying ADA 51802. Use a strong detergent or commercial sprayer cleaner and follow the manufacturer's directions for use.

#### Cleaning Spray Equipment

Thoroughly clean all mixing equipment and all spray equipment before and after mixing and applying ADA 51802.

#### TANK MIXING INFORMATION

Other registered products such as those listed below may be tank mixed with ADA 51802 to provide control of a broader spectrum of annual grasses and broadleaf weeds in rice. Before using other products in combination with ADA 51802, read and follow the restrictions and limitations and directions for use on all products' labels. The most restrictive labeling applies to tank mixes. **Table 2** below describes some weed situations where tank mixing is appropriate.

**Table 25. Tank Mixes**

Weed	Tank Mix Information
Cocklebur	ADA 51802: 28-57 fl oz/A & bentazon
Dayflower	ADA 51802: 28-57 fl oz/A & bentazon
Hemp Sesbania	ADA 51802: 28-57 fl oz/A & acifluorfen & bentazon OR ADA 51802: 28-57 fl oz/A clomazone
Red, Weedy and Feral Rice	Imazethapyr or imazamox on appropriate herbicide tolerant rice systems.
Sprangletop	ADA 51802: 028-57 fl oz/A.& thiobencarb OR ADA 51802: 28-57 fl oz/A & pendimethalin OR ADA 51802: 28-57 fl oz/A clomazone
Yellow Nutsedge	ADA 51802: 28-57 fl oz/A & bentazon
Morningglory	ADA 51802: 28-57 fl oz/A & clomazone
Heavy infestations of broadleaf weeds	ADA 51802: 28-57 fl oz/A & acifluorfen & bentazon
For weeds and grasses not controlled by ADA 51802	ADA 51802: 28-57 fl oz/A & propanil
<sup>1</sup> Apply tank mix after rice has reached the 3-leaf stage. <sup>2</sup> Apply tank mix to the soil surface 1-5 days before rice emergence. <sup>3</sup> Apply this tank mix to the soil surface after planting, before rice emerges, and before sprangletop emerges.	

**Additional tank mix partners include:**

**Carfentrazone, penoxsualm, halosulfuron, bispyribac, fenoxaprop, saflufenacil.**

## STORAGE AND DISPOSAL

**DO NOT** contaminate water, food, or feed by storage and disposal.

**PESTICIDE STORAGE:** Store in a cool, dry and well ventilated area. **DO NOT** store under wet conditions.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

### CONTAINER HANDLING:

**Nonrefillable Container (flexible-bag-all weights): DO NOT** reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling, if available, or dispose of empty bag in a sanitary landfill or by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**Nonrefillable Container (5 gal or less): DO NOT** reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container  $\frac{1}{4}$  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. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**Nonrefillable Container (greater than 5 gal): DO NOT** reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container  $\frac{1}{4}$  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. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**Refillable Container:** Refill this container with quinclorac only. **DO NOT** reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

## LIMITATION OF WARRANTY AND LIABILITY

Read the entire directions for use, conditions 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 ADAMA. All such risks shall be assumed by the user or buyer.

**DISCLAIMER OF WARRANTIES:** To the extent consistent with applicable law, ADAMA makes no other warranties, express or implied, of merchantability or of fitness for a particular purpose or otherwise, that extend beyond the statements made on this label. No agent of ADAMA is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. To the extent consistent with applicable law, ADAMA disclaims any liability whatsoever for special, incidental or consequential damages resulting from the use or handling of this product.

**LIMITATIONS OF LIABILITY:** To the extent consistent with applicable law, the exclusive remedy of the user or buyer for any and all losses, injuries or damages resulting from the use or handling of this product, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid or at ADAMA's election, the replacement of product.

Delavan® is a registered trademark of Delavan Spray, LLC

Tee Jet™ is a trademark of Spraying Systems Company.

ADA 51802\_66222-283 -Master-pending -Amed-061824

<b>SUBLABEL B</b>	<b>Turf &amp; NON-CROP USES Only</b>
-------------------	--------------------------------------

Group	<b>4</b>	Herbicide
-------	----------	-----------

# ADA 51802

(Alternate Brand name: Zurax L)

## Herbicide For Use on Wheat, Sorghum, and Rice

<b>ACTIVE INGREDIENT:</b>		<b>% BY WT.</b>
Dimethylamine salt of quinclorac: 3,7-dichloro-8-quinolinecarboxylic acid .....		17.79%
<b>OTHER INGREDIENTS:</b> .....		82.21%
<b>Equivalent to:</b>		
1.50 lbs quinclorac: 3,7-dichloro-8-quinolinecarboxylic acid equivalent per gallon	<b>TOTAL:</b>	100.00%

## KEEP OUT OF REACH OF CHILDREN

## CAUTION / PRECAUCIÓN

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.)

<b>FIRST AID</b>	
<b>IF SWALLOWED:</b>	<ul style="list-style-type: none"> <li>• Call poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• <b>DO NOT</b> induce vomiting unless told to do so by the poison control center or doctor.</li> <li>• <b>DO NOT</b> give anything by mouth to an unconscious person.</li> </ul>
<b>IF IN 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 to 20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF IN EYES:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF INHALED:</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance; then give artificial respiration, preferably by mouth to mouth, if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
<b>HOT LINE NUMBER</b>	
Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact <b>Prosar</b> at 1-877-250-9291 for emergency medical treatment information.	

In case of spills, fire, leaks or accident, call INFOTRAC at 1-800-535-5053.

[Optional Text: See inside label booklet for [First Aid,] additional Precautionary Statements, Directions for Use and Storage and Disposal Instructions.]

**Manufactured for:**  
Makhteshim Agan of North America, Inc. (d/b/a ADAMA)  
8601 Six Forks Road, Suite 300  
Raleigh, NC 276153120 Highwoods Blvd., Suite 100  
Raleigh, NC 27604

How can we help? 1-866-406-6262

EPA Reg. No. 66222-283

EPA Est. No. xxxxx-xx-xxx

NET CONTENTS: \_\_\_\_\_

# PRECAUTIONARY STATEMENTS

## HAZARDS TO HUMANS AND DOMESTIC ANIMALS

### CAUTION

Harmful if swallowed. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Avoid contact with eyes or clothing.

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

#### Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of 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. Keep and wash PPE separately from other laundry.

### USER SAFETY RECOMMENDATIONS

#### Users should:

- Wash hands thoroughly after handling and 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.

**ENGINEERING CONTROL STATEMENTS:** When handlers use closed systems or enclosed cabs 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.

### ENVIRONMENTAL HAZARDS

This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

**DO NOT** apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. **DO NOT** contaminate water by cleaning of equipment or disposal of rinsate.

For terrestrial uses **DO NOT** apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark, except as specified on this label for use on rice. Keep out of lakes, ponds, and streams. **DO NOT** contaminate water by cleaning of equipment or disposal of rinsate.

### DIRECTIONS FOR USE

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

**DO NOT** apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

**DO NOT** enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.

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, and water is:

- Coveralls
- Chemical-resistant gloves made of butyl rubber ≥ 14 mils, natural rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, or nitrile rubber ≥ 14 mils
- Shoes plus socks

### NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are not within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses. **DO NOT** enter or allow others to enter until sprays have dried.

### SPRAY DRIFT MANAGEMENT

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment- and weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. The following drift management requirements must be followed to avoid off-target movement from aerial applications to agricultural field crops. These requirements **DO NOT** apply to forestry applications, public health uses, or to applications using dry formulations.

3. The distance of the outer most nozzles on the boom must not exceed  $\frac{3}{4}$  the length of the wingspan or rotor.

- Nozzles must always point backward parallel with the air stream and never be pointed downward more than 45 degrees. Where states have more stringent regulations, they must be observed.

The applicator should be familiar with and take into account the information covered in the aerial drift reduction advisory information presented below.

