



## OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

WASHINGTON, D.C. 20460

January 22, 2026

Jacob S. Moore  
Federal Regulations Manager  
Makhteshim Agan of North America (d/b/a ADAMA)  
3120 Highwoods Blvd., Suite 100  
Raleigh, NC 27604

Subject: Label Amendment - Registration Review Mitigation for Imazamox  
Product Name: ADA 53644  
EPA Registration Number: 66222-269  
Case Number: 475340  
Application Dates: March 5<sup>th</sup>, 2020

Dear Jacob Moore:

The Agency, in accordance with the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, has completed reviewing all the information submitted with your application to support the Registration Review of the above referenced product in connection with the Imazamox Interim Decision, and has concluded that your submission is acceptable. The label referred to above, submitted in connection with registration under FIFRA, as amended, is acceptable.

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

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling and must be used at your next label printing. You must submit one copy of the final printed labeling before you release the 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 12 months from the date of this letter. After 12 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.

If you have any questions about this letter, please contact Nick Barnett by phone at 513-569-7643, or via email at Barnett.nicholas@epa.gov.

Sincerely,



Maryam K. Muhammad-Perch, Team Lead  
Risk Management and Implementation Branch 4  
Pesticide Re-Evaluation Division  
Office of Pesticide Programs

ENCLOSURE: Stamped label

**ACCEPTED****01/22/2026**

Under the Federal Insecticide, Fungicide  
and Rodenticide Act as amended, for the  
pesticide registered under  
EPA Reg. No.  
66222-269

IMAZAMOX GROUP 2 HERBICIDE

**ADA 53644****[Alternate Brand Name: Imazamox 120SL]**

For use on alfalfa, beans (dry), chicory, clover grown for seed, edamame, lima bean (succulent), peas (dry), pea (English), snap bean, and soybean.

**ACTIVE INGREDIENT:**

% BY WT.

ammonium salt of imazamox: 2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-  
-oxo-1H-imidazol-2-yl]-5-(methoxymethyl)-3-pyridinecarboxylic acid\* ..... 12.1%

**OTHER INGREDIENTS:** ..... 87.9%

**TOTAL:** ..... 100.0%

\*Equivalent to 11.4% 2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-5-methoxymethyl-3-pyridinecarboxylic acid  
1 gallon contains 1.0 pound of active ingredient as the free acid.

**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 details. (If you **DO NOT** understand this label, find someone to explain it to you in detail.)

See inside for complete Precautionary Statements and Directions for Use

| <b>FIRST AID</b>  |  |
|---|--|
| IF ON SKIN<br>OR<br>CLOTHING  | <ul style="list-style-type: none"><li>Take off contaminated clothing.</li><li>Rinse skin immediately with plenty of water for 15 to 20 minutes.</li><li>Call a poison control center or doctor for treatment advice.</li></ul>   |
| IF IN EYES  | <ul style="list-style-type: none"><li>Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes.</li><li>Remove contact lenses, if present, after first 5 minutes; then continue rinsing eyes.</li><li>Call a poison control center or doctor for treatment advice.</li></ul> |
| IF INHALED  | <ul style="list-style-type: none"><li>Move person to fresh air.</li><li>If person is not breathing, call 911 or an ambulance; then give artificial respiration, preferably mouth to mouth if possible.</li><li>Call a poison control center or doctor for further treatment advice.</li></ul>  |
| <b>HOTLINE 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 1-877-250-9291 for emergency medical treatment. |  |

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

EPA Reg. No. 66222-269

EPA Est. No.

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

**MANUFACTURED FOR:**

Makhteshim Agan of North America, Inc. (d/b/a ADAMA)  
8601 Six Forks Road, Suite 300  
Raleigh, NC 27615

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

Optional Text for Label Booklet: [For additional precautionary, handling, and use statements, see inside of this booklet.]

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

**PRECAUTIONARY STATEMENTS**  
**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**CAUTION.** Harmful if absorbed through skin. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

**Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as barrier laminate, butyl rubber >14 mils, nitrile rubber > 14 mils, neoprene rubber > 14 mils, natural rubber (includes natural rubber blends and laminates) >14 mils, polyethylene, polyvinyl chloride (PVC) > 14 mils, or Viton > 14 mils
- Shoes plus socks

Follow the manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. **DO NOT** reuse them.

**USER SAFETY RECOMMENDATIONS**

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**ENVIRONMENTAL HAZARDS**

This pesticide may be hazardous to plants outside the treated area. **DO NOT** apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark except as directed in this label. Off-site movement from spray drift, volatilization, and runoff may be hazardous to neighboring crops and vegetative habitat utilized for food and cover by wildlife and aquatic organisms. **DO NOT** contaminate water when disposing of equipment washwater or rinsate.

**NON-TARGET ORGANISM ADVISORY STATEMENT:** This product is toxic to plants and may adversely impact the forage and habitat of non-target organisms, including pollinators, in areas adjacent to the treated site. Protect the forage and habitat of non-target organisms by following label directions intended to minimize spray drift.

**GROUNDWATER ADVISORY STATEMENT:** This chemical has properties and characteristics associated with chemicals detected in groundwater. This chemical may leach into groundwater if used in areas where soils are permeable, particularly where the water table is shallow.

**SURFACE WATER ADVISORY STATEMENT:** This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. This product is

classified as having high potential for reaching surface water via runoff for several months or more after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of imazapic from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall or irrigation is expected to occur within 48 hours.

## PHYSICAL OR CHEMICAL HAZARDS

**DO NOT** allow contact with oxidizing agents, hazardous chemical reaction may occur.

## DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling. This label must be in the possession of the user at the time of pesticide application.

**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 4 hours.

**EXCEPTION:** If the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is;

- Coveralls
- Chemical-resistant gloves such as barrier laminate, butyl rubbers 14 mils, nitrile rubbers 14 mils, neoprene rubber >14 mils, natural rubber (includes natural rubber blends and laminates) >14 mils, polyethylene, polyvinyl chloride (PVC) > 14 mils, or Viton > 14 mils
- Shoes plus socks.

Ensure spray drift to non-target species does not occur.

**DO NOT** apply ADA 53644 herbicide in any manner not specifically described in this label. **DO NOT** apply this product through any type of irrigation system.

When applied by either ground or air, ADA 53644 spray drift or other indirect contact may injure sensitive crops, including canola, lentil, rice, sunflower, or wheat; leafy vegetables; and sugar beet.

Spray equipment used for ADA 53644 application must be drained and thoroughly cleaned with water before being used to apply other products.

Observe all cautions and limitations on this label and on the labels of products used in combination with ADA 53644.

**DO NOT** use ADA 53644 other than in accordance with the instructions set forth on this label. Keep containers closed to avoid spills and contamination.

## PRODUCT INFORMATION

ADA 53644, a soluble liquid, is a postemergence herbicide to control and suppress many broadleaf and grass weeds and sedges, as listed in this label.

The mode of weed-killing activity involves uptake of ADA 53644 by foliage and/or weed roots and rapid translocation to the growing points. After ADA 53644 application, susceptible weeds may show yellowing, and weed growth will stop. Susceptible weeds stop growing and either die or are not competitive with the crop.

Adequate soil moisture is important for optimum ADA 53644 activity. When adequate soil moisture is present, ADA 53644 will provide residual activity on susceptible germinating weeds. Activity on established weeds will depend on the weed species and the location of its root system in the soil. A timely cultivation after ADA 53644 application may improve weed control.

Occasionally, internode shortening and/or temporary yellowing of crop plants may occur following ADA 53644 application. These effects can be more pronounced if crops are growing in stressful environmental or hot and humid conditions. These effects occur infrequently and are temporary. Normal growth and appearance should resume within 1 to 2 weeks.

**DO NOT** tank mix organophosphate or carbamate insecticides with ADA 53644 on listed crops unless otherwise specified in writing by ADAMA. When organophosphate (such as Vulcan® insecticide) or carbamate insecticides are tank mixed with ADA 53644, temporary injury may result to the treated crop. Separate organophosphate and ADA 53644 application by at least 7 days to reduce potential for injury. Use of ADA 53644 is expected to result in normal growth of rotational crops in most situations; however, various environmental and agronomic factors make it impossible to eliminate all risks associated with the use of this product and, therefore, rotational crop injury is always possible.

### Replanting

If replanting is necessary in a field previously treated with ADA 53644, the field may be replanted to beans (dry), FULLPAGE™ rice, edamame, pea (English), peas (dry), lima bean (succulent), snap bean, or soybean. Rework the soil no deeper than 2 inches.

### Replanting Restrictions:

- **DO NOT** apply a second treatment of ADA 53644.
- **DO NOT** apply an imidazoline herbicide such as PREFACE™ or ADA 53644 if edamame or soybeans are replanted.

ADA 53644 has no preharvest interval (PHI) for any crop.

## RESISTANCE MANAGEMENT RECOMMENDATIONS

For resistance management, ADA 53644 is a Group 2 Herbicide (contains the active ingredient Imazamox). Following many years of continuous use of this product and chemically related products biotypes of some of the weeds listed on this label have been reported which cannot be effectively controlled by this and related herbicides. Any weed population may contain or develop plants naturally resistant to ADA 53644 and other

Group 2 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. Appropriate resistance management strategies should be followed. Resistance may be suspected if the following three conditions are noted: 1. A patch of weeds were not controlled by the application of the proper rate of the herbicide to properly-sized weeds under the proper growing conditions. 2. Some treated weeds (of the same size and species) are controlled while other adjacent weeds are not controlled. 3. A patch of weeds that are ordinarily controlled seems to escape treatment for multiple years and the patch seems to grow.

Rotate the use of ADA 53644 or other Group 2 herbicides within a growing season sequence or among growing seasons with different herbicide groups that control the same weeds in a field. 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. Where this is known or suspected and weeds controlled by this product are expected to be present along with resistant biotypes we recommend the use of this product in combinations or in sequence with other registered herbicides which are not solely a Group 2 Herbicide.

Scout after herbicide application to monitor weed populations for early signs of resistance development. Indicators of possible herbicide resistance include:

- (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds;
- (2) a spreading patch of non-controlled plants of a particular weed species;
- (3) surviving plants mixed with controlled individuals of the same species.

If resistance is known or suspected, we recommend the use of this product in combinations or in sequence with other registered herbicides which are not solely a Group 2 Herbicide. If resistant biotypes are expected to be present in dense infestations, use a registered herbicide which is not solely a Group 2 Herbicide and consult with your state Agricultural Extension Service for specific recommendations. Hand rouging of escaped red rice and weedy rice is recommended.

Report any incidence of non-performance of this product against a particular weed species to your ADAMA retailer, representative, or call 1-866-406-6262. If resistance is suspected, treat weed escapes with an 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.

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 mechanisms of action or different management practices.

To the extent possible **DO NOT** allow weed escapes to produce seeds, roots 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 weeds 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 applications 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.

#### **Weed Resistance**

If a weed pest population continues to progress after treatment with this product, discontinue use of this product, and switch to another management strategy or herbicide with a different mode of action, if available. For further information contact ADAMA representatives at 1-866-406- 6262.

Some listed weeds have developed naturally occurring biotypes which will not be controlled by applications of ADA 53644 or other products that have a similar mode of action, such as sulfonylureas, sulfonamides and pyrimidyl benzoates.

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.

#### **MIXING INSTRUCTIONS**

Postemergence application of ADA 53644 requires the addition of an adjuvant AND a nitrogen fertilizer solution unless otherwise directed in this label.

#### **Adjuvants**

When an adjuvant (or a specific adjuvant product, such as a drift control agent) is to be used with this product, the use of a Chemical Producers and Distributors Association (CPDA) certified adjuvant is recommended.

#### **Crop Oil Concentrate (COC), Methylated Seed Oil (MSO), or High Surfactant Oil Concentrate (HSOC)**

Petroleum-based or vegetable seed-based crop oil concentrate may be used. Methylated seed oil is recommended when weeds are under moisture or temperature stress.

Use MSO or COC at 1 to 2 gallons/100 gallons of spray solution [1% to 2% volume/volume (v/v)].