#### **Importance of 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 Inversion** sections of this label).

#### **Controlling Droplet Size**

- Volume**-Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets. Apply ADA 51802 in 3-10 gallons of spray volume per acre.
- Pressure**-Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. **WHEN HIGHER FLOW RATES ARE NEEDED, USE HIGHER FLOW RATE NOZZLES INSTEAD OF INCREASING PRESSURE.** Use a maximum of 40 psi (measured at the boom, not at the pump or in the line).
- Number of Nozzles**-Use the minimum number of nozzles with the highest flow rate that provide uniform coverage.
- Nozzle Orientation**-Orienting nozzles so that the spray is released backward (the downward angle of the nozzles on fixed wing aircraft should not be greater than 20°) or parallel to the airstream on helicopters, will produce larger droplets than other orientations. 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. Some nozzle examples are CP Lund or flat fans with angles of 25°-65°. Solid stream nozzles oriented straight back produce larger droplets than other nozzle types. If using nozzle screens, **DO NOT** use screens finer than the 50-mesh size as nozzle plugging is possible.
- Boom Length**-For some use patterns, reducing the effective boom length to less than  $\frac{3}{4}$  of the wingspan or rotor length may further reduce drift without reducing swath width.
- Application Height**-Applications may 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 2-10 mph. Factors to be considered include droplet size and equipment type determine drift potential at any given speed, avoid application below 2 mph due to variable wind direction and high inversion potential. **DO NOT** apply ADA 51802 when wind is blowing more than 10 mph. **Note:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect 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 wind conditions are both hot and dry.

#### **Temperature Inversions**

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

#### **Sensitive Areas**

This pesticide may only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, nontarget crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

ADA 51802 is a dry flowable formulation to be diluted with water prior to application using common agricultural spray equipment. When used as directed, ADA 51802 will provide suppression or control of weed species listed in **Table 1**.

ADA 51802 is a systemic herbicide. The weed foliage and roots absorb ADA 51802 and translocate it throughout the weed. Treated weeds will show signs of leaf and stem curling or twisting, stunting, change color from green to white (chlorosis), finally to red, and become necrotic before finally dying. Annual plants treated with ADA 51802 may not show symptoms for up to two weeks after application and up to three weeks for death of the weed. Perennial weeds treated with ADA 51802 may not show symptoms for several weeks after application and the full effect occurring 3 to 6 months after application.

Thorough coverage of emerged weeds with the ADA 51802 spray is essential in order for the weed foliage to absorb the ADA 51802. Control may be more difficult in fields where larger leaves cover smaller weeds preventing thorough spray coverage of the smaller weeds.



#### Restrictions:

- **DO NOT** apply more than a total of 128 fl oz of ADA 51802 per acre per year (equivalent to 0.29 fl oz per 1000 sq ft per year or 1.5 lbs ai per acre per year)
- Crop Rotation Restrictions:
  - ❖ **Immediate replant allowed after crop failure:** Spring or winter wheat or grain sorghum
  - ❖ **Replant allowed 24 months after application:** alfalfa, clover, dry beans, flax, peas, lentils, safflower, solanaceous crops (listed below), and sugar beets. A bioassay must be conducted before planting these crops.
  - ❖ **Replant allowed 309 days (10 months) after application:** all other crops
- **DO NOT** use recirculating sprayers, wiper applicators, or shielded applicators.
- ADA 51802 is rain fast 6 hours after application.
- **DO NOT** apply through any type of irrigation equipment.
- **DO NOT** apply to irrigation ditches or areas that act as a channel for water entering cropland.
- **DO NOT** apply by ground in Arkansas in an area from one mile west of Highway No. 1 to one mile east of Highway No. 163 from the Craighead/Poinsett county line to the Cross/Poinsett county line. **Do not apply ADA 51802 by air in all counties**
- **State Specific Restrictions:** Because there are additional state restrictions in Arkansas, contact the Arkansas [State Plant board](#) or a representative for specific instructions about applying ADA 51802 in Arkansas.
- **NOT** apply to exposed feeder roots of trees or ornamentals. Be particularly careful within the drip line of trees and other ornamental species.
- **DO NOT** apply into any ornamental bed.
- **DO NOT** use clippings as mulch or compost around flowers, ornamentals, trees, or in vegetable gardens.
- **DO NOT** plant eggplant or tobacco within 12 months on fields treated with ADA 51802.
- **DO NOT** plant tomatoes or carrots within 24 months on fields treated with ADA 51802.
- **DO NOT** apply when conditions favor drift from target area. Apply when wind speed is less than 10 mph as drift may cause damage or death of nontarget area vegetation.
- **DO NOT** allow spray mist to come into contact with vegetables, flowers, ornamentals, shrubs, trees, and other desirable plants, especially plants belonging to the *Solanaceae* family (tomatoes, eggplant, and bell peppers). **DO NOT** pour spray solutions near these plants.
- **DO NOT** apply to weeds or grasses under stress due to lack of moisture, herbicide injury, mechanical injury or extreme temperatures.
- **DO NOT** use to formulate or reformulate any other pesticide product which is not registered by EPA.

#### DRIFT Restrictions

- **DO NOT** apply by air in states and counties listed in the **AERIAL APPLICATION** section of this label.
- **DO NOT** apply ADA 51802 by ground when wind is greater than 10 mph by ground or 10 mph by air.
- **DO NOT** allow ADA 51802 to drift onto other desirable plants, especially sensitive crops belonging to the following plant families:
  - ❖ *Solanaceae* (tomato, potato, tobacco, eggplant, peppers (*Capsicum*), among others)
  - ❖ *Umbelliferae* (celery, parsley, carrots, among others)
  - ❖ *Leguminosae* (alfalfa, green bean, among others)
  - ❖ *Convolvulaceae* (sweet potato, among others)
  - ❖ *Chenopodiaceae* (spinach, sugar beet, among others)
  - ❖ *Malvaceae* (okra, among others)
  - ❖ *Cucurbitaceae* (watermelon, cucumber, cantaloupe, squash, pumpkin, among others)
  - ❖ *Compositae* (lettuce, sunflowers, among others)
  - ❖ *Linaceae* (flax)
- **DO NOT** allow spray containing ADA 51802 to drift onto areas where tomatoes are to be planted, have been planted, or onto emerged tomatoes, as severe injury will occur.
- **DO NOT** use ADA 51802 in tank mixes not specified on this label or ADAMA technical bulletins.
- **DO NOT** premix ADA 51802 with fungicides, herbicides, insecticides, additives, or fertilizers as contamination of mixing equipment and movement of ADA 51802 to off-site mixing areas can occur.

#### Precautions:

- To ensure adequate weed control, **DO NOT** apply to weeds or grasses under stress due to lack of moisture, herbicide injury, mechanical injury or extreme temperatures.
- To prevent crop injury, **DO NOT** apply to crops under stress due to hail damage, flooding, drought, injury from other herbicides, or widely fluctuating temperatures.
- Use a lawn-type sprayer with coarse spray to reduce drift from wind.

#### Mode of Action

ADA 51802 is an auxin agonist classified as a quinoline carboxylic acid, is a systemic herbicide with plant uptake through both foliage and roots. Herbicide symptoms on susceptible plants include twisting, stunting, reddening and chlorosis.

**On Annual Weeds:** Symptoms may take up to two weeks after application to develop with death occurring in about three weeks.

**On Perennial Weeds:** Symptoms may not be evident for several weeks after application; full effect may not be evident for 3 to 6 months.

#### Resistance Management

ADA 51802 is a Group 4 herbicide which contains the active ingredient quinclorac. Some biotypes of barnyardgrass are known to be resistant to ADA 51802. Where naturally resistant biotypes occur, control can be achieved by sequentially applying or tank mixing this product with a registered product with a different mode of action. Fields should be scouted prior to application to identify



the weed species present and their growth state to determine if the intended application will be effective. Fields should be scouted after application to verify that the treatment was effective.

Suspected herbicide-resistant weeds may be identified by these indicators:

\*Failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds;

\*A spreading patch of non-controlled plants of a particular weed species; and

\*Surviving plants mixed with controlled individuals of the same species. Plant into weed-free fields and keep fields as weed-free as possible.

To the extent possible, use a diversified approach toward weed management. Whenever possible incorporate multiple weed-control practices such as mechanical cultivation, biological management practices, and crop rotation.

Fields with difficult to control weeds should be rotated to crops that allow the use of herbicides with alternative modes of action or different management practices.

To the extent possible **DO NOT** allow weed escapes to produce seeds, root or tubers. Manage weed seeds at harvest and post-harvest to prevent a buildup of the weed seed bank.

Prevent field-to-field and within-field movement of weed seed or vegetative propagules. Thoroughly clean plant residues from equipment before leaving fields.

Prevent an influx of weed into the field by managing field borders.

Identify weeds present in the field through scouting and field history and understand their biology. The weed-control program should consider all of the weeds present.

Difficult to control weeds may require sequential application of herbicides with differing mechanisms of action.

Apply this herbicide at the correct timing and rate needed to control the most difficult weed in the field.

Use a broad spectrum soil-applied herbicide with a mechanism of action that differs from this product as a foundation in a weed-control program. **DO NOT** use more than two applications of this or any other herbicide with the same mechanism of action within a single growing season unless mixed with an herbicide with another mechanism of action with an overlapping spectrum for the difficult-to-control weeds.

Contact your local sales representative, crop advisor, or extension agent to find out if suspected resistant weeds to this MOA have been found in your region. If resistant biotypes of target weeds have been reported, use the application rates of this product specified for your local conditions. Tank mix products so that there are multiple effective mechanisms of actions for reach target weed.

If resistance is suspected, treat weed escapes with a herbicide having a different mechanism of action and/or use non-chemical means to remove escapes, as practical, with the goal of preventing further seed production. If resistance appears likely contact your retailer representative or call ADAMA at 866-406-6262.

## WEEDS CONTROLLED OR SUPPRESSED

When used as directed, ADA 51802 will provide suppression or control of weed species listed in **Table 1**.

**Table 1: Target Weeds**

Weeds Controlled	Weeds Suppressed*
<u><b>Annual Grasses</b></u> Barnyardgrass Crabgrass, large Foxtail, giant, green, yellow Junglerice Signalgrass, broadleaf <u><b>Annual Broadleaves</b></u> Bedstraw, catchweed (cleavers) Clovers Eclipta Jointvetch, Indian Jointvetch, Northern Lettuce, prickly Morningglory spp. Flax, volunteer Sesbania, hemp.	<u><b>Perennial Broadleaves</b></u> Bindweed <sup>1</sup> , field, hedge <u><b>Annual Broadleaves</b></u> Alligatorweed Kochia Lambsquarters, common Ragweed, common, giant Sunflower, wild Thistle <sup>3</sup> , Russian Velvetleaf <u><b>Perennial Broadleaves</b></u> Dandelion Sowthistle <sup>3</sup> , perennial Spurge <sup>2</sup> , leafy Thistle <sup>3</sup> , Canada

\***DO NOT** apply more than a total of 64 fl oz of ADA 51802 per acre (0.75 lbs ae/acre) per calendar year. Make applications at yellow bract (pre-bloom) or in the fall before first severe frost. For best performance to control these species, apply 32 oz per acre of ADA 51802 as a tank mix with a dicamba-based herbicide.

Improved control is achieved by tank mixing ADA 51802 with another herbicide that controls these listed species.

<sup>1</sup> See additional use directions under **FIELD AND HEDGE BINDWEED CONTROL DIRECTIONS** section of this label.

<sup>2</sup> **DO NOT** apply more than a total of 64 fl oz of ADA 51802 per acre per calendar year. Apply 32 to 64 fl oz of ADA 51802 per acre in non-crop areas for suppression and annual growth control. Make applications at yellow bract (pre-bloom) or in the fall before

first severe frost. For best performance to control this species, apply 16 fl oz per acre of ADA 51802 as a tank mix with a dicamba-based herbicide.

<sup>3</sup> **DO NOT** apply more than a total of 32 oz of ADA 51802 per acre per calendar year. Apply 32 fl oz of ADA 51802 per acre for suppression and annual growth control. Make applications at rosette stage or bud stage and **DO NOT** make application when seed stalk is bolting. For best performance on this species, tank mix 32 fl oz per acre of ADA 51802 with a dicamba-based herbicide.

#### FIELD AND HEDGE BINDWEED CONTROL DIRECTIONS

Application of ADA 51802 herbicide in the fall just prior to the first severe frost provides the most effective bindweed control. Make applications to bindweed plants that are actively growing and at least 4 inches long. Wait a minimum of 30 days for bindweed plants to regrow after tillage (if tillage is a part of the local postharvest practice) before making the ADA 51802 application. If applied yearly at 21 to 32 fl oz per acre in the fall, ADA 51802 will provide long-term bindweed control. The higher rate within the rate range is used when plants are large or densely populated. Refer to **Table 2-3** in the **SPRAY ADDITIVES** section of this label for additional requirements.

#### CANADA THISTLE, PERENNIAL SOWTHISTLE AND RUSSIAN THISTLE

Use 32 fl oz/A of ADA 51802 for suppression and annual growth control of Canada thistle, perennial sowthistle and Russian thistle. Apply ADA 51802 at rosette stage or bud state. **DO NOT** make application when seed stalk is bolting. For best performance in pasture (including pasture grown for hay), rangeland, and Conservation Reserve Program Land (CRP) on Canada thistle, perennial sowthistle and Russian thistle, tank mix 32 fl oz/A of ADA 51802 with a dicamba-based herbicide

#### LEAFY SPURGE

Use 32 to 64 fl oz/A of ADA 51802 in noncrop areas for suppression and annual growth control of leafy spurge. Apply ADA 51802 at yellow bract (prebloom) or in the fall before the first killing frost. For best performance in pasture (including pasture grown for hay), rangeland and Conservation Reserve Program Land (CRP) on leafy spurge, tank mix 32 fl oz/A of ADA 51802 with a dicamba-based herbicide.

#### ADA 51802 HERBICIDE APPLICATION AREA

ADA 51802 may be applied in the following states: Alabama, Arkansas, Colorado, Delaware, Idaho, Illinois, Kansas, Kentucky, Louisiana, Maryland, Minnesota, Mississippi, Missouri, Montana, North Dakota, Nebraska, New Mexico, Nevada, Oklahoma, Oregon, Pennsylvania, South Dakota, Tennessee, Utah, Virginia, Washington, Wyoming, and the following counties in Texas: Archer, Armstrong, Bailey, Baylor, Borden, Briscoe, Brown, Callahan, Carson, Castro, Childress, Clay, Cochran, Coke, Coleman, Collin, Collingsworth, Concho, Cooke, Cottle, Crosby, Dallam, Dawson, Deaf Smith, Denton, Dickens, Donley, Fisher, Floyd, Foard, Garza, Glasscock, Gray, Grayson, Hale, Hall, Hansford, Hardeman, Hartley, Haskell, Hemphill, Hockley, Hutchinson, Jack, Jones, Kent, King, Know, Lamb, Lipscomb, Lubbock, Lynn, McCulloch, Montague, Moore, Motley, Nolan, Chiltree, Oldham, Parmer, Potter, Randall, Roberts, Runnels, Schackelford, Scurry, Sherman, Sterling, Stonewall, Swisher, Taylor, Terry, Throckmorton, Wheeler, Wichita, Wilbarger, Wise, Yoakum, and Young. **Prior to application of ADA 51802, obtain and follow all Texas state requirements for such uses.**

#### APPLICATION INFORMATION

ADA 51802 may be applied to the sites indicated in this section of the label by ground or aerial application equipment.

Make ADA 51802 applications by broadcast or spot sprays when weeds are actively growing. Optimum results are achieved for most broadleaf weeds from application of ADA 51802 when weeds are small. If the weeds become too large, adequate control may not be obtained. If weeds are not actively growing, irrigation prior to application may be required to ensure effective control.

Refer to the **RESTRICTIONS** section and the **AERIAL APPLICATION** section for specific state and county restrictions.

#### GROUND APPLICATION (Broadcast)

**DO NOT** apply when wind speeds are more than 10 mph at the application site.

**DO NOT** release spray at a height greater than 30 inches above the ground

Make applications of ADA 51802 in properly calibrated ground equipment. Apply in 5-40 gallons of water per broadcast acre. Consult spray tip performance and **DO NOT** exceed manufacturer-recommended spray pressures. For many nozzle types, lower pressure produces larger droplet sizes. When higher flow rates are needed use higher flow rate nozzles instead of increasing pressure. Ensure that sprayer rate controller systems (if so equipped) does not allow pressure to increase above the desired range. For dense weed foliage, use the higher spray volumes.