Use HSOC at 0.5 gallon/100 gallons of spray solution (0.5% v/v).

**OR**

#### **Surfactant -**

Use nonionic surfactant (NIS) containing at least 80% active ingredient. Apply NIS at 1 quart/100 gallons of spray solution (0.25% v/v). Organosilicone surfactant may be used in place of NIS.

**AND**

#### **Nitrogen Fertilizer -**

Recommended nitrogen-based fertilizers include liquid fertilizers [such as liquid ammonium sulfate (AMS), 28% N, 32% N, or 10-34-0] at 2.5 gallons/100 gallons of spray solution. Instead of liquid fertilizer, spray-grade ammonium sulfate may be used at 12 to 15 pounds/100 gallons of spray solution.

When targeting feral rye or other weeds under moisture or temperature stress, using higher nitrogen fertilizer rates [urea ammonium nitrate (UAN) at 5% v/v or 20 lbs. AMS/100 gallons] may improve weed control. Additional crop response may be observed when higher fertilizer rates are used.

Nitrogen fertilizer is not required when applied in use areas south of Interstate Highway 40, except in the states of Arizona, California, New Mexico, Oklahoma, and Texas.

### **Liquid Fertilizer as a Carrier**

**DO NOT** apply ADA 53644 herbicide in liquid fertilizer as a carrier unless specifically allowed for a given crop. Refer to Crop-specific Information section for adjuvant recommendations and/or restrictions by crop.

### **Additional Mixing Instructions for Dry Beans and Dry Peas [other than English Pea, Lima Bean (Succulent), and Snap Bean].**

ADA 53644 application may be made to dry beans and dry peas either with or without the addition of a fertilizer. The addition of nitrogen-based fertilizer, such as ammonium sulfate or liquid fertilizer (such as 28-0-0), may improve weed control but also increases the likelihood of dry beans and dry peas response. When nitrogen is added to the mixture, add bentazon herbicide at labeled product rates to minimize crop response. For application to dry peas, **ALWAYS** add bentazon to the spray mixture. For enhanced grass activity, add crop oil or methylated seed oil instead of surfactant. **ALWAYS** add bentazon at the rates indicated above when crop oils and/or fertilizers are used in the spray mixture. bentazon application at rates higher than 0.5 lb ai/A may reduce grass control.

See application information within English Pea; Lima Bean (Succulent); and Snap Bean in Crop-specific Information section for additional mixing instructions.

### **Tank Mixing Instructions**

When applying ADA 53644 as the only herbicide:

1. Fill spray tank 1/2 to 3/4 full with clean water.
2. While agitating, add ADA 53644 to the spray tank.
3. Add adjuvants.
4. Fill remainder of spray tank with water.

If other herbicides or other spray tank components are tank mixed with ADA 53644, while agitating, add components in the following order and thoroughly mix after adding each component.

1. Fill spray tank 1/2 to 3/4 full with clean water.
2. Add soluble-packet products and thoroughly mix.
3. Add WP (wettable powder), DG (dispersible granule), DF (dry flowable), or liquid flowable formulations not in soluble packets.
4. Add ADA 53644 and thoroughly mix.
5. Add other aqueous solution products.
6. Add EC (emulsifiable concentrate) products.
7. Add surfactant or crop oil to the spray tank.
8. Add nitrogen fertilizer solution.
9. While agitating, fill the remainder of the tank with water.

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.

### **Cleaning Spray Equipment**

To avoid injury to sensitive crops, spray equipment used for ADA 53644 application must be drained and thoroughly cleaned with water before being used to apply other products.

## Spraying Instructions

**DO NOT** apply when wind conditions may result in drift, when temperature inversion conditions exist, or when spray may be carried to sensitive crops. Sensitive crops include, but are not limited to, leafy vegetables and sugar beet.

### Ground Application

Uniformly apply with properly calibrated ground equipment in 10 or more gallons of water per acre. A spray pressure of 20 to 40 PSI is recommended.

To ensure thorough coverage, use a minimum of 20 gallons of water per acre when applying ADA 53644 to minimum-till or no-till crops. Use higher gallonage for fields with dense vegetation or heavy crop residue.

Adjust the boom height to ensure proper coverage of weed foliage (according to the manufacturer's instructions). Use flat-fan nozzle tips or similar appropriate nozzle tips to ensure thorough coverage. Avoid overlaps when spraying.

### Ground Application with a Low-volume Sprayer

ADA 53644 herbicide may be applied with a low-volume sprayer. When applying ADA 53644 with a low-volume sprayer, spray weeds before they reach the maximum size listed in this label. Weed control depends on thorough spray coverage. The sprayer must be calibrated to deliver the recommended spray volume and pressure to ensure thorough spray coverage of weeds.

When applying ADA 53644 with a low-volume sprayer, apply a minimum of 10 gallons per acre of spray solution with a nozzle pressure between 40 to 60 PSI for optimum coverage.

### Aerial Application

ADA 53644 may be applied by air to all crops listed on this label.

Uniformly apply with properly calibrated equipment in 5 or more gallons of water per acre. The addition of an adjuvant AND a nitrogen fertilizer solution are required for optimum weed control, unless otherwise directed in this label.

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

The following drift-management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops.

Nozzles must always point backward parallel with the airstream and never be pointed downward more than 45 degrees.

Where states have more stringent regulations, they must be observed.

The applicator must be familiar with and take into account the information covered in the aerial drift reduction advisory information that follows.

## **Mandatory Spray Drift Management.**

### AERIAL APPLICATIONS

- **DO NOT** release spray at a height greater than 10 ft above the ground or vegetative canopy, unless a greater application height is necessary for pilot safety.
- Applicators are required to use a medium or coarser droplet size in according to the most recent version of the American Society of Agricultural and Biological Engineers Standard 641 (ASABE S641).
- Applicators must use  $\frac{1}{2}$  swath displacement upwind at the downwind edge of the application site.
- **DO NOT** apply when wind speeds exceed 15 miles per hour at the application site. If the windspeed is greater than 10 mph, the boom length must be 65% of less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters. Otherwise, the boom length must be 75% or less of the wingspan for fixed-wing aircraft and 90% or less of the rotor diameter for helicopters.
- **DO NOT** apply during temperature inversions.

### GROUND BOOM APPLICATIONS

- User must apply with the release height recommended by the manufacturer, but no more than 4 feet above the ground.
- Applicators are required to use a medium or coarser droplet size in according to the most recent version of the American Society of Agricultural and Biological Engineers Standard 572 (ASAE S572).
- **DO NOT** apply when wind speeds exceed 15 miles per hour at the application site.
- **DO NOT** apply during temperature inversions.

### BOOMLESS GROUND APPLICATIONS

- Applicators are required to use a medium or coarser droplet size in according to the most recent version of the American Society of Agricultural and Biological Engineers Standard 572 (ASAE S572) for all applications.
- **DO NOT** apply when wind speeds exceed 15 miles per hour at the application site.
- **DO NOT** apply during temperature inversions.

## **SPRAY DRIFT ADVISORIES**

- THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT.
- BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.
- IMPORTANCE OF DROPLET SIZE:  
An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

### **Controlling Droplet Size – Ground Boom**

- Volume – Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure – Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle – Use a spray nozzle that is designed for the intended application. Consider using nozzle designed to reduce drift.

### **Controlling Droplet Size – Aircraft**

- Adjust Nozzles – Follow nozzle manufacturers recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

**Boom Height – Ground Boom:** For ground equipment, the boom should remain level with the application site and have minimal bounce.

**Release Height – Aircraft:** Higher release heights increase the potential for spray drift.

**Shielded Sprayers:** Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

**Temperature and Humidity:** When making applications in hot and dry conditions, use larger droplets to reduce the effects of evaporation.

**Temperature Inversions:** Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or 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. Avoid applications during temperature inversions.

**Wind:** Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.

- Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

**Boom-less Ground Applications:** Setting nozzles at the lowest effective height will help to reduce the potential for spray drift.

**Handheld Technology Applications:** Take precautions to minimize spray drift.

### **Application Information**

Apply ADA 53644 as a postemergence treatment when weeds are actively growing and before they exceed the maximum specified size (see Crop-specific Information section weeds controlled tables by crop).

Delay application until the majority of weeds are at the specified growth stage. Apply ADA 53644 when weeds are small and actively growing; however, delay application in seedling alfalfa, dry beans, and dry peas until minimum growth stages have occurred. Refer to the crop-specific sections Alfalfa (see Seedling Alfalfa) and Dry Beans and Dry Peas.

An adjuvant (either surfactant OR crop oil concentrate) AND nitrogen fertilizer MUST be added to the spray solution for optimum weed control. See Adjuvants section under Mixing Instructions for specific instructions.

When ADA 53644 is applied postemergence, absorption will occur through both roots and foliage. Susceptible weeds' stop growing and either die or are not competitive with the crop. ADA 53644 not only controls many existing broadleaf and grass weeds when applied postemergence, it also provides activity on susceptible weeds that may emerge shortly after application.

Weeds are most easily controlled when actively growing. Under cold temperature conditions (less than 40° F maximum daytime temperature), weed control may be less.

For improved weed control, cultivate (where possible) 7 to 10 days after a postemergence ADA 53644 application. This timely cultivation will enhance residual weed control activation, especially under dry conditions.

Apply ADA 53644 a minimum of 1 hour before rainfall or overhead irrigation.

## CROP-SPECIFIC INFORMATION

### ALFALFA

Apply ADA 53644 early postemergence when weeds are actively growing and before they exceed a height of inches, unless otherwise indicated.

Delay application until the majority of the weeds are at the specified growth stage. Apply ADA 53644 to actively growing crop and weeds.

#### Use Rate

Apply ADA 53644 early postemergence at a broadcast rate of to 4 to 6 fl. ozs./acre (0.031 to 0.047 lb. imazamox ae/acre) to seedling or established alfalfa grown for forage, hay, or seed. At the specified application rate, 1 gallon of ADA 53644 will treat 21 to 32 acres.

#### Seedling Alfalfa

Apply ADA 53644 when seedling alfalfa is in the second trifoliate stage or larger and when the majority of weeds are 1 -inch to 3-inches tall. When applied to alfalfa grown for seed, apply ADA 53644 before bud formation. For prostrate growing weeds (such as mustards and filaree), apply ADA 53644 before the rosette exceeds 3 inches. When ADA 53644 is applied to seedling alfalfa, there may be a temporary reduction in growth. Alfalfa soon outgrows any effects of the herbicide.

#### Established Alfalfa

Apply ADA 53644 to established alfalfa in fall, winter, or spring to dormant or semidormant alfalfa, or between cuttings. Apply before significant alfalfa growth or regrowth (3 inches) to allow ADA 53644 to reach target weeds.

#### Alfalfa Restrictions:

- **DO NOT** make more than one ADA 53644 application to alfalfa per year.
- **DO NOT** apply more than 6 fl. ozs. ADA 53644/acre (0.047 lb. imazamox ae/acre) to alfalfa per year.
- **DO NOT** make sequential applications of imazethapyr herbicide followed by ADA 53644 (or ADA 53644 followed by PREFACE) within a 60-day time frame because of increased potential for alfalfa crop response.

#### Weeds Controlled (Alfalfa)

ADA 53644 herbicide will control or suppress listed weeds when applied postemergence at the specified rates listed as follows.

#### Broadleaf Weeds Controlled by ADA 53644 herbicide in Alfalfa

|                   | Application Rate<br>(fl. ozs./A) |   |   |
|-------------------|----------------------------------|---|---|
|                   | 4                                | 5 | 6 |
|                   | Maximum Weed Size<br>(inches)    |   |   |
| Bedstraw          |                                  | 3 | 3 |
| Beet, wild        | 3                                | 3 | 3 |
| Buckwheat, wild   |                                  | 3 | 3 |
| Buttercup         |                                  | 3 | 3 |
| Canola, volunteer | 3                                | 3 | 3 |

|                                  |     |   |   |
|----------------------------------|-----|---|---|
| Cocklebur, common                | 3   | 3 | 3 |
| Filaree,<br>redstem<br>whitestem |     |   | 3 |
|                                  |     |   | 3 |
| Flixweed                         | 3   | 3 | 3 |
| Henbit                           |     |   | 2 |
| Jimsonweed                       | 3   | 3 | 3 |
| Knotweed, prostrate              |     | 3 | 3 |
| Kochia*                          |     | 3 | 3 |
| Lambsquarters, common            | 3** | 3 | 3 |
| Lettuce, miner's                 |     | 3 | 3 |
| Mallow,<br>common<br>Venice      | 3   | 3 | 3 |
|                                  | 1   |   | 1 |
| Morningglory,<br>entireleaf      |     | 3 | 3 |
| ivyleaf                          |     | 3 | 3 |
| smallflower                      |     | 3 | 3 |
| tall                             |     | 3 | 3 |
| Mustard,<br>black                | 3   | 3 | 4 |
| tumble                           | 3   | 3 | 3 |
| wild                             | 3   | 3 | 4 |
| Nettle, burning                  |     | 2 | 2 |
| Nettleleaf goosefoot             | 3   | 3 | 3 |
| Nightshade,<br>black             | 3   | 5 | 5 |
| Eastern black                    | 3   | 5 | 5 |
| hairy                            | 3   | 4 | 5 |
| Pennycress, field                | 3   | 3 | 3 |
| Pigweed,<br>redroot              | 3   | 4 | 5 |
| smooth                           | 3   | 4 | 4 |
| spiny                            | 3   | 3 | 3 |
| Purslane, common                 |     |   | 3 |
| Radish, wild                     | 3   | 3 | 3 |
| Rocket,<br>London                |     | 3 | 3 |
| yellow                           |     | 4 | 4 |
| Shepherd's-purse                 |     |   | 3 |
| Smartweed,<br>lady's thumb       | 3   | 3 | 3 |
| Pennsylvanian                    | 3   | 3 | 3 |
| swamp                            |     | 3 | 3 |
| Spurge, prostrate                |     | 3 | 3 |
| Sunflower, common                |     | 3 | 3 |
| Swinecress                       |     | 3 | 3 |
| Tansymustard, green              | 3   | 3 | 4 |
| Thistle, Russian                 |     | 3 | 3 |
| Velvetleaf                       | 3   | 4 | 5 |
| Willoweed panicle                |     | 3 | 3 |

\* ADA 53644 controls non-ALS resistant kochia only.

\*\*ADA 53644 controls common lambsquarters at 4 fl. ozs./A east of the Rocky Mountains.

#### **Broadleaf Weeds Suppressed by ADA 53644 herbicide in Alfalfa**

|                             | <b>Application Rate</b><br>(fl. ozs./A) |   |   |
|-----------------------------|---|---|---|
|                             | 4                                       | 5 | 6 |
|                             | <b>Maximum Weed Size</b><br>(inches)    |   |   |
| Chickweed, common           | 3                                       | 3 | 3 |
| Dandelion                   |   |   | 3 |
| Dock, curly                 |   | 3 | 3 |
| Dodder*                     |   |   | 3 |
| Fiddleneck                  |   |   | 3 |
| Ragweed,<br>common<br>giant |   | 3 | 3 |
|                             |   | 3 | 3 |
| Thistle, Canada             |   |   | 3 |
| Shepherd's-purse            | 3                                       | 3 |   |

\*For suppression of dodder, apply ADA 53644 after dodder has emerged until soon after dodder attaches to alfalfa.

#### **Grass Weeds Controlled by ADA 53644 herbicide in Alfalfa**

|  | <b>Application Rate</b><br>(fl. ozs./A) |   |   |
|--|---|---|---|
|  | 4                                       | 5 | 6 |
|  | <b>Maximum Weed Size</b><br>(inches)    |   |   |
| Barnyardgrass                                      |   | 3 | 3 |
| Blackgrass   | 3                                       | 3 | 3 |
| Brome,<br>California<br>cheat<br>downy<br>Japanese | 3                                       | 3 | 3 |
|  | 3                                       | 3 | 3 |
|  | 3                                       | 3 | 3 |
|  | 3                                       | 3 | 3 |
| Canarygrass, littleseed                            | 3                                       | 3 | 3 |
| Cereals,<br>volunteer barley                       | 3                                       | 3 | 3 |
| oat  | 3                                       | 3 | 3 |
| wheat (non-Clearfield)                             | 3                                       | 3 | 3 |
| Corn, volunteer                                    | 4                                       | 5 | 8 |
| Crabgrass, large                                   |   | 3 | 3 |
| Darnel, Persian                                    | 3                                       | 3 | 3 |
| Foxtail,<br>giant                                  | 3                                       | 4 | 5 |
| green  | 3                                       | 3 | 4 |
| yellow   | 3                                       | 3 | 4 |
| Johnsongrass, seedling                             |   | 3 | 3 |

|                      |   |   |   |
|----------------------|---|---|---|
| Jointed goatgrass    | 3 | 3 | 3 |
| Lovegrass            | 3 | 3 | 3 |
| Millet, wild proso   |   | 3 | 3 |
| Oat, wild            | 3 | 3 | 3 |
| Rye, feral or cereal |   | 3 | 3 |
| Ryegrass, Italian    | 3 | 3 | 3 |
| Shattercane          | 3 | 4 | 5 |

#### Grass Weeds and Sedges Suppressed by ADA 53644 herbicide in Alfalfa

|                               | Application Rate<br>(fl. ozs./A) |   |   |
|-------------------------------|----------------------------------|---|---|
|                               | 4                                | 5 | 6 |
|                               | Maximum Weed Size<br>(inches)    |   |   |
| <b>Grass Weeds</b>            |                                  |   |   |
| Bluegrass, annual             |                                  |   | 3 |
| Johnsongrass, rhizome         |                                  |   | 3 |
| <b>Sedges</b>                 |                                  |   |   |
| Nutsedge,<br>purple<br>yellow |                                  |   | 3 |
|                               |                                  |   | 3 |
|                               |                                  |   | 3 |
| Quackgrass                    |                                  |   | 3 |

#### Tank Mix Herbicides

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.

## CHICORY

**DO NOT** use on chicory in California.

Apply ADA 53644 early postemergence when weeds are actively growing and before they exceed a height of 3 inches, unless otherwise indicated. Apply ADA 53644 early postemergence when chicory has at least 2, and no more than 4, fully expanded true leaves present. **DO NOT** apply to chicory subjected to stress conditions, such as hail damage, flooding, drought, injury from other herbicides, or widely fluctuating temperatures, or crop injury may result.

**THIS PRODUCT WHEN USED IN CHICORY MAY LEAD TO CROP INJURY, LOSS, OR DAMAGE. ADAMA RECOMMENDS THAT THE USER AND/OR GROWER TEST THIS PRODUCT TO DETERMINE ITS SUITABILITY FOR SUCH INTENDED USE.**

### Use Rate

Apply ADA 53644 early postemergence to chicory at a broadcast rate of 4 fl. ozs./acre (0.031 lb. imazamox ae/acre). At this rate, 1 gallon of ADA 53644 will treat 32 acres of chicory. The use of a soil-applied grass herbicide is advised before ADA 53644 application.

Application of ADA 53644 requires the addition of a surfactant. Refer to Mixing Instructions section for specific surfactant types and rates.

Addition of nitrogen fertilizer, such as 28-0-0 or 32-0-0 liquid fertilizer, may improve weed control but also increases the likelihood of injury to chicory. Add liquid fertilizer at 2.5% v/v.

### Chicory Restrictions:

- **DO NOT** make more than one ADA 53644 application to chicory per year.
- **DO NOT** apply more than 4 fl. ozs. ADA 53644/acre (0.031 lb. imazamox ae/acre) to chicory per year.

### Weeds Controlled (Chicory)

#### Broadleaf Weeds Controlled by ADA 53644 herbicide in Chicory

|                        | ADA 53644<br>at 4 fl. ozs./A<br>+ surfactant |
|------------------------|--|
|                        | Maximum Weed Size<br>(inches)                |
| Beet, wild             | 3  |
| Flixweed               | 3  |
| Jimsonweed             | 3  |
| Lambsquarters, common  | 3  |
| Mustard,<br>black      | 3  |
| tumble                 | 3  |
| wild                   | 3  |
| Nightshade,<br>black   | 3  |
| Eastern black<br>hairy | 3  |
| Pennycress, field      | 3  |
| Pigweed,<br>redroot    | 3  |

|                     |   |
|---------------------|---|
| smooth              | 3 |
| spiny               | 3 |
| Radish, wild        | 3 |
| Shepherd's-purse    | 3 |
| Tansymustard, green | 3 |

**Grass Weeds Controlled by ADA 53644 herbicide in Chicory**

|                              |  |
|------------------------------|--|
|                              | ADA 53644<br>at 4 fl. ozs./A<br>+ surfactant |
|                              | <b>Maximum Weed Size<br/>(inches)</b>        |
| Brome,<br>cheat<br>downy     | 3  |
|                              | 3  |
| Japanese                     | 3  |
| Cereals,<br>volunteer barley | 3  |
| oat                          | 3  |
| wheat (non-Clearfield)       | 3  |
| Darnel, Persian              | 3  |
| Foxtail,<br>giant            | 3  |
| green                        | 3  |
| yellow                       | 3  |
| Jointed goatgrass            | 3  |
| Oat, wild                    | 3  |
| Shattercane                  | 3  |

**Grass Weeds and Sedges Suppressed by ADA 53644 herbicide in Chicory**

|                     |  |
|---------------------|--|
|                     | ADA 53644 at 5 fl. ozs./A +<br>surfactant, COC, or HSOC<br>+ nitrogen-based fertilizer<br>+ Bentazon |
|                     | <b>Maximum Weed Size<br/>(inches)</b>  |
| <b>Grass Weeds</b>  |  |
| Crabgrass,<br>large | 3  |
| smooth              | 3  |
| <b>Sedges</b>       |  |
| Nutsedge,<br>purple | 3  |
| yellow              | 3  |
| Quackgrass          | 3  |

**CLOVER**  
**Grown for Nonfood and Nonfeed**

**Not for use in California.**

**Application Instructions**

Apply ADA 53644 early postemergence at a rate of 4 to 5 fl. ozs./acre (0.031 to 0.04 lb. imazamox ae/acre) with a spray adjuvant; when clover has aluminum of 2 trifoliate leaves; and when the majority of weeds are 1-inch to 3-inches tall.

**Mixing Instructions per 1000 square feet**

To treat 1000 square feet, mix the following amount of ADA 53644 per gallon of spray mixture. Clover Grown for Nonfood and Nonfeed Restrictions and Limitations

| <b>ADA 53644 Rate<br/>(fl. ozs./A)</b> | <b>ADA 53644 Rate<br/>(fl. ozs./1000 sq. ft.)</b> | <b>Teaspoons per 1000 sq. ft.</b> |
|--|---|-----------------------------------|
| 4                                      | 0.09  | 0.5                               |
| 5                                      | 0.15  | 0.9                               |

**Clover Grown for Nonfood and Nonfeed Restrictions:**

- **DO NOT** make more than one ADA 53644 application per year.
- **DO NOT** apply more than 5 fl. ozs. ADA 53644/acre (0.04 lb. imazamox ae/acre) per year.
- Not for use on clover grown for seed. See Clover Grown for Seed section for use directions.