Use only nozzles that will produce uniform spray patterns and thorough coverage and medium or coarser droplets (ASABE standard 572). Place nozzles up to 20 inches apart. Select nozzles which are designed to produce minimal amounts of fine spray particles. **DO NOT** use controlled droplet applicator (CDA) nozzles which can cause erratic weed coverage and lead to inconsistent weed control. **DO NOT** use selective application equipment such as recirculating sprayers or wiper applicators. Recommended nozzles for drift reduction include Delavan® Raindrop Drift Reduction Flat Spray Tip, RF Tips, XR Tee Jet™ Extended range Flat Spray Tips, or other brands with similar capabilities.

Refer to **Table 2-3** in the **SPRAY ADDITIVES** section of this label for additional requirements.

## AERIAL APPLICATION

Make applications of ADA 51802 in properly calibrated aerial application equipment.

Apply 5 or more gallons of water per acre.

Medium or coarser spray droplets (ASABE standard 572).

The maximum release height must be 10 feet from the top of the canopy, unless a greater application height is required for pilot safety.

**DO NOT** make aerial application when:

- Prohibited by state regulations
- Wind speeds are more than 8 mph at the application site
- Air temperature is more than 90° F or when environmental conditions exist for temperature inversions

**DO NOT** apply aerial application on Turfgrass.

**Flaggers and other personnel working on the ground to help guide aerial applications must not make contact with spray mist and must wear personal protective equipment (PPE) and protective eyewear.**

Refer to **Table 2-3** in the section **SPRAY ADDITIVES** section of this label for additional requirements. ADA 51802 may be applied by air in states listed in Table 2A

Do not apply ADA 51802 by air in the following counties. The possible presence of endangered plant species in these counties might be impacted by aerial applications of ADA 51802.

**Table 2A. ADA051802 Aerial Application Permitted**

State	Counties
Arkansas	Do not apply ADA 51802 by air in all counties
Arkansas	The area of Poinsett County one-mile west of Highway No. 1 to two miles west of Highway number 1 and one mile east of Highway No. 163 to Ditch No. 10 from Craighead/Poinsett county line to the Cross/Poinsett county line.  See also Arkansas restrictions section for areas where ADA 51802 herbicide use is prohibited by ANY method of application.
Colorado	Boulder, Delta, Garfield, Jefferson, La Plata, Mesa, Montezuma, Montrose, Morgan, Rio Blanco, San Miguel, Weld
Idaho	Idaho, Kootenai, Latah
Kansas	Allen, Anderson, Atchison, Bourbon, Coffey, Crawford, Douglas, Franklin, Jackson, Jefferson, Johnson, Leavenworth, Linn, Lyon, Miami, Neosho, Osage, Pottawatomie, Riley, Shawnee
Louisiana	Do not apply ADA 51802 by air in all counties
Mississippi	Do not apply ADA 51802 by air in all counties
Montana	Lake, Missoula
Nebraska	Box Butte, Cherry, Garden, Hall, Lancaster, Morrill, Seward, Sheridan
New Mexico	Chaves, Dona Ana, Eddy, San Miguel
North Dakota	Ransom, Richard
Oklahoma	Choctaw, Craig, Rogers
Oregon	Benton, Clackamas, Coos, Douglas, Harney, Klamath, Lane, Linn, Marion, Polk, Wallowa, Washington, Yamhill
South Dakota	Bennett, Brookings, Brown, Clay, Coddington, Day, Deuel, Grant, Lincoln, Minnehaha, Moody, Roberts, Todd, Turner, Union, Yankton
Texas	Bandera, Brazos, Burleson, Coke, El Paso, Fort Bend, Freestone, Harris, Hays, Hudspeth, Jim Wells, Kerr, Kimble, Kleberg, Leon, Live Oak, Madison, Mitchell, Nueces, Pecos, Refugio, Robertson, Runnels, San Patricio, Starr, Uvalde, Washington
Utah	Cache, Carbon, Duchesne, Emery, Garfield, Kane, Salt Lake, San Juan, Sanpete, Sevier, Tooele, Uintah, Utah, Washington, Wayne, Weber
Washington	Chelan, Clark, Cowlitz, Island, Spokane

Arkansas <sup>1</sup>	Nebraska <sup>1</sup>
Colorado <sup>1</sup>	Nevada
Idaho <sup>1</sup>	New Mexico <sup>1</sup>
Illinois	North Dakota <sup>1</sup>
Iowa	Oklahoma <sup>1</sup>
Kansas <sup>1</sup>	Oregon <sup>1</sup>
Louisiana	South Dakota <sup>1</sup>
Minnesota	Texas <sup>1</sup>
Mississippi	Utah <sup>1</sup>
Missouri	Washington <sup>1</sup>
Montana <sup>1</sup>	Wyoming

<sup>1</sup> See **Table 2B** for specific geographic restrictions where aerial application is not permitted.

Because of the possible presence of endangered plant species as well as additional state restrictions, aerial application is **NOT** permitted in the geographic areas listed in **Table 2B**.

**Table 2A. ADA051802 Aerial Application NOT Permitted**

State	County/Geographic Area
	The area of Poinsett County one-mile west of

<u>Arkansas</u> <sup>1</sup>	<u>Highway No. 1 to two-miles west of Highway No. 1 and one-mile east of Highway No. 163 to Ditch No. 10 from the Craighead/Poinsett county line to the Cross/Poinsett county line</u> <u>See also, <b>State Specific Restrictions</b> section for areas where ADA 51802 use is prohibited by <b>ANY</b> method of application.</u>
<u>Colorado</u>	<u>Boulder, Delta, Garfield, Jefferson, La Plata, Mesa, Montezuma, Montrose, Morgan, Rio Blanco, San Miguel, Weld</u>
<u>Idaho</u>	<u>Idaho, Kootenai, Latah</u>
<u>Kansas</u>	<u>Allen, Anderson, Atchison, Bourbon, Coffey, Crawford, Douglas, Franklin, Jackson, Jefferson, Johnson, Leavenworth, Linn, Lyon, Miami, Neosho, Osage, Pottawatomie, Riley, Shawnee</u>
<u>Montana</u>	<u>Lake, Missoula</u>
<u>Nebraska</u>	<u>Box Butte, Cherry, Garden, Hall, Lancaster, Morrill, Seward, Sheridan</u>
<u>New Mexico</u>	<u>Chaves, Dona Ana, Eddy, San Miguel</u>
<u>North Dakota</u>	<u>Ransom, Richland</u>
<u>Oklahoma</u>	<u>Choctaw, Craig, Rogers</u>
<u>Oregon</u>	<u>Benton, Clackamas, Coos, Douglas, Harney, Klamath, Lane, Linn, Marion, Polk, Wallowa, Washington, Yamhill</u>
<u>South Dakota</u>	<u>Bennett, Brookings, Brown, Clay, Coddington, Day, Deuel, Grant, Lincoln, Minnehaha, Moody, Roberts, Todd, Turner, Union, Yankton</u>
<u>Texas</u>	<u>Bandera, Coke, El Paso, Freestone, Hays, Hudspeth, Jim Wells, Kerr, Kimble, Kleberg, Leon, Live Oak, Madison, Mitchell, Nueces, Pecos, Robertson, Runnels, San Patricio, Starr, Uvalde, Washington</u>
<u>Utah</u>	<u>Cache, Carbon, Duchesne, Emery, Garfield, Kane, Salt Lake, San Juan, Sanpete, Sevier, Tooele, Uintah, Utah, Washington, Wayne, Weber</u>
<u>Washington</u>	<u>Chelan, Clark, Cowlitz, Island, Spokane</u>
<sup>1</sup> Because there are additional state restrictions in Arkansas, contact the Arkansas Plant Board or a representative for specific instructions about applying ADA 51802 in Arkansas.	