**Weeds Controlled  
(Clover Grown for Nonfood and Nonfeed)**

**Broadleaf Weeds Controlled by ADA 53644 herbicide in Clover Grown for Nonfood and Nonfeed**

|                                    | <b>Maximum Weed Size<br/>(inches)</b> |
|------------------------------------|---------------------------------------|
| Bedstraw                           | 3                                     |
| Beet, wild                         | 3                                     |
| Buckwheat, wild                    | 3                                     |
| Buttercup                          | 3                                     |
| Canola, volunteer (non-Clearfield) | 3                                     |
| Cocklebur, common                  | 3                                     |
| Flixweed                           | 3                                     |
| Jimsonweed                         | 3                                     |
| Knotweed, prostrate                | 3                                     |
| Kochia*                            | 3                                     |
| Lambsquarters, common              | 3                                     |
| Lettuce, miner's                   | 3                                     |
| Mallow,<br>common                  | 3                                     |
| Venice                             | 1                                     |
| Morningglory,                      |                                       |

|                          |   |
|--------------------------|---|
| entireleaf               | 3 |
| ivyleaf                  | 3 |
| smallflower              | 3 |
| tall                     | 3 |
| Mustard,<br>black        | 3 |
| tumble                   | 3 |
| wild                     | 3 |
| Nettle, burning          | 2 |
| Nettleleaf goosefoot     | 3 |
| Nightshade,<br>black     | 5 |
| Eastern black            | 5 |
| hairy                    | 4 |
| Pennycress, field        | 3 |
| Pigweed,<br>red root     | 4 |
| smooth                   | 4 |
| spiny                    | 3 |
| Radish, wild             | 3 |
| Rocket,<br>London        | 3 |
| yellow                   | 4 |
| Smartweed,<br>ladysthumb | 3 |
| Pennsylvania             | 3 |
| swamp                    | 3 |
| Spurge, prostrate        | 3 |
| Sunflower, common        | 3 |
| Swinecress               | 3 |
| Tansymustard, green      | 3 |
| Thistle, Russian         | 3 |
| Velvetleaf               | 4 |
| Willoweed panicle        | 3 |

\* ADA 53644 controls non- ALS-resistant kochia only.

#### **Broadleaf Weeds Suppressed by ADA 53644 herbicide in Clover Grown for Nonfood and Nonfeed**

|                    | Maximum Weed Size<br>(inches) |
|--------------------|-------------------------------|
| Chickweed, common  | 3                             |
| Dock, curly        | 3                             |
| Ragweed,<br>common | 3                             |
| giant              | 3                             |
| Shepherd's-purse   | 3                             |

#### **Grass Weeds Controlled by ADA 53644 herbicide in Clover Grown for Nonfood and Nonfeed**

|   | <b>Maximum Weed Size<br/>(inches)</b> |
|---|---------------------------------------|
| Barnyardgrass   | 3                                     |
| Blackgrass  | 3                                     |
| Brome,<br>California<br>cheat<br>downy<br>Japanese            |                                       |
|   | 3                                     |
|   | 3                                     |
|   | 3                                     |
|   | 3                                     |
| Canarygrass, littleseed                                       | 3                                     |
| Cereals,<br>volunteer barley<br>oat<br>wheat (non-Clearfield) |                                       |
|   | 3                                     |
|   | 3                                     |
|   | 3                                     |
| Corn, volunteer   | 5                                     |
| Crabgrass, large  | 3                                     |
| Darnel, Persian   | 3                                     |
| Foxtail,<br>giant<br>green<br>yellow                          |                                       |
|   | 4                                     |
|   | 3                                     |
|   | 3                                     |
| Johnsongrass, seedling  | 3                                     |
| Lovegrass   | 3                                     |
| Millet, wild Proso  | 3                                     |
| Oat, wild   | 3                                     |
| Rye, feral or cereal  | 3                                     |
| Ryegrass, Italian   | 3                                     |
| Shattercane   | 4                                     |

## **CLOVER Grown for Seed**

**For use only in Oregon and Washington.**

### **Application Timing**

Apply ADA 53644 early postemergence in a tank mix, as described below, when clover has a minimum of 2 trifoliate leaves and when the majority of weeds are 1-inch to 3-inches tall. ADA 53644 application must be made before clover bloom.

**NOTE:** If arid conditions occur during the year of application, rotational crop injury may occur.

### **Use Rate**

Apply ADA 53644 early postemergence to clover grown for seed at a broadcast rate of 5 fl. ozs./acre (0.04 lb. imazamox ae/acre).

Application of ADA 53644 in clover grown for seed requires the addition of an adjuvant, nitrogen fertilizer, and bentazon herbicide.

### **Adjuvants**

Nonionic surfactant - Use NIS containing at least 80% active ingredient. Apply NIS at 0.25% v/v (1 quart/100 gallons of spray solution).

**OR**

Crop oil concentrate - Use COC at 1 pint/acre (0.5 gallon/100 gallons of spray solution).

**OR**

High surfactant oil concentrate - Use HSOC at 0.5% v/v (0.5 gallon/100 gallons of spray solution).

### **Nitrogen Fertilizer**

Recommended nitrogen-based fertilizers include liquid fertilizers (such as 28% N, 32% N, or 10-34-0) at 2.5 gallons/100 gallons of spray solution. Instead of liquid fertilizer, spray-grade ammonium sulfate may be used at 12 to 15 pounds/100 gallons of spray solution.

### **Bentazon**

Add Bentazon at labeled product rates to minimize crop response. Bentazon application at rates higher than 0.5 lb ai/A may reduce grass control. Bentazon may only be applied to clover grown for seed. Apply ADA 53644 plus bentazon tank mix a minimum of 4 hours before rainfall or overhead irrigation.

### **Clover Grown for Seed Restrictions:**

- ADA 53644 application must be made before clover bloom.
- **DO NOT** make more than one ADA 53644 application to clover grown for seed per year.
- **DO NOT** apply more than 5 fl. ozs. ADA 53644/acre (0.04 lb. imazamox ae/acre) to clover grown for seed per year.
- **DO NOT** apply to clover subjected to stress conditions, such as hail damage, flooding, drought, injury from other herbicides, or widely fluctuating temperatures, or crop injury may result.
- **DO NOT** apply to weeds under stress, such as lack of moisture, previous herbicide injury, mechanical injury, or cold temperatures, or unsatisfactory weed control could result.
- **DO NOT** apply more than a total of 2.0 pounds of bentazon active ingredient (ai) from all

sources per acre per calendar year.

#### **Weeds Controlled (Clover Grown for Seed)**

ADA 53644 will control or suppress listed weeds when applied postemergence to 1 -inch to 3-inch weeds (unless otherwise indicated) at the specified rates listed as follows.

#### **Broadleaf Weeds Controlled by ADA 53644 herbicide in Clover Grown for Seed**

|                      | ADA 53644 at 5 fl. ozs./A<br>+ surfactant, COC, or HSOC<br>+ nitrogen-based fertilizer<br>+ Bentazon |
|----------------------|--|
|                      | Maximum Weed Size<br>(inches)  |
| Bedstraw             | 3  |
| Beet, wild           | 3  |
| Buttercup            | 3  |
| Chickweed, common    | 3  |
| Cocklebur, common    | 3  |
| Flixweed             | 3  |
| Jimsonweed           | 3  |
| Mustard,<br>black    | 3  |
| tumble               | 3  |
| wild                 | 3  |
| Nightshade,<br>black | 3  |
| Eastern black        | 3  |
| hairy                | 3  |
| Pennycress, field    | 3  |
| Pigweed,<br>redroot  | 3  |
| smooth               | 3  |
| spiny                | 3  |
| Puncturevine         | 3  |
| Radish, wild         | 3  |
| Shepherd's-purse     | 3  |
| Tansymustard, green  | 3  |
| Velvetleaf           | 3  |

#### **Broadleaf Weeds Suppressed by ADA 53644 herbicide in Clover Grown for Seed**

|                     | ADA 53644 at 5 fl. ozs./A<br>+ surfactant, COC, or HSOC<br>+ nitrogen-based fertilizer<br>+ Bentazon |
|---------------------|--|
|                     | Maximum Weed Size<br>(inches)  |
| Buckwheat, wild     | 3  |
| Chickweed, common   | 3  |
| Knotweed, prostrate | 3  |

|                             |   |
|-----------------------------|---|
| Kochia*                     | 3 |
| Lambsquarters, common       | 3 |
| Lettuce, miner's            | 3 |
| Morningglory,<br>entireleaf | 3 |
| ivyleaf                     |   |
| smallflower                 |   |
| tall                        |   |
|                             |   |
| Purslane, common            | 3 |
| Rocket,<br>London           | 3 |
| yellow                      |   |
| Smartweed,<br>ladysthumb    | 3 |
| Pennsylvania swamp          |   |
| Spurge, prostrate           | 3 |

\*ADA 53644 controls non-ALS-resistant kochia only.

#### Grass Weeds Controlled by ADA 53644 herbicide in Clover Grown for Seed

|  |  |
|--|--|
|  | ADA 53644 at 5 fl. ozs./A<br>+ surfactant, COC, or HSOC<br>+ nitrogen-based fertilizer<br>+ Bentazon |
|  | <b>Maximum Weed Size</b><br>(inches)   |
| Blackgrass                                   | 3  |
| Brome,<br>cheat<br>downy<br>Japanese         | 3  |
|  | 3  |
|  | 3  |
|  | 3  |
| Canarygrass, littleseed                      | 3  |
| Cereals,<br>volunteer barley<br>oat<br>wheat | 3  |
|  | 3  |
|  | 3  |
|  | 3  |
| Corn, volunteer*                             | 2 to 8   |
| Darnel, Persian                              | 3  |
| Foxtail,<br>giant<br>green<br>yellow         | 3  |
|  | 3  |
|  | 3  |
|  | 3  |
| Jointed goatgrass                            | 3  |
| Oat, wild                                    | 3  |
| Ryegrass, Italian                            | 3  |
| Shattercane                                  | 3  |

\*Except Clearfield- corn

**Grass Weeds and Sedges Suppressed by ADA 53644 herbicide in Clover Grown for Seed**

|                               |   |
|-------------------------------|---|
|                               | ADA 53644 at 5 fl. ozs./A + surfactant, COC, or HSOC + nitrogen-based fertilizer + Bentazon |
|                               | <b>Maximum Weed Size</b><br>(inches)  |
| <b>Grass Weeds</b>            |   |
| Barnyardgrass                 | 3   |
| Crabgrass,<br>large<br>smooth | 3   |
|                               | 3   |
|                               | 3   |
| Johnsongrass, rhizome         | 3   |
| <b>Sedges</b>                 |   |
| Nutsedge,<br>purple<br>yellow | 3   |
|                               | 3   |
|                               | 3   |
| Quackgrass                    | 3   |

**DRY BEANS AND DRY PEAS**

[other than English Pea, Lima Bean (Succulent), Snap Bean, and Clearfield lentil]

**DO NOT apply ADA 53644 herbicide to dry beans and dry peas in California.** ADA 53644 may be applied to the following dry beans and dry peas:

| <b>Dry Beans</b> |             | <b>Dry Peas</b>              |
|------------------|-------------|------------------------------|
| Adzuki           | Lima (dry)  | Dry edible peas (field peas) |
| Anasazi          | Navy        | Southern pea (cow pea)       |
| Black            | Pink        |                              |
| Black turtle     | Pinto       |                              |
| Cranberry        | Red         |                              |
| Great Northern   | Kidney      |                              |
| Lablab           | Small red   |                              |
|                  | Small white |                              |

Reduced crop growth, quality, and yield; temporary yellowing; and/or delayed maturity may result from ADA 53644 application to dry bean and dry pea crops listed on this label. Because crop maturity may be delayed, timing of harvest may need to be adjusted accordingly. **DO NOT** apply ADA 53644 if planting is delayed and chance of frost before maturity is likely. Some varieties of dry beans and dry peas are more sensitive to ADA 53644 than other varieties. Growers should check with the seed company regarding the safety of ADA 53644 to their variety.

USE ADA 53644 ONLY if proper agronomic practices have been used, including good soil fertility, proper crop rotation, disease and insect management, and tillage practices that eliminate compaction and hardpans.

ADA 53644 is effective in controlling weeds in conservation tillage and conventional tillage production systems. Apply ADA 53644 postemergence before bloom stage but after dry beans have at least 1 fully expanded trifoliate leaf and dry peas have at least 3 pairs of leaves. Delay application until the majority of weeds are at the specified growth stage. Base application timing on weed size and crop growth stage. Apply ADA 53644 to actively growing crop and weeds.