## SPRAY ADDITIVES

The use of spray additive(s) with ADA 51802 is required in order to achieve consistent weed control. Methylated seed oil (MSO) is the recommended spray additive with ADA 51802. Crop oil concentrates may also be used with ADA 51802. Enhanced efficacy can be achieved by addition of a nitrogen fertilizer source (AMS or UAN) but cannot be used in place of methylated seed oil or crop oil concentrate. Refer to **Table 23. Spray Additive Rate Per Acre** section below for spray additive rates. Consult your local ADAMA representative for recommendations for your area.

**Table 23. Spray Additive Rate per Acre**

<b>Spray Additive</b>	<b>Amounts to use for Aerial Applications</b>	<b>Amounts to use for Ground Applications</b>
Methylated Seed Oil	1.0 – 2.0 pints <sup>2</sup>	1.0 – 2.0 pints <sup>2</sup>
Crop Oil Concentrate	2.0 pints	2.0 pints
AMS, Liquid <sup>1</sup>	1.5 quarts	--
AMS, Solid <sup>1</sup>	--	2.5 pounds
UAN Solution <sup>1</sup>	0.5 gallons	0.5 – 1 gallons

<sup>1</sup>Optional

<sup>2</sup>For best grass control, use at least 1.5 pints/acre of methylated seed oil.

### Methylated Seed Oil or Crop Oil Concentrate:

A methylated seed oil or crop oil concentrate must meet all of the following criteria:

- Contain either a petroleum or vegetable oil base, and
- be nonphytotoxic, and
- contain only EPA-exempt ingredients, and
- provide good mixing results from the **Compatibility Test for Tank Mixtures** section of this label, and
- be successful in local experience.

Suitable products will vary in their exact composition, but vegetable and petroleum oil concentrates should contain emulsifiers that provide good mixing quality. Better results have been proved with highly refined vegetable oils than with unrefined vegetable oils.

For additional information, see **Compatibility Test for Tank Mixtures** section of this label.

**For bindweed control in Oklahoma, New Mexico and the designated counties of Texas, addition of methylated seed oil plus AMS is mandatory when ADA 51802 is applied alone.**

#### **Nitrogen Fertilizer Sources:**

3. **Urea ammonium nitrate (UAN):** These products are 28%, 30% or 32% nitrogen solutions. If including UANs in spray tanks, do not use brass or aluminum spray nozzles.
4. **Ammonium sulfate (AMS):** AMS may be substituted for UAN. Use high-quality AMS (spray grade) to avoid plugging of nozzles. Other sources of nitrogen are not as effective as the ones mentioned above. AMS has the potential to cause precipitation in reduced carrier volumes. Use AMS only if tested in a jar test or it has been demonstrated to be successful in local experience. Because most nitrogen solutions are mildly corrosive to galvanized, mild steel, and brass spray equipment, rinse the entire spray system with water soon after use. To avoid plugging of spray nozzles: 1) Use high-quality AMS; 2) Use an AMS which is readily soluble in water and contains no insoluble materials. Local sources of high-quality, fine, feed-grade AMS may be better than fertilizer grade. Low-quality AMS may contain material that will not readily dissolve, which could result in nozzle tip plugging; 3) To determine AMS quality, perform a jar test adding 1/3 cup of ammonium sulfate to 1 gallon of water and agitate for 1 minute. If any undissolved sediment is observed, pre-dissolve the AMS in water and filter before adding it to the spray tank. If the AMS is added directly to the spray tank, add slowly while agitating. Adding the mix too quickly may clog outlet lines.

#### **Nonionic Surfactant:**

A nonionic spray surfactant (80%) may only be used when ADA 51802 is tank mixed with other products that prohibit the use of oil additives. Reduced weed control from ADA 51802 plus the nonionic surfactant may result. Use at the nonionic surfactant rate of 1 quart per 100 gallons of water (0.25% vol./vol.). If a nonionic surfactant is used with ADA 51802, a nitrogen fertilizer source must be used as well.

#### **TANK MIXTURES WITH ADA 51802**

Other registered products may be tank mixed with ADA 51802. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

ADAMA does not recommend using tank mixes other than those listed on ADAMA labeling. Physical incompatibility, reduced weed control, or crop injury may result from mixing ADA 51802 with other pesticides, additives, or fertilizers. Local agricultural authorities may be a source of information when using other than ADAMA recommended tank mixes.

For suppression of weeds listed in **Table 1**, use the following herbicides as tank mixes with ADA 51802. When mixing ADA 51802 as a tank mix, use a rate of 21 to 32 fl oz per acre of ADA 51802.

2,4-D  
ATRAZINE  
BROMOXYNIL  
BROMOXYNIL + ATRAZINE  
DICAMBA  
PARAQUAT  
DIFLUFENZOPYR + DICAMBA  
GLYPHOSATE + DICAMBA  
DIMETHENAMID  
DIMETHENAMID-P + ATRAZINE  
GLYPHOSATE + 2,4-D  
DICAMBA + ATRAZINE  
DIMETHENAMID-PROSULFURON  
GLYPHOSATE  
DICAMBA + 2,4-D

#### **Compatibility Test for Tank Mixtures**

Carry out this test using a one-quart jar. Add the ingredients in the order listed below. To calculate the amount to add to a one quart jar, use the following guidelines:

- For dry products applied at 64 fl oz per acre, add 5 teaspoons to a one-quart jar. For ADA 51802 at the 21 fl oz rate, use 2 teaspoons. For ADA 51802 at the 32 fl oz rate, use 2.5 teaspoons.
- For liquid products applied at 1 pint per acre, add 1 teaspoon to a one-quart jar.

**7.1. Water:** For a spray volume of 20 gallons per acre, add 3.3 cups (800 ml) of water. Adjust the rates if other spray volumes are planned. Use water from the intended source.

**8.2.** Cap the jar and invert 10 times.

**9.3. Water-Dispersible (WG) Products (such as dry flowables (DF) including wettable powders (WP), suspension concentrates (SC), or suspoemulsions :** Cap the jar and invert 10 times.

**10.4. Water-soluble products (Including ADA 51802):** Cap the jar and invert 10 times.

**11.5. Emulsifiable concentrates, methylated seed oil, or crop oil concentrate:** Cap the jar and invert 10 times.

**12.6. Water-soluble additives, including AMS or UAN:** Cap the jar and invert 10 times.

Let the test mixture stand for 15 minutes and then evaluate for uniformity and stability. The spray solution should not have free oil on the surface or fine particles that precipitate to the bottom or thick (clabbered) texture. Do not use any spray solution that could clog spray nozzles.

#### **DIRECTIONS FOR MIXING ADA 51802**

Before mixing ADA 51802 with other products, conduct a compatibility test to determine if the spray solution is stable. Follow the directions in the section **Compatibility Test for Tank Mixtures** section of this label.

- 4.1. Use only spray tanks that have been cleaned prior to use.  
5.2. Add ¾ the amount of required water to the spray tank while agitating.  
6.3. If an inductor system is used, rinse thoroughly after addition of each component.

Add products to the spray tank in the following order

- ❖ water-soluble pouches; allow the pouches to dissolve before agitation or adding the next component.
- ❖ water dispersible products including (dry flowables, wettable powders, suspension concentrates or suspoemulsions).
- ❖ water-soluble products (Including ADA 51802)
- ❖ Emulsifiable concentrates (including oil concentrates)
- ❖ Water-soluble additives (AMS or UAN)

Add the remaining amount of water to the tank and agitate to ensure a uniform distribution.

Continue agitation until spraying is completed. If the spray solution is allowed to settle, reagitrate thoroughly to resuspend the mixture and then continue spray operations.

### Cleaning of Spray Equipment

Ensure that spray equipment is properly and thoroughly cleaned before and after applying ADA 51802. Use a strong detergent or commercial sprayer cleaner and follow the manufacturer's directions for use.

## NONCROP AREAS

(Roadsides, Fence lines and Rights-of-Way)

Noncrop areas that may be treated with ADA 51802 include fence lines, roadsides, highway medians, utilities, railroad and pipeline rights-of-way. ADA 51802 controls certain weeds in the Noxious Weed Control Programs, Districts or Areas when applied by broadcast application or as spot treatments. Refer to Table 1 for weeds controlled. For annual weeds, use 21 to 32 fl oz of ADA 51802 per acre or for perennial weeds, use 32 to 64 fl oz per acre. **DO NOT** exceed a total of 64 fl oz of ADA 51802 per acre per calendar year. For bindweed control with ADA 51802, refer to the section of this label entitled FIELD AND HEDGE BINDWEED CONTROL DIRECTIONS for additional use directions.

**NonCrop Tank Mixes:** Other registered products such as those listed below may be tank mixed with ADA 51802. Before using other products in combination with ADA 51802, read and follow the restrictions and limitations and directions for use on all products' labels. The most restrictive labeling applies to tank mixes.

- 2,4-D
- DICAMBA
- DIFLUFENZOPYR + DICAMBA
- GLYPHOSATE

## TURFGRASS

Used as a postemergence spray, ADA 51802 controls many broadleaf and grass weeds in turfgrasses growing in sites including, but not limited to, grounds or lawns around residential and commercial establishments, multi-family dwellings, military and other institutions, parks, airports, roadsides, schools, picnic grounds, athletic fields, houses of worship, cemeteries, golf courses, and sod farms (except Arizona).

The weed foliage and roots absorb ADA 51802 and translocate it throughout the weed. Treated weeds will show signs of leaf and stem curling or twisting, stunting, change color from green to white (chlorosis), finally to red, and become necrotic before finally dying. Refer to the tables below for information on **WEEDS CONTROLLED** and **TOLERANT TURFGRASS SPECIES**.

### Restrictions

- **DO NOT** apply to golf course collars or greens.
- **DO NOT** apply more than 128 fl oz of ADA 51802 per acre per year (equivalent to 0.29 fl oz per 1000 sq ft per year or 1.5 lbs ae per acre per year)
- **DO NOT** make applications of ADA 51802 to turfgrass under stress from drought. Optimum results are obtained if weeds are not under stress from lack of water, excessive water, low fertility, mowing shock, excessive hot or cold temperatures, or injury from other herbicide applications.
- **DO NOT** apply to Bahiagrass, carpetgrass, St. Augustinegrass, Centipedegrass, dichondra, or lawns or turf where desirable clovers are present.
- **DO NOT** apply within 4 weeks after seedling emergence of Kentucky bluegrass, creeping bentgrass, fine fescue blends, and perennial ryegrass.
- **DO NOT** apply to fine fescue unless it is part of a seed blend.
- **DO NOT** apply by air or through any type of irrigation equipment.

### Precaution

- Use a lawn-type sprayer with coarse spray to reduce drift from wind.

### APPLICATION INFORMATION

Use broadcast or spot sprays to apply ADA 51802 postemergence to actively growing weeds. The use rates and tolerant turfgrasses are listed in the tables below. **DO NOT** apply more than the labeled rates. Follow all use restrictions listed above under **Restrictions**.

**Mowing:** **DO NOT** MOW 2 DAYS BEFORE OR AFTER APPLYING ADA 51802. This practice will maximize weed control and minimize potential turf injury. **Leave clippings from the first three mowings on the treated area.**

**Irrigation and Rainfall:** If soil is dry before a ADA 51802 application, irrigation of the turfgrass may improve weed control. For best results, **DO NOT** water or irrigate for 24 hours after a ADA 51802 application. Irrigate the treated turfgrass with at least ½ inch of water 2 to 7 days after application if no rainfall is received within that period.



**TOLERANT TURFGRASS SPECIES (ESTABLISHED)**

Highly Tolerant	Moderately Tolerant	Susceptible
Bermudagrass, Common* Bluegrass, Annual Bluegrass, Kentucky Buffalograss Fescue, Tall Ryegrass, Annual Ryegrass, Perennial Zoysiagrass	Bentgrass, Creeping* Bermudagrass, Hybrid* Bluegrass, Rough ( <i>Poa trivialis</i> ) Fescue, Chewing's Fescue, Fine** Fescue, Hard Fescue, Red Paspalum, Seashore	Bahagrass Bentgrass, Colonial Bentgrass, Seaside Centipedegrass Dichondra St. Augustinegrass
<p>* To reduce yellowing on these species, add chelated iron or sprayable soluble nitrogen fertilizers (refer to the ADJUVANTS section below).</p> <p>** Apply ADA 51802 herbicide to fine fescue only when it is part of a blend. DO NOT use on golf course greens and collars. See additional information for fine fescue in blends under the section on SEEDING, OVERSEEDING, AND SPRIGGING.</p>		



<b>PASTURE SPECIES AND GRASS VARIETIES GROWN FOR SEED THAT ARE TOLERANT TO ADA 58102</b>
Bromegrass, meadow
Bromegrass, smooth
Bromegrass, smooth x meadow cross
European dunegrass
Fescue, fine*
Fescue, tall*
Junglegrass
Kentucky bluegrass
Needlegrass
Orchardgrass
Quackgrass
Ryegrass, annual
Ryegrass, Indian
Ryegrass, perennial
Wheatgrass, bluebunch
Wheatgrass, bluebunch x quack cross
Wheatgrass, crested
Wheatgrass, fairway
Wheatgrass, fairway x crested cross
Wheatgrass, intermediate
Wheatgrass, pubescent
Wheatgrass, Siberian
Wheatgrass, slender
Wheatgrass, tall
Wheatgrass, thickspike
Wheatgrass, Western
Wildrye, Altai
Wildrye, basin
Wildrye, beardless
Wildrye, Dahurian
Wildrye, mammoth
Wildrye, Russian
Bermudagrass**
Bluestem, big
Bluestem, little
Bluestem, sand
Gama, blue
Gama, side oats
Sandreed, prairie
Switchgrass

\*Do not apply ADA 51802 to tall fescue pastures

\*\*ADA 51802 application to Bermudagrass may result in temporary yellowing (chlorosis) under certain conditions.

## ADJUVANTS

To achieve consistent weed control, include an adjuvant in the spray solution with ADA 51802. Applied in combination with ADA 51802, adjuvants may cause slight turfgrass leaf burn; however, new growth will resume, and turf vigor is not reduced. To prevent leaf burn and turfgrass damage, **DO NOT** apply ADA 51802 when relative humidity and temperatures are high. Keep the mowing heights higher to avoid turf stress and the possibility of turf injury. Some turfgrass species will be less affected by leaf burn or yellowing if a chelated iron or sprayable soluble nitrogen fertilizer is added to the ADA 51802 tank solution.

The preferred adjuvant is methylated seed oil (MSO). When an adjuvant is to be used with this product, ADAMA suggests the use of a Chemical Producers and Distributors Association certified adjuvant.

Before selecting a methylated seed oil to use with ADA 51802, be sure that the MSO:

- is nonphytotoxic
- contains only EPA-exempt ingredients
- provides good mixing quality in the **Compatibility Test for Tank Mixtures** (below)
- has been successful under local experience
- contains emulsifiers to provide good mixing quality

**DO NOT** include additives when tank mixing with emulsifiable concentrate (EC) products as this may cause phytotoxicity. Consult your local ADAMA representative or distributor for instructions for your area.

## TURFGRASS TANK MIXES WITH ADA 51802

Before using other products in combination with ADA 51802, read and follow the **Restrictions** and **Directions for Use** on all products' labels. Follow the most restrictive label. Consult tolerant turfgrass species on all labels. **DO NOT** tank mix with ADA 51802 if all target weeds are not at the correct growth stage for treatment at the same time—in that case, make separate applications of the herbicides.

The spectrum of control of broadleaf weed species can be increased with ADA 51802 in a tank mix with 2,4-D, triclopyr, MCPA, MCPP and their premixtures

Extended residual control of annual grasses is achieved with ADA 51802 in a tank mix with pendimethalin.

Applications of ADA 51802 in a tank mix with bentazon, imazethapyr herbicide, or MSMA can control sedge.

Some grassy weeds such as Bahiagrass or kikuyugrass are controlled by ADA 51802 and MSMA tank mixes.

ADA 51802 tank mixes with other pesticides (fungicides, herbicides, insecticides, or miticides), additives, or fertilizers (except where noted above) have the potential for physical incompatibility, reduced weed control, or turf injury.

Before preparing a tank mix of ADA 51802 with another product, perform the test **Compatibility Test for Tank Mixtures**.