**THIS PRODUCT WHEN USED ON DRY BEANS AND DRY PEAS MAY LEAD TO CROP INJURY, LOSS, OR DAMAGE. ADAMA RECOMMENDS THAT THE USER AND/OR GROWER TEST THIS PRODUCT TO DETERMINE ITS SUITABILITY FOR SUCH INTENDED USE.**

#### **Use Rate**

Apply ADA 53644 postemergence to dry beans and dry peas at a broadcast rate of 4 fl. ozs./acre (0.031 lb. imazamox ae/acre). At this application rate, one gallon will treat 32 acres of dry beans and dry peas.

#### **Additional Mixing Instructions for Dry Beans and Dry Peas**

ADA 53644 application may be made to dry beans and dry peas with or without addition of fertilizer. Addition of nitrogen-based fertilizer, such as ammonium sulfate or liquid fertilizers (such as 28-0-0), may improve weed control but also increases the likelihood of dry bean response. When nitrogen and/or crop oil are added to the mixture, add bentazon herbicide according to the label directions as a tank mix partner to minimize crop response.

For application to dry peas, ALWAYS add bentazon to the spray mixture, regardless of additives used. For enhanced grass activity, add crop oil concentrate instead of surfactant. Bentazon at 0.5 lb ai/A will enhance control of common lambsquarters and kochia. Bentazon application at rates higher than 0.5 lb ai /A may reduce grass weed control.

#### **DRY BEANS AND DRY PEAS Restrictions:**

- **DO NOT apply ADA 53644 to succulent pea, snap bean, or fresh lima (except as specifically directed below).**
- **DO NOT apply ADA 53644 to chickpea (garbanzo bean) or lentil.**
- **ADA 53644 application must be made before dry beans and dry peas bloom.**
- **DO NOT make more than one ADA 53644 application to dry beans and dry peas per year.**
- **DO NOT apply more than 4 fl. ozs. ADA 53644/acre (0.031 lb. imazamox ae/acre) to dry beans and dry peas per year.**

#### **Weeds Controlled (Dry Beans and Dry Peas [other than English Pea, Lima Bean (Succulent), Snap Bean, and Clearfield® Lentil]**

ADA 53644 will control or suppress listed weeds when applied postemergence to 1 -inch to 3-inch weeds (unless otherwise indicated) at the specified rates listed as follows.

#### **Broadleaf Weeds Controlled by ADA 53644 herbicide in Dry Beans and Dry Peas [other than English Pea, Lima Bean (Succulent), Snap Bean, and Clearfield® Lentil]**

|                   | ADA 53644<br>at 4 fl. ozs./A<br>+ NIS | ADA 53644<br>at 4 fl. ozs./A + NIS or COC<br>+ nitrogen-based fertilizer<br>+ Bentazon |
|-------------------|---------------------------------------|--|
|                   | <b>Maximum Weed Size<br/>(inches)</b> |  |
| Bedstraw          |                                       | 3  |
| Beet, wild        | 3                                     | 3  |
| Buttercup         |                                       | 3  |
| Chickweed, common |                                       | 3  |
| Cocklebur, common |                                       | 3  |
| Flixweed          | 3                                     | 3  |
| Jimsonweed        | 3                                     | 3  |

|  |   |   |
|--|---|---|
| Lambsquarters, common*                         | 3 | 3 |
| Mustard,<br>black<br>tumble<br>wild            | 3 | 3 |
|  | 3 | 3 |
|  | 3 | 3 |
|  | 3 | 3 |
| Nightshade,<br>black<br>Eastern black<br>hairy | 3 | 3 |
|  | 3 | 3 |
|  | 3 | 3 |
|  | 3 | 3 |
| Pennycress; field                              | 3 | 3 |
| Pigweed,<br>redroot<br>smooth<br>spiny         | 3 | 3 |
|  | 3 | 3 |
|  | 3 | 3 |
|  | 3 | 3 |
| Puncturevine                                   |   | 3 |
| Radish, wild                                   | 3 | 3 |
| Shepherd's-purse                               | 3 | 3 |
| Tansymustard, green                            | 3 | 3 |
| Velvetleaf                                     |   | 3 |

\* ADA 53644 controls common lambsquarters at 4 fl ozs./A east of the Rocky Mountains.

**Broadleaf Weeds Suppressed by ADA 53644 herbicide in Dry Beans and Dry Peas [other than English Pea, Lima Bean (Succulent), Snap Bean, and Clearfield® Lentil]**

|   |                                       |   |
|---|---------------------------------------|---|
|   | ADA 53644<br>at 4 fl. ozs./A<br>+ NIS | ADA 53644<br>at 4 fl. ozs./A<br>+ NIS or COC<br>+ nitrogen-based fertilizer<br>+ Bentazon |
| <b>Maximum Weed Size<br/>(inches)</b>                         |                                       |   |
| Buckwheat, wild   |                                       | 3   |
| Chickweed, common   | 3                                     |   |
| Knotweed, prostrate   |                                       | 3   |
| Kochia*   |                                       | 3   |
| Lettuce, miner's  |                                       | 3   |
| Morningglory,<br>entireleaf<br>ivyleaf<br>smallflower<br>tall |                                       | 3   |
|   |                                       | 3   |
|   |                                       | 3   |
|   |                                       | 3   |
| Purslane, common  |                                       |   |
| Rocket,<br>London<br>yellow                                   |                                       | 3   |
|   |                                       | 3   |
| Smartweed,<br>ladysthumb<br>Pennsylvania                      |                                       | 3   |
|   |                                       | 3   |
|   |                                       | 3   |
| Spurge, prostrate   |                                       | 3   |

\*ADA 53644 controls non-ALS-resistant kochia only.

**Grass Weeds Controlled by ADA 53644 herbicide in Dry Beans and Dry Peas [other than English Pea, Lima Bean (Succulent), Snap Bean, and Clearfield® Lentil]**

|   | ADA 53644<br>at 4 fl. oz.s/A<br>+ NIS | ADA 53644<br>at 4 fl. ozs./A<br>+ NIS or COC<br>+ nitrogen-based fertilizer<br>+ Bentazon |
|---|---------------------------------------|---|
|   | <b>Maximum Weed Size</b><br>(inches)  |   |
| Blackgrass  |                                       | 3   |
| Brome,<br>cheat<br>downy<br>Japanese                          | 3                                     | 3   |
|   | 3                                     | 3   |
|   | 3                                     | 3   |
|   | 3                                     | 3   |
| Canarygrass, littleseed                                       |                                       | 3   |
| Cereals,<br>volunteer barley<br>oat<br>wheat (non-Clearfield) | 3                                     | 3   |
|   | 3                                     | 3   |
|   | 3                                     | 3   |
| Corn, volunteer*  |                                       | 2 to 8  |
| Darnel, Persian   | 3                                     | 3   |
| Foxtail,<br>giant<br>green<br>yellow                          | 3                                     | 3   |
|   | 3                                     | 3   |
|   | 3                                     | 3   |
|   | 3                                     | 3   |
| Jointed goatgrass   | 3                                     | 3   |
| Oat, wild   | 3                                     | 3   |
| Ryegrass, Italian   |                                       | 3   |
| Shattercane   | 3                                     | 3   |

\*Except Clearfield corn

**Grass Weeds and Sedges Suppressed by ADA 53644 herbicide in Dry Beans and Dry Peas [other than English Pea, Lima Bean (Succulent), Snap Bean, and Clearfield® Lentil]**

|                                       |                                       |   |
|---------------------------------------|---------------------------------------|---|
|                                       | ADA 53644<br>at 4 fl. ozs./A<br>+ NIS | ADA 53644<br>at 4 fl. ozs./A<br>+ NIS or COC<br>+ nitrogen-based fertilizer<br>+ Bentazon |
| <b>Maximum Weed Size<br/>(inches)</b> |                                       |   |
| <b>Grass Weeds</b>                    |                                       |   |
| Barnyardgrass                         |                                       | 3   |
| Crabgrass,<br>large<br>smooth         | 3                                     | 3   |
|                                       | 3                                     | 3   |
| Johnsongrass, rhizome                 |                                       | 3   |
| <b>Sedges</b>                         |                                       |   |
| Nutsedge,<br>purple<br>yellow         |                                       |   |
|                                       | 3                                     | 3   |
|                                       | 3                                     | 3   |
| Quackgrass                            | 3                                     | 3   |

**EDAMAME (Vegetable Soybean)**

**Not for use on edamame in California.**

ADA 53644 use on edamame may lead to crop injury or loss. Users or growers should evaluate ADA 53644 for crop response on the varieties being grown to determine if ADA 53644 use is acceptable.

**Use Rate**

**Early Postemergence Application.** Apply ADA 53644 to edamame at the broadcast rate of 4 fl. ozs./acre (0.031 lb. imazamox ae/acre). Base application timing on weed size and crop growth stage. Apply to actively growing crop and weeds.

Apply ADA 53644 after edamame emergence and before fourth trifoliolate when weeds are less than 3-inches tall.

**DO NOT** apply ADA 53644 after edamame begins flowering.

Nonionic surfactant containing at least 80% active ingredient should be used at a rate of 1 quart per 100 gallons of spray solution.

For weeds controlled or suppressed in edamame, refer to Weeds Controlled (Dry Beans and Dry Peas [other than English Pea, Lima Bean (Succulent), Snap Bean, and Clearfield Lentil]) in Crop-specific Information section.

**Edamame Restrictions:**

- **DO NOT** apply ADA 53644 after edamame begins flowering.
- **DO NOT** make more than one ADA 53644 application to edamame per year.

- **DO NOT** apply more than 4 fl. ozs. ADA 53644/acre (0.031 lb. imazamox ae/acre) to edamame per year.

## **ENGLISH PEA**

### **Not for use on English pea in California.**

For postemergence use on English pea.

Use ADA 53644 ONLY if proper agronomic practices have been used, including good soil fertility, proper crop rotation, disease and insect management, and tillage practices that eliminate compaction and hardpans.

Reduced crop growth, quality and yield, temporary yellowing and/or delayed maturity may result from a ADA 53644 application to English peas. Because crop maturity may be delayed, timing of harvest may need to be adjusted accordingly. **DO NOT** apply ADA 53644 if planting is delayed and a chance of frost before maturity is likely. Growers should check with the seed company regarding the safety of ADA 53644 to their variety.

**THIS PRODUCT WHEN USED ON ENGLISH PEA MAY LEAD TO CROP INJURY, LOSS, OR DAMAGE. ADAMA RECOMMENDS THAT THE USER AND/OR GROWER TEST THIS PRODUCT TO DETERMINE ITS SUITABILITY FOR SUCH INTENDED USE.**

### **Use Rate**

**Early Postemergence Application.** Apply ADA 53644 herbicide to English pea at the broadcast rate of 3 fl. ozs./acre (0.023 lb. imazamox ae/acre). Base application timing on weed size and crop growth stage. Apply ADA 53644 to actively growing crop and weeds.

Apply ADA 53644 postemergence to English peas at least 3-inches tall but before 5 nodes before flowering. The use of trifluralin before ADA 53644 application may increase the likelihood and severity of crop injury.

Nonionic surfactant MUST be added to the spray solution. NIS MUST contain at least 80% active ingredient and be used at 1 quart/100 gallons of spray solution.

Addition of nitrogen-based fertilizer, such as ammonium sulfate, or liquid fertilizers (such as 28-0-0) may improve weed control but also increases the likelihood of English pea response.

When nitrogen-based fertilizer is added to the mixture, add bentazon herbicide as a tank mix partner according to label use directions to minimize crop response. Recommended nitrogen-based fertilizers include liquid fertilizers (such as 28% N, 32% N, or 10-34-0) at 2.5 gallons/100 gallons of spray solution.

Instead of liquid fertilizer, spray-grade ammonium sulfate may be used at 12 to 15 pounds/100 gallons of spray solution.

For enhanced grass activity, add COC at 1 gallon/100 gallons instead of NIS. ALWAYS add bentazon at the rates indicated on the product label when COC and/or nitrogen-based fertilizer are used in the spray mixture.

Bentazon application at rates higher than 0.5 lb ai./acre may reduce grass control. Apply ADA 53644 a minimum of 1 hour before rainfall or overhead irrigation.