## SEEDING, OVERSEEDING, AND SPRIGGING

ADA 51802 will not significantly interfere with turfgrass seed germination and growth of those grass types identified as tolerant or moderately tolerant in the **WEEDS CONTROLLED** table if applied before or after seeding or overseeding a turf area.

Because different bermudagrass seeds may have different germination characteristics, check the germination vigor of your seeded hybrid bermudagrass before using ADA 51802 before, at seeding, and 7 days after seeding.

Additional information on the timing of ADA 51802 applications in seeding, overseeding, or sprigging situations is found in the table below.

SEEDING, OVERSEEDING, AND SPRIGGING TIMING CHART <sup>1</sup> (SEE FOOTNOTE 1)					
TURFGRASS VARIETY	Before Seeding <sup>2</sup>	At Seeding	7 Days After Emergence	14 Days After Emergence	28 Days After Emergence
Annual Bluegrass	√	√	√	√	√
Annual Ryegrass	√	√	√	√	√
Buffalograss	√	√	√	√	√
Common Bermudagrass <sup>3</sup> (for sprigging see footnote 3)	√	√	√	√	√
Creeping Bentgrass	√	NO	NO	NO	√
Fine Fescue (in blend)	√	NO	NO	NO	√
Hybrid Bermudagrass <sup>3</sup> (for sprigging see footnote 3)	√	√	√	√	√
Kentucky Bluegrass	√	NO	NO	NO	√
Perennial Ryegrass	√	√	NO	NO	√
Seashore Paspalum <sup>3,4</sup> (for sprigging see footnote 3)	NO	NO	NO	√	√
Tall Fescue	√	√	√	√	√
Zoysiagrass <sup>3</sup> (for sprigging see footnote 3)	√	√	√	√	√

<sup>1</sup> Note:  $\sqrt{}$  = acceptable timing for ADA 51802 applications. Time applications around the seeding operations using the above table as a reference point. **DO NOT** use an adjuvant or additive when ADA 51802 herbicide applications are made on newly emerged turf seedlings until 28 days after emergence (except in the case of seashore paspalum). Apply ADA 51802 at an application rate of 1.4fl oz/1000 sq ft to all turfgrass species listed in this table except for seashore paspalum.

<sup>2</sup> Apply ADA 51802 seven days or more before seeding.

<sup>3</sup> Use ADA 51802 at any time prior to, at, or after sprigging as indicated by turfgrass species in this table.

<sup>4</sup> Make applications of 0.7 fl oz to 1.4fl oz ADA 51802 per 1000 sq ft at the times indicated in this table.

## DIRECTIONS FOR MIXING ADA 51802

Follow the directions below to mix ADA 51802 either alone or with tank mix partners. Directions are provided for ground application equipment and for backpack sprayers.

Before mixing ADA 51802 with other products, conduct a compatibility test to determine if the spray solution is stable. Follow the directions in the section **Compatibility Test for Tank Mixtures** below.

If tank mixing with products in water-soluble pouches, allow pouches to dissolve before agitation.

### Ground Driven Sprayer:

1. Use only spray tanks that have been cleaned prior to use.
2. Add  $\frac{1}{2}$  to  $\frac{3}{4}$  the amount of required water to the spray tank.
- 3A. **For ADA 51802 alone:**
  - Slowly add ADA 51802 to the partially filled tank.
  - Begin agitation until completely dispersed.
  - Add the remaining amount of water to the tank and agitate to ensure a uniform distribution.
  - Continue agitation until spraying is completed. If the spray solution is allowed to settle, re-agitate thoroughly to resuspend the mixture and then continue spray operations.
- 3B. **For Wettable Powder Formulations (WP):**
  - Slowly add the required amount of the WP tank mix partners to the partially filled tank.
  - Begin agitation until completely dispersed.
  - OR
  - Make a slurry of the WP (1 part WP + 2 parts water) then add to the spray tank and agitate.
  - Add the remaining amount of water to the tank and agitate to ensure a uniform distribution.
  - Continue agitation until spraying is completed. If the spray solution is allowed to settle, re-agitate thoroughly to resuspend the mixture and then continue spray operations.
- 3C. **For Flowable Formulations (F):**
  - Slowly add the required amount of flowable tank mix partner to the partially filled tank.
  - Begin agitation until completely dispersed.
  - Make a slurry of the F formulation (1 part F + 2 parts water) then add to the spray tank and agitate.
  - Add the remaining amount of water to the tank and agitate to ensure a uniform distribution.
  - Continue agitation until spraying is completed. If the spray solution is allowed to settle, re-agitate thoroughly to resuspend the mixture and then continue spray operations.
- 3D. **For Emulsifiable Concentrate Formulations (EC):**
  - Slowly add the required amount of EC partner to the partially filled tank.
  - Begin agitation until completely dispersed.
  - Make a premix of the EC (1 part EC + 2 parts water) then add to the spray tank and agitate.
  - Add the remaining amount of water to the tank and agitate to ensure a uniform distribution.
  - Continue agitation until spraying is completed. If the spray solution is allowed to settle, re-agitate thoroughly to resuspend the mixture and then continue spray operations.
- 3E. **For Dry Flowable (Water Dispersible Granule) Formulations (WDG):**
  - Slowly add the required amount of WDG herbicides to the partially filled tank.
  - Begin agitation until completely dispersed.
  - OR
  - Make a premix of the WDG (1 part WDG + 2 parts water) then add to the spray tank and agitate.
  - Add the remaining amount of water to the tank and agitate to ensure a uniform distribution.
  - Continue agitation until spraying is completed. If the spray solution is allowed to settle, re-agitate thoroughly to resuspend the mixture and then continue spray operations.

### Backpack Sprayer:

1. Use only spray tanks that have been cleaned from previous uses.
2. Add  $\frac{1}{2}$  the amount of required water to the spray tank.
3. Add the required amount of ADA 51802 to the partially filled tank.
4. Replace the cap and agitate to completely mix the contents.
5. **Liquid Fertilizers:** add the desired amount of fertilizer product.
6. Remove the cap and add the remaining amount of water to the tank. Replace the cap and agitate to ensure a uniform distribution.
7. During the spray operation, re-agitate the mixture occasionally to ensure that the product does not settle out. If the spray solution is allowed to settle, re-agitate thoroughly to resuspend the mixture and then continue spray operations.

**Liquid Fertilizers:** When mixing with liquid fertilizers, perform a simple jar test with small quantities of tank mix components to ensure compatibility. Add the required amount of ADA 51802 to a half-filled tank while agitating and then add the fertilizer product. Complete filling spray tank to desired level.

### Compatibility Test for Tank Mixtures

Carry out this test using a one-quart jar. Add the ingredients in the order listed below. Calculate the amount to add to a one-quart jar using the following guidelines:

- For dry products applied at 1 lb per acre, add 2 teaspoons to a one-quart jar.
- For liquid products applied at 1 pint per acre, add 1 teaspoon to a one-quart jar.

1. **Water:** For a spray volume of 20 gallons per acre, add 3.3 cups (800 ml) of water. Adjust the volume accordingly if other spray volumes are planned. Use water from the intended source at the source temperature.
2. **Water-soluble packages:** Slit one of the bags just wide enough for a teaspoon to remove the sample. If compatible, use the opened bag first when preparing a tank mix solution. Boron-containing fertilizers can be incompatible with water-soluble bags. Include water-soluble bags if a boron fertilizer is intended to be used. Cap the jar and invert 10 times.
3. **Water-Dispersible (WG) products** (such as dry flowables (DF), wettable powders (WP), suspension concentrates (SC), or suspoemulsions): Cap the jar and invert 10 times.
4. **Water-soluble products** (such as ADA 51802 or bentazon): Cap the jar and invert 10 times.
5. **Emulsifiable concentrates or methylated seed oil:** Cap the jar and invert 10 times.
6. **Water-soluble additives:** Cap the jar and invert 10 times.

Let the test mixture stand for 15 minutes and then evaluate for uniformity and stability. If the mixture in the jar forms crystals, flakes, sludge, gels, oily films, or layers, the components are NOT compatible. WG or WP products may result in a fine precipitate that is easily resuspended which is normal; however, if large non-dispersible particles (>300 microns) precipitate on standing, this indicates that the tank mix is not compatible. **DO NOT** use any spray solution that could clog spray nozzles.