### **For use in Delaware, Maryland, and New York:**

ADA 53644 MUST be applied with bentazon according to label use directions to minimize crop response. Nonionic surfactant MUST be added to the spray solution. NIS MUST contain at least 80% active ingredient and be used at a rate of 1 quart/100 gallons of spray solution. **DO NOT** use COC, MSO, HSOC

or nitrogen-based fertilizer.

#### **English Pea Restrictions:**

- **DO NOT** make more than one ADA 53644 application to English pea per year.
- **DO NOT**-apply more than 3 fl. ozs. ADA 53644/acre (0.023 lb. imazamox ae/acre) to English pea per year.

#### **Weeds Controlled (English Pea)**

ADA 53644 will control listed weeds when applied postemergence at the specified rates listed as follows.

#### **Weeds Controlled by ADA 53644 herbicide in English Peas**

|                                       | ADA 53644<br>at 3 fl. ozs./A  | ADA 53644<br>at 3 fl. ozs./A<br>+ Bentazon |
|---------------------------------------|-------------------------------|--|
|                                       | Maximum Weed Size<br>(inches) |  |
| Nightshade<br>black                   | 3                             | 3  |
|                                       | 3                             | 3  |
|                                       | 3                             | 3  |
|                                       | 3                             | 3  |
| Mustard<br>black<br>tumble<br>wild    | 3                             | 3  |
|                                       | 3                             | 3  |
|                                       | 3                             | 3  |
|                                       | 3                             | 3  |
| Pennycress, field                     | 3                             | 3  |
| Pigweed<br>redroot<br>smooth<br>spiny | 3                             | 3  |
|                                       | 3                             | 3  |
|                                       | 3                             | 3  |
|                                       | 3                             | 3  |
| Shepherd's-purse                      | 3                             | 3  |

## **LIMA BEAN (Succulent)**

**Not for use on lima bean (succulent) in California.**

For postemergence use in lima bean (succulent).

Apply ADA 53644 ONLY if proper agronomic practices have been used, including good soil fertility, proper crop rotation, disease and insect management and tillage practices that eliminate compaction and hardpans.

Occasionally, internode shortening and/or temporary yellowing of crop plants may occur following ADA 53644 application in lima bean. These effects can be more pronounced if crops are growing under stressful environmental or hot and humid conditions. These effects occur infrequently and are temporary. Normal growth and appearance should resume within days.

**THIS PRODUCT WHEN USED ON LIMA BEAN (SUCCULENT) MAY LEAD TO CROP INJURY, LOSS, OR DAMAGE. ADAMA RECOMMENDS THAT THE USER AND/OR GROWER TEST THIS PRODUCT TO DETERMINE ITS SUITABILITY FOR SUCH INTENDED USE.**

### **Use Rate**

**Early Postemergence Application.** Apply ADA 53644 to lima bean (succulent) at the broadcast rate of 4 fl. ozs./acre (0.031 lb. imazamox ae/acre) tank mixed with bentazon according to label use directions. When used in lima beans, ADA 53644 must be applied with bentazon to minimize crop response. Bentazon application at rates higher than 0.5 lb ai./acre may reduce grass control.

Base application timing on weed size and crop growth stage. Apply to actively growing crop and weeds. Apply ADA 53644 herbicide + bentazon herbicide postemergence to lima beans in the first to second trifoliolate leaf stage and to weeds that are less than 3-inches tall. Application before the first trifoliolate leaf stage may result in increased crop response. **DO NOT** apply ADA 53644 + bentazon to lima beans during flowering.

Nonionic surfactant MUST be added to the spray solution. NIS MUST contain at least 80% active ingredient and be used at 1 quart/100 gallons of spray solution.

ADA 53644 tank mixes with any pesticide other than bentazon are not advised. Certain insecticide and herbicide tank mixes with ADA 53644 in lima beans have shown unacceptable crop response.

Apply ADA 53644 a minimum of 1 hour before rainfall or overhead irrigation.

### **Lima Bean (Succulent) Restrictions:**

- **DO NOT** make more than one ADA 53644 application to lima bean (succulent) per year.
- **DO NOT** apply more than 4 fl. ozs. ADA 53644/acre (0.031 lb. imazamox ae/acre) to lima bean (succulent) per year.

### **Weeds Controlled [Lima Bean (Succulent)]**

ADA 53644 will control or suppress listed weeds when applied postemergence at the specified rates listed as follows.

### **Broadleaf Weeds Controlled by ADA 53644 herbicide in Lima Bean (Succulent)**

|  |  |
|--|--|
|  | ADA 53644<br>at 4 fl. ozs./A<br>+ Bentazon |
|--|--|

|                      | <b>Maximum Weed Size<br/>(inches)</b> |
|----------------------|---------------------------------------|
| Bedstraw             | 3                                     |
| Beet, wild           | 3                                     |
| Buttercup            | 3                                     |
| Chickweed, common    | 3                                     |
| Jimsonweed           | 3                                     |
| Mustard,<br>black    | 3                                     |
| tumble               | 3                                     |
| wild                 | 3                                     |
| Nightshade,<br>black | 3                                     |
| Eastern black        | 3                                     |
| hairy                | 3                                     |
| Pennycress, field    | 3                                     |
| Pigweed,<br>redroot  | 3                                     |
| smooth               | 3                                     |
| spiny                | 3                                     |
| Puncturevine         | 3                                     |
| Radish, wild         | 3                                     |
| Shepherd's-purse     | 3                                     |
| Tansymustard, green  | 3                                     |

#### **Broadleaf Weeds Suppressed by ADA 53644 herbicide in Lima Bean (Succulent)**

|                             | ADA 53644<br>at 4 fl. ozs./A<br>+ Bentazon |
|-----------------------------|--|
|                             | <b>Maximum Weed Size<br/>(inches)</b>      |
| Buckwheat, wild             | 3  |
| Chickweed, common           | 3  |
| Cocklebur, common           | 3  |
| Knotweed, prostrate         | 3  |
| Kochia*                     | 3  |
| Lambsquarters, common       | 3  |
| Lettuce, miner's            | 3  |
| Morningglory,<br>Entireleaf | 3  |
| ivyleaf                     | 3  |
| smallflower                 | 3  |
| tall                        | 3  |
| Purslane, common            | 3  |
| Rocket, London              | 3  |
| Smartweed,<br>ladysthumb    | 3  |
| Pennsylvania                | 3  |
| Spurge, prostrate           | 3  |

\* ADA 53644 controls non-ALS-resistant kochia only

**Grass Weeds Controlled by ADA 53644 herbicide in Lima Bean (Succulent)**

|   |  |
|---|--|
|   | ADA 53644<br>at 4 fl. ozs./A<br>+ Bentazon |
|   | <b>Maximum Weed Size<br/>(inches)</b>      |
| Barnyardgrass   | 3  |
| Blackgrass  | 3  |
| Brome,<br>cheat<br>downy<br>Japanese                          | 3<br>3<br>3<br>3                           |
| Canarygrass, littleseed                                       | 3  |
| Cereals,<br>volunteer barley<br>oat<br>wheat (non-Clearfield) | 3<br>3<br>3                                |
| Corn, volunteer   | 2 to 8                                     |
| Darnel, Persian   | 3  |
| Foxtail,<br>Giant<br>Green<br>Yellow                          | 3<br>3<br>3<br>3                           |
| Jointed goatgrass   | 3  |
| Oat, wild   | 3  |
| Ryegrass, Italian   | 3  |
| Shattercane   | 3  |

\*Except Clearfield corn

**Grass Weeds and Sedges Suppressed by ADA 53644 herbicide in Lima Bean (Succulent)**

|                               |  |
|-------------------------------|--|
|                               | ADA 53644<br>at 4 fl. ozs./A<br>+ Bentazon |
|                               | <b>Maximum Weed Size<br/>(inches)</b>      |
| <b>Grass Weeds</b>            |  |
| Crabgrass,<br>large<br>Smooth | 3<br>3                                     |
| Johnsongrass, rhizome         | 3  |
| <b>Sedges</b>                 |  |
| Nutsedge,<br>purple<br>yellow | 3<br>3                                     |
| Quackgrass                    | 3  |

## SNAP BEAN

### **Not for use on snap bean in California.**

ADA 53644 may be applied to snap bean. Occasionally, internode shortening and/or temporary yellowing of snap beans may occur following ADA 53644 application. These effects can be more pronounced if snap beans are growing under stressful environmental or hot and humid conditions. These effects occur infrequently and are temporary. Normal growth and appearance should resume within days.

Apply ADA 53644 ONLY if proper agronomic practices have been used, including good soil fertility, proper crop rotation, disease and insect management and tillage practices that eliminate compaction and hardpans. **DO NOT** apply to snap beans that have been injured from application of soil- applied herbicides.

Apply ADA 53644 postemergence to snap bean with at least one fully expanded trifoliate leaf and before the bloom stage. For use in Idaho, Oregon and Washington, apply ADA 53644 to snap bean at first or second trifoliate leaf stage. Delay application until the majority of the weeds are at the specified growth stage. Base application timing on weed size and crop growth stage. Apply ADA 53644 to actively growing crop and weeds.

**THIS PRODUCT WHEN USED ON SNAP BEAN MAY LEAD TO CROP INJURY, LOSS, OR DAMAGE. ADAMA RECOMMENDS THAT THE USER AND/OR GROWER TEST THIS PRODUCT TO DETERMINE ITS SUITABILITY FOR SUCH INTENDED USE.**

### **Use Rate**

Apply ADA 53644 to snap bean at the broadcast rate of 4 fl. ozs./acre (0.031 lb imazamox ae/acre) tank mixed with bentazon herbicide according to label use directions. When used in snap beans, ADA 53644 must be applied with bentazon to minimize crop response. Bentazon application at rates higher than .05 lb ai/acre may reduce grass control.

### **Additional Mixing Instructions for Snap Bean For use in Delaware, Florida, Illinois, Indiana, Iowa, Maryland, Michigan, Minnesota, New York, Pennsylvania, Virginia, and Wisconsin.**

Nonionic surfactant MUST be added to the spray solution. NIS MUST contain at least 80% active ingredient and be used at 1 quart/100 gallons of spray solution. **DO NOT** use COC, MSO, or HSOC.

**For use in Idaho, Oregon and Washington.** Nonionic surfactant and nitrogen fertilizer MUST be added to the spray solution. NIS MUST contain at least 80% active ingredient and be used at 1 quart/100 gallons of spray solution. Alternatively, COC (1 gallon/100 gallons of spray solution), MSO (1 to 2 gallons/100 gallons of spray solution), or HSOC (0.5 gallon/100 gallons of spray solution) can be used.

Recommended nitrogen-based fertilizers include liquid fertilizers, such as 28-0-0, 32-0-0, or 10-34-0, at 2.5 gallons per 100 gallons of spray solution. Instead of a liquid fertilizer, spray-grade ammonium sulfate may be used at 12 to 15 pounds per 100 gallons of spray solution.

ADA 53644 herbicide tank mixes with any pesticide other than bentazon herbicide are not advised. Certain insecticide and herbicide tank mixes with ADA 53644 in snap bean have shown unacceptable crop response.

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.

### **Snap Bean Restrictions:**

- ADA 53644 application must be made before snap bean bloom.

- **DO NOT** make more than one ADA 53644 application to snap bean per year.
- **DO NOT** apply more than 4 fl. ozs. ADA 53644/acre (0.031 lb. imazamox ae/acre) to snap bean per year.
- **DO NOT apply ADA 53644 to snap bean during flowering.**

#### Weeds Controlled (Snap Bean)

ADA 53644 will control or suppress listed weeds when applied postemergence to 1-inch to 3-inch weeds (unless otherwise indicated) at the specified rates listed as follows.