### Spraying Instructions for ADA 51802

Make applications of ADA 51802 with properly calibrated ground equipment. Apply in a minimum of 20 gallons of water per acre (or a minimum of 0.5 gallons per 1000 sq ft) at pressures between 20 and 40 psi to provide uniform spray distribution.

Make sure the spray tank is continuously agitated during the application. Use nozzle screens which are no finer than 50 mesh (100 mesh is finer than 50 mesh). The use of flat fan, flood or cone nozzles is permitted, and arrange the nozzles to provide a thorough, uniform coverage of turfgrass and weeds. Adjust the boom height, nozzle selection, and pressure to provide uniform coverage and to minimize spray drift.

Check sprayer routinely to determine proper calibration.

**DO NOT** make overlaps as these lead to applying higher rates than allowed.

**DO NOT** apply if weather conditions favor drift from treated areas.

**Spot Applications:** Use 1.4 fl oz ADA 51802 per 1,000 sq ft of treated area for postemergence spot applications to susceptible weeds in tolerant turfgrass. Apply in at least 1 gallon spray mix per 1000 sq ft to ensure thorough, uniform spray coverage.

Apply ADA 51802 to newly germinated 1-2 leaf crabgrass, to 1-tiller crabgrass, and when crabgrass has matured to 5 tillers or greater. In some situations, applications of ADA 51802 made to annual grasses 2-4 tiller may not provide complete control. In such cases, apply ADA 51802 as a sequential application for grass control.

Use the table below for use rates and mixing directions.

SPOT APPLICATIONS WITH ADA 51802		
Spray Mix Volume (gallons)	Amount of ADA 51802 Product in Fl oz	Amount of MSO Adjuvant in Tablespoons
1	1	2
2	2	4
3	3	6

### Spray Equipment Cleaning Procedure

Use a strong detergent or commercial sprayer cleaner according to the manufacturer's directions to clean the application equipment thoroughly before and after applying this product.

### APPLICATION RATES

Refer to the **WEEDS CONTROLLED** table for the grasses and broadleaf weeds controlled by ADA 51802 and for other weed-specific use directions.

#### Broadcast Applications:

- Apply 64 fl oz/A ADA 51802 per acre (equivalent to 1.46 fl oz per 1000 sq ft or 0.75 lb ai/acre)

#### Spot Applications:

- Apply 1.56 fl oz of ADA 51802 per 1000 sq ft of treated area. Refer to footnotes in the WEEDS CONTROLLED table and directions for application to creeping Bentgrass.

#### Additives:

- Apply 1.5 pints of methylated seed oil per acre (0.55 oz per 1000 sq ft) with ADA 51802 applications.

#### Creeping Bentgrass:

- Make 2 to 3 split applications of ADA 51802 at 0.5 to 1 fl oz per 1000 sq ft **DO NOT** exceed 128 fl oz of ADA 51802 per acre per year (equivalent to 1.5 lb ai/A). Make application(s) at 21-day intervals.
- Include methylated seed oil at 0.55 oz per 1000 sq ft (1.5 pints per acre). To reduce yellowing on creeping bentgrass, add chelated iron or sprayable soluble nitrogen fertilizers (refer to the **ADJUVANTS** section). **DO NOT** use on golf course greens and collars. See additional information for creeping bentgrass under the section on **SEEDING, OVERSEEDING, AND SPRIGGING**.

## WEEDS CONTROLLED

Grasses Controlled
<b>Common Name (Scientific Name)</b> Barnyardgrass ( <i>Echinochloa crusgalli</i> ) Crabgrass, Large ( <i>Digitaria sanguinalis</i> ) <sup>1,4</sup> Crabgrass, Smooth ( <i>Digitaria ischaemum</i> ) <sup>1,4</sup> Foxtail, Giant ( <i>Setari faberi</i> ) <sup>1</sup> Foxtail, Green ( <i>Setari viridis</i> ) <sup>1</sup> Foxtail, Yellow ( <i>Setari glauca</i> ) <sup>1</sup> Kikuyugrass ( <i>Pennisetum clandestinum</i> ) <sup>2,3</sup> Signalgrass, Broadleaf ( <i>Brachiaria platyphylla</i> ) <sup>1</sup> Torpedograss ( <i>Panicum repens</i> ) <sup>3</sup>
Broadleaf Weeds Controlled
<b>Common Names (Scientific Name)</b> Bindweed, Field ( <i>Convolvulus arvensis</i> ) Clover, Hop ( <i>Trifolium aureum</i> Pollich) Clover, Red ( <i>Trifolium pretense</i> ) Clover, White ( <i>Trifolium repens</i> ) Daisy, English ( <i>Bellis perenne</i> ) <sup>2,5</sup> Dandelion, Common ( <i>Taraxacum officinale</i> ) <sup>2</sup> Dollarweed ( <i>Hydrocotyle umbellata</i> ) Geranium, Carolina ( <i>Geranium carolinum</i> ) Medic, Black ( <i>Medicago lupulina</i> ) Morningglory spp. ( <i>Ipomea</i> sp.) Speedwell, Common ( <i>Veronica officinalis</i> ) Speedwell, Slender ( <i>Veronica filiformis</i> ) Speedwell, Thymeleaf ( <i>Veronica serpyllifolia</i> ) Violet, Wild ( <i>Viola</i> sp.)
<sup>1</sup> Complete control may not be achieved under certain conditions when ADA 51802 is applied to annual grasses at 2 – 4 tiller stage. In these cases, make a sequential application for grass control. For best results, apply ADA 51802 + methylated seed oil either before the second tiller stage or as the weed grasses mature. <sup>2</sup> For these weeds, the use of a tank mix partner or sequential application will be required. <sup>3</sup> For these weeds, apply 1 fl oz of ADA 51802 per 1,000 sq ft as 3 sequential applications at 14 – 21 day intervals. <sup>4</sup> In California, some large and smooth crabgrass biotypes have shown varied responses to ADA 51802. If failure to control this weed occurs following a full or split application, <b>DO NOT</b> reapply ADA 51802. Instead, use a herbicide with a different mode of action. <sup>5</sup> <b>DO NOT USE</b> to control this weed in California.

## STORAGE AND DISPOSAL

**DO NOT** contaminate water, food, or feed by storage and disposal.

**PESTICIDE STORAGE:** Store in a cool, dry and well ventilated area. **DO NOT** store under wet conditions.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

### CONTAINER HANDLING:

**Nonrefillable Container (flexible-bag-all weights):** **DO NOT** reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling, if available, or dispose of empty bag in a sanitary landfill or by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**Nonrefillable Container (5 gal or less):** **DO NOT** reuse or refill this container. Offer for recycling, if available. Clean container 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 incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**Nonrefillable Container (greater than 5 gal):** **DO NOT** reuse or refill this container. Offer for recycling, if available. Clean container 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. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**Refillable Container:** Refill this container with quinclorac only. **DO NOT** reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

## LIMITATION OF WARRANTY AND LIABILITY

Read the entire directions for use, conditions 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 ADAMA. All such risks shall be assumed by the user or buyer.

**DISCLAIMER OF WARRANTIES:** To the extent consistent with applicable law, ADAMA makes no other warranties, express or implied, of merchantability or of fitness for a particular purpose or otherwise, that extend beyond the statements made on this label. No agent of ADAMA is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. To the extent consistent with applicable law, ADAMA disclaims any liability whatsoever for special, incidental or consequential damages resulting from the use or handling of this product.

**LIMITATIONS OF LIABILITY:** To the extent consistent with applicable law, the exclusive remedy of the user or buyer for any and all losses, injuries or damages resulting from the use or handling of this product, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid or at ADAMA's election, the replacement of product.

~~Delavan® is a registered trademark of Delavan Spray, LLC~~  
~~Tee-Jet™ is a trademark of Spraying Systems Company.~~  
~~-. All other trademarks are the property of their respective owners.~~

66222-xxx\_ZURAX L\_66222-xxx\_23Nov2018amend-061824