#### Broadleaf Weeds Controlled by ADA 53644 herbicide in Snap Bean

|                      |  |
|----------------------|--|
|                      | ADA 53644<br>at 4 fl. ozs./A<br>+ Bentazon |
|                      | <b>Maximum Weed Size<br/>(inches)</b>      |
| Bedstraw             | 3  |
| Beet, wild           | 3  |
| Buttercup            | 3  |
| Chickweed, common    | 3  |
| Jimsonweed           | 3  |
| Mustard,<br>black    | 3  |
| tumble               | 3  |
| wild                 | 3  |
| Nightshade,<br>black | 3  |
| Eastern black        | 3  |
| hairy                | 3  |
| Pennycress, field    | 3  |
| Pigweed,<br>redroot  | 3  |
| smooth               | 3  |
| spiny                | 3  |
| Puncturevine         | 3  |
| Radish, wild         | 3  |
| Shepherd's-purse     | 3  |
| Tansymustard, green  | 3  |

### Broadleaf Weeds Suppressed by ADA 53644 herbicide in Snap Bean

|                             |  |
|-----------------------------|--|
|                             | ADA 53644<br>at 4 fl. ozs./A<br>+ Bentazon |
|                             | <b>Maximum Weed Size</b><br>(inches)       |
| Buckwheat, wild             | 3  |
| Chickweed, common           | 3  |
| Cocklebur, common           | 3  |
| Knotweed, prostrate         | 3  |
| Kochia*                     | 3  |
| Lambsquarters, common       | 3  |
| Lettuce, miner's            | 3  |
| Morningglory,<br>entireleaf | 3  |
| ivyleaf                     | 3  |
| smallflower                 | 3  |
| tall                        | 3  |
| Purslane, common            | 3  |
| Rocket, London              | 3  |
| Smartweed<br>ladysthumb     | 3  |
| Pennsylvania                | 3  |
| Spurge, prostrate           | 3  |

\*ADA 53644 controls non-ALS-resistant kochia only.

### Grass Weeds Controlled by ADA 53644 herbicide in Snap Bean

|                              |  |
|------------------------------|--|
|                              | ADA 53644<br>at 4 fl ozs/A<br>+ Bentazon |
|                              | <b>Maximum Weed Size</b><br>(inches)     |
| Barnyardgrass                | 3  |
| Blackgrass                   | 3  |
| Brome,<br>cheat              | 3  |
| downy                        | 3  |
| Japanese                     | 3  |
| Canarygrass, littleseed      | 3  |
| Cereals,<br>volunteer barley | 3  |
| oat                          | 3  |
| wheat (non-Clearfield)       | 3  |
| Corn, volunteer              | 2 to 8                                   |
| Darnel, Persian              | 3  |
| Foxtail,<br>giant            | 3  |
| green                        | 3  |
| yellow                       | 3  |
| Jointed goatgrass            | 3  |

|                   |   |
|-------------------|---|
| Oat, wild         | 3 |
| Ryegrass, Italian | 3 |
| Shattercane       | 3 |

\* Except Clearfield com

#### Grass Weeds and Sedges Suppressed by ADA 53644 herbicide in Snap Bean

|                       |  |
|-----------------------|--|
|                       | ADA 53644<br>at 4 fl. ozs./A<br>+ Bentazon |
|                       | <b>Maximum Weed Size</b><br>(inches)       |
| <b>Grass Weeds</b>    |  |
| Crabgrass,<br>large   | 3  |
| smooth                | 3  |
| Johnsongrass, rhizome | 3  |
| <b>Sedges</b>         |  |
| Nutsedge,<br>purple   | 3  |
| yellow                | 3  |
| Quackgrass            | 3  |

## SOYBEAN

#### Not for use on soybean in California.

ADA 53644 is effective in controlling weeds in conservation tillage and conventional tillage production systems. ADA 53644 can be applied early postemergence in soybeans but before the bloom stage. Refer to the specific treatment under the Application Information section of the label.

Unusually cool temperatures (50° F or less) reduce photosynthesis and transpiration and, thus, reduce uptake, translocation, and efficacy of ADA 53644 in weeds. Delaying an ADA 53644 application for 48 hours from the time the temperature increases to above 50° F, if air temperature has been below 50° F for 10 or more hours, will improve weed control and reduce crop response.

#### No-till/Minimum Tillage and Double-crop Soybeans.

ADA 53644 controls existing weeds and provides residual activity on some weeds when applied early postemergence to soybeans in no-till or minimum tillage and double-crop soybean production systems. The application must be applied after emergence of the crop. Refer to Weeds Controlled (Soybean) tables for weeds controlled and specified weed size.

To ensure thorough coverage, use a minimum of 20 gallons of water/acre in no-till or minimum tillage systems. Use higher gallonage for fields with dense vegetation or heavy crop residue.

Before planting or emergence of soybeans, any glyphosate-containing product registered for that use may be applied to control emerged weeds. See specific product label for rates, use directions, precautions, and restrictions.

#### Use Rate

Apply 4 fl. ozs. ADA 53644/acre (0.031 lb. imazamox ae/acre) to soybean when preceded by a full rate of a registered soil- applied grass herbicide.

## OR

Apply 5 fl. ozs. ADA 53644/acre (0.040 lb. imazamox ae/acre) to soybean in a total postemergence herbicide program.

ADA 53644 may be applied postemergence at a broadcast rate of 4 fl. ozs./acre when it is preceded with a full labeled rate of a soil-applied grass herbicide. At this rate, 1 gallon of ADA 53644 will treat 32 acres of soybeans. ADA 53644 may be applied postemergence at a broadcast rate of 5 fl. ozs./acre (including minimum-till and no-till). At this broadcast rate, one gallon of ADA 53644 will treat 25.6 acres of soybeans.

### Soybean Restrictions:

- ADA 53644 application must be made before soybean bloom.
- **DO NOT** make more than one ADA 53644 application to soybean per year.
- **DO NOT** apply more than 5 fl. ozs. ADA 53644/acre (0.04 lb. imazamox ae/acre) to soybean per year.
- If soybeans are furrow irrigated, till the soil before planting winter wheat or barley. Break up the beds and mix soil with tillage equipment set to cut 4-inches to 6-inches deep.

### Weeds Controlled (Soybean)

When applied as directed, ADA 53644 herbicide will control or suppress listed weeds as follows. Refer to Application Information section for use directions when weeds are at the maximum specified growth stage or are under stress.

### Broadleaf Weeds Controlled by ADA 53644 herbicide Alone or in a Sequential\* Program in Soybean

|                             | ADA 53644<br>Alone<br>Postemergence | Soil-applied followed by<br>ADA 53644*<br>Postemergence |
|-----------------------------|-------------------------------------|---|
|                             | 5 fl. ozs./A                        | 4 fl. ozs./A  |
|                             | Weed Size<br>(inches)               |   |
| Artichoke, Jerusalem        | 3 to 8                              | 3 to 8  |
| Carpetweed                  |                                     | 2 to 4  |
| Chickweed, common           | 2 to 5                              | 2 to 5  |
| Cocklebur, common           | 2 to 8                              | 2 to 8  |
| Jimsonweed                  | 2 to 6                              | 2 to 6  |
| Kochia**                    | 1 to 4                              | 1 to 4  |
| Lambsquarters, common       | 2 to 5                              | 2 to 5  |
| Mallow, Venice              | 1 to 4                              |   |
| Marshelder                  | 2 to 4                              | 2 to 4  |
| Morningglory,<br>entireleaf | 2 to 4                              |   |
| ivyleaf                     | 2 to 4                              |   |
| smallflower                 | 2 to 4                              |   |
| tall                        | 2 to 4                              |   |
| Mustard spp.                | 2 to 8                              | 2 to 8  |
| Nightshade,<br>black        | 2 to 5                              | 2 to 5  |
| Eastern black<br>hairy      | 2 to 5                              | 2 to 5  |
|                             | 2 to 5                              | 2 to 5  |

|   |  |  |
|---|--|--|
| Pigweed,<br>Palmer amaranth***<br>prostrate<br>redroot<br>smooth<br>spiny | 2 to 4<br>2 to 5<br>2 to 8<br>2 to 8<br>2 to 5 | 2 to 4<br>2 to 5<br>2 to 8<br>2 to 8<br>2 to 5 |
| Puncturevine  | 1 to 3   |  |
| Purslane, common  | 1 to 3   | 1 to 3   |
| Pusley, Florida   |  | 2 to 4   |
| Radish, wild  | 2 to 4   | 2 to 4   |
| Ragweed,<br>common***<br>giant***   | 2 to 5<br>2 to 5                               |  |
| Smartweed,<br>ladysthumb<br>Pennsylvania                                  | 2 to 5<br>2 to 5                               | 2 to 5<br>2 to 5                               |
| Spurge, annual  |  | 2 to 4   |
| Sunflower   | 2 to 8   | 2 to 8   |
| Velvetleaf  | 2 to 8   | 2 to 8   |

\*Soil-applied grass herbicide is followed by a postemergence application of ADA 53644 at a broadcast rate of 4 fl. ozs./acre.

\*\*Control of light-to-moderate populations only. For control of heavier populations, use a sequential application with a soil-applied grass herbicide, as described above.

\*\*\*Control of light-to-moderate populations of ALS-susceptible weed biotypes only. For control of heavier populations of ALS-resistant weed biotypes, see Tank Mix Herbicides following in the Soybean section.

#### Broadleaf Weeds Suppressed by ADA 53644 herbicide Alone or in a Sequential\* Program in Soybean

|                               | ADA 53644<br>Alone<br>Postemergence | Soil-applied followed by<br>ADA 53644*<br>Postemergence |
|-------------------------------|-------------------------------------|---|
|                               | 5 fl. ozs./A                        | 4 fl. ozs./A  |
|                               | Weed Sizes<br>(inches)              |   |
| Bindweed,<br>field (seedling) | 2 to 4                              | 2 to 4  |
| hedge (seedling)              | 2 to 4                              | 2 to 4  |
| Buckwheat, wild               | 1 to 3                              | 1 to 3  |
| Mallow, Venice**              |                                     | 1 to 4  |
| Morningglory,<br>entireleaf** |                                     | 2 to 4  |
| ivyleaf**                     |                                     | 2 to 4  |
| pitted                        | 2 to 4                              | 2 to 4  |
| smallflower**                 |                                     | 2 to 4  |
| tall**                        |                                     | 2 to 4  |
| Ragweed, common**             |                                     | 2 to 5  |
| Sida, prickly                 | 2 to 4                              | 2 to 4  |
| Sowthistle, annual            | 2 to 4                              | 2 to 4  |
| Thistle, Canada               | 2 to 5                              | 2 to 5  |

\* Soil-applied grass herbicide, such as is followed by a postemergence application of ADA 53644 at a broadcast rate of 4 fl. ozs. per acre.

\*\* For control, see the 5 fl. ozs. rate and Tank Mix Herbicides following in the Soybean section.

**Grass Weeds Controlled by ADA 53644 herbicide Alone or in a Sequential\* Program in Soybean**

|                                      | ADA 53644<br>Alone<br>Postemergence | Soil-applied followed by<br>ADA 53644*<br>Postemergence |
|--------------------------------------|-------------------------------------|---|
|                                      | 5 fl. ozs./A                        | 4 fl. ozs./A  |
|                                      | Weed Size<br>(inches)               |   |
| Barley, wild                         | 2 to 4                              | 2 to 4  |
| Barnyardgrass                        | 2 to 5**                            | 2 to 5  |
| Corn, volunteer                      | 2 to 8                              | 2 to 8  |
| Crabgrass,<br>large<br>smooth        |                                     | 2 to 4  |
|                                      |                                     | 2 to 4  |
| Crowfoot grass                       |                                     | 2 to 5  |
| Cupgrass, woolly                     |                                     | 2 to 4  |
| Foxtail,<br>giant<br>green<br>yellow | 2 to 6                              | 2 to 6  |
|                                      | 2 to 6                              | 2 to 6  |
|                                      | 2 to 6                              | 2 to 6  |
| Goosegrass                           |                                     | 2 to 5  |
| Johnsongrass, seedling               | 4 to 8                              | 4 to 8  |
| Millet, wild proso                   | 2 to 4**                            | 2 to 4  |
| Oat, wild                            | 2 to 6                              | 2 to 6  |
| Panicum,<br>fall<br>Texas            | 2 to 6                              | 2 to 6  |
|                                      |                                     | 2 to 6  |
| Sandbur, field***                    |                                     | 2 to 5  |
| Shattercane                          | 2 to 8                              | 2 to 8  |
| Signalgrass, broadleaf               | 2 to 5**                            | 2 to 5  |
| Wheat, volunteer<br>(non-Clearfield) | 2 to 4****                          | 2 to 4  |
| Witchgrass                           |                                     | 2 to 5  |

\* Soil-applied grass herbicide is followed by a postemergence application of ADA 53644 at a broadcast rate of 4 fl ozs per acre.

\*\* Control of light-to-moderate populations only. For control of heavier populations, use a sequential application with a soil-applied grass herbicide, as described above.

\*\*\* Except Clearfield corn

\*\*\*\* For control, a dinitroaniline (DNA) herbicide must be soil-applied at a full labeled rate.

**Grass Weeds and Sedges Suppressed by ADA 53644 herbicide Alone or in a Sequential\* Program in Soybean**

|                               | ADA 53644  | Postemergence Soil applied followed by ADA 53644* |  |
|-------------------------------|------------|---|--|
|                               |            | Postemergence                                     |  |
|                               | 5 fl ozs/A | 4 fl ozs/A  |  |
| <b>Weed Size<br/>(inches)</b> |            |   |  |
| <b>Grass Weeds</b>            |            |   |  |
| Crabgrass,<br>large<br>smooth | 2 to 4     |   |  |
|                               | 2 to 4     |   |  |
| Cupgrass, woolly              | 2 to 4     |   |  |
| Goosegrass                    | 2 to 4     |   |  |
| Itchgrass                     |            | 2 to 5  |  |
| Johnsongrass, rhizome         | 6 to 12    | 6 to 12   |  |
| Quackgrass                    |            | 4 to 8  |  |
| Red rice                      |            | 2 to 5  |  |
| Stinkgrass                    | 2 to 4     |   |  |
| <b>Sedges</b>                 |            |   |  |
| Nutsedge,<br>purple<br>yellow | 1 to 3     | 1 to 3  |  |
|                               | 1 to 3     | 1 to 3  |  |

\* Soil-applied grass herbicide is followed by a postemergence application of ADA 53644 at a broadcast rate of 4 fl ozs/acre.

**Tank Mix Herbicides Grass**

**Weeds**

Use a soil-applied grass herbicide if heavy infestations of some grass weeds exist or if ADA 53644 herbicide does not control the species present. Refer to the other grass herbicide label for specific use directions, rates, and precautions.

Glyphosate may be tank mixed with ADA 53644 to aid in control of certain grass weeds only in Roundup Ready® soybeans. **DO NOT** tank mix ADA 53644 with Extreme® herbicide. If a selective postemergence grass herbicide (eg. **ARROW® 2EC**) is mixed with ADA 53644 to control species that are not controlled with ADA 53644 alone, include MSO or COC (1 to 2 gallons/100 gallons) or an HSOC at 0.5 gallon/100 gallons AND add liquid fertilizer (2.5 gallons/100 gallons) to the tank mixture.

In some cases, the activity of the grass herbicide may be reduced when mixed with ADA 53644. The reduction in activity may be overcome by delaying application of the postemergence grass herbicide 7 days following application of ADA 53644. If the postemergence grass herbicide is applied first, wait 3 days before applying ADA 53644. 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.

**Broadleaf Weeds**

Glyphosate may be tank mixed with ADA 53644 to aid in control of certain broadleaf weeds only in Roundup Ready soybeans.

Tank mixing ADA 53644 and certain broadleaf herbicides (e.g. diphenylethers and bentazon) can reduce grass control; therefore, a sequential program including a soil-applied grass herbicide, is advised for optimal control.

#### **Enhanced Control of Kochia, Palmer Amaranth, Ragweed Species, and Waterhemp.**

Use a soil application of pendimethalin followed by a postemergence application of ADA 53644 at a broadcast rate of 4 fl. ozs. to 5 fl. ozs./acre plus a diphenylether, such as fomesafen, acifluorfen, lactofen or glyphosate for enhanced control of kochia, Palmer amaranth, ragweed, and waterhemp. 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.

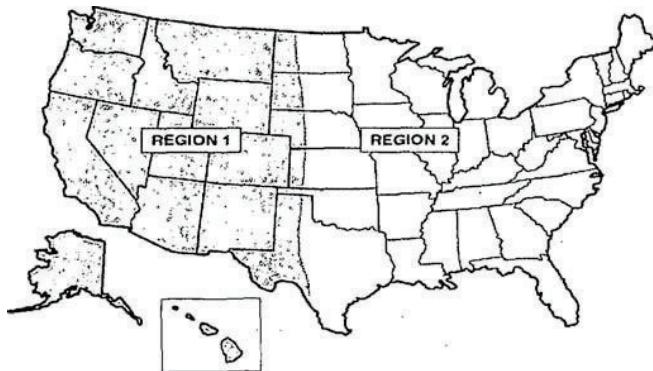
When tank mixing ADA 53644, apply ADA 53644 at a broadcast rate of 5 fl. ozs./acre or 4 fl. ozs./acre when preceded by a full rate of a registered soil-applied grass herbicide.

#### **Enhanced Control of Common Ragweed and Giant Ragweed.**

Chloransulam herbicides may be tank mixed with ADA 53644 to aid in the control of common ragweed and giant ragweed. When tank mixing chloransulam with ADA 53644, apply according to labeled rates. Use the higher rate when weeds approach maximum labeled size. See the chloransulam label for specific rates and precautions.

#### **Rotational Crop Restrictions**

Rotational crops may be planted after applying the specified rate of ADA 53644 in Region 1 and Region 2, as indicated on the map.



**Region 1** - States and parts of states WEST of US Highway 83 (Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming, and western parts of Kansas, Nebraska, North Dakota, Oklahoma, South Dakota, and Texas)

**Region 2** - States and parts of states EAST of US Highway 83 (includes the eastern parts of Kansas, Nebraska, North Dakota, Oklahoma, South Dakota, and Texas, and the states east of these states)

#### **Rotational Interval (months) following ADA 53644 herbicide Application**

| Plant-back Interval (months) | Region 1   | Region 2  |
|------------------------------|--|---|
| Anytime                      | Clearfield canola<br>Clearfield corn (field and seed)<br>Clearfield lentil<br>FullPage Rice<br>Clearfield rice | Clearfield canola<br>Clearfield (field and seed)<br>Clearfield lentil<br>FullPage Rice<br>Clearfield rice |

|       |   |   |
|-------|---|---|
|       | Clearfield sunflower<br>Clearfield wheat<br>Dry beans and dry peas (except lentil)<br>Edamame<br>English peas<br>Lima beans (succulent)<br>Snap beans<br>Soybeans                                     | Clearfield sunflower<br>Clearfield wheat<br>Dry beans and dry peas (except lentil)<br>Edamame<br>English peas<br>Lima beans (succulent)<br>Snap beans<br>Soybeans   |
| 3     | Alfalfa<br><sup>1,4</sup> Wheat   | Alfalfa<br><sup>4</sup> Wheat   |
| 4     | Rye   | Rye   |
| 8-1/2 | Corn (seed, sweet, and popcorn)   | Corn (seed, sweet, and popcorn)   |
| 9     | <sup>1</sup> Barley<br>Cantaloupe<br>Cotton<br>Grain sorghum<br><sup>5</sup> Lentil Lettuce<br>Millet<br>Oat<br>Onion<br>Peanut<br>Pumpkin<br>Rice<br>Squash<br>Sunflower<br>Tobacco<br>Watermelon    | <sup>1</sup> Barley<br>Broccoli<br>Cabbage<br>Cantaloupe<br>Carrot Cotton<br>Cucumber<br>Grain sorghum<br><sup>5</sup> Lentil Lettuce<br>Millet<br>Oat<br>Onion<br>Peanut<br>Pepper<br><sup>1</sup> Potato<br>Pumpkin<br>Rice<br>Squash<br>Sunflower<br>Tobacco<br>Tomato<br>Turnip<br>Watermelon |
| 18    | <sup>1</sup> Barley<br>Broccoli<br>Cabbage<br>Carrot<br>Cucumber<br><sup>5</sup> Lentil Pepper<br>Potato<br>Tomato<br>Turnip<br><br>All other crops not listed in the<br>Rotational Crop Restrictions | <sup>1</sup> Barley<br>Canola<br>Condiment mustard<br>Lentil<br><sup>2</sup> Sugar beet<br><sup>2</sup> Table beet<br><br>All other crops not listed in the<br>Rotational Crop Restrictions   |
| 26    | Canola<br>Condiment mustard<br><sup>3</sup> Sugar beet<br>Table beet  | <sup>2</sup> Sugar beet<br><sup>2</sup> Table beet  |

<sup>1</sup> Refer to the following tables for rotational intervals for planting following ADA 53644 application.

<sup>2</sup> In Region 2, sugar beets and table beets can be planted 18 months following an application of ADA 53644 if the soil pH is uniformly 6.2 or greater. If the soil pH is less than 6.2, the rotational interval is 26 months. Sugar beet yields can be reduced when grown in soil conditions with a pH less than

6.2. If the soil is limed to adjust the soil pH, apply the lime at least 18 months before planting sugar beet or other rotational crops under the 18-month rotational interval.

<sup>3</sup> For sugar beets grown in parts of Nebraska west of Highway 83, and Platte, Goshen, and Laramie counties in Wyoming, follow the sugar beet rotational crop restrictions for Region 2 for sprinkler-irrigated fields only. If fields are dryland, flood or furrow irrigated, follow restrictions for Region 1. A minimum of 10 inches of overhead irrigation must be applied each season to qualify for Region 2 guidelines.

<sup>4</sup> Planting spring or winter wheat in areas receiving less than 10 inches of precipitation from the time of ADA 53644 application up until wheat planting may result in wheat injury. The possibility of injury increases if less than normal precipitation occurs from the time of application to planting and/or within the first 2 months after ADA 53644 application.

<sup>5</sup> In Region 1 and Region 2, lentil may be planted 9 months following an application of ADA 53644 if no more than 5 fl. ozs./A of ADA 53644 has been applied and the soil pH is uniformly greater than 6.2.

| Barley Rotational Interval based on pH, Moisture, and Tillage |                                   | Moldboard Plowing |          |
|---|-----------------------------------|-------------------|----------|
| Region 1 and Region 2   |                                   | NO                | YES      |
| pH and Rainfall requirements                                  | >18 inches R+I <b>AND</b> pH >6.2 | 9 months          |          |
|   | <18 inches R+I <b>OR</b> pH <6.2  | 18 months         | 9 months |

| Potato Rotational Interval based on pH and Moisture |                                   |           |  |
|---|-----------------------------------|-----------|--|
| Region 2  |                                   |           |  |
| pH and Rainfall requirements                        | >18 inches R+I <b>AND</b> pH >6.2 | 9 months  |  |
|   | <18 inches R+I <b>OR</b> pH <6.2  | 18 months |  |

| Wheat Rotational Interval based on pH, Moisture, and Tillage |                                   | Moldboard Plowing |          |
|--|-----------------------------------|-------------------|----------|
| Region 1   |                                   | NO                | YES      |
| pH and Rainfall requirements                                 | >10 inches R+I <b>AND</b> pH >6.2 | 3 months          |          |
|  | <10 inches R+I <b>OR</b> pH <6.2  | 15 months         | 3 months |

| Wheat and Clearfield Wheat Rotational Interval based on pH, Moisture   |                                   |           |  |
|--|-----------------------------------|-----------|--|
| Washington and selected counties in Idaho* and Oregon**  |                                   |           |  |
| pH and Rainfall requirements   | >16 inches R+I <b>AND</b> pH >6.2 | 3 months  |  |
|  | <16 inches R+I <b>OR</b> pH <6.2  | 15 months |  |
| Selected counties in Idaho - Benewah, Bonner, Boundary, Clearwater, Idaho, Kootenai, Latah, Lewis, Nez Perce, and Shoshone |                                   |           |  |
| **Selected counties in Oregon - All but Malheur  |                                   |           |  |

When taking soil samples to determine soil pH, use a grid sampling technique, sampling to a depth of 3 to 4 inches.

R+I = Rainfall and overhead irrigation from the time of ADA 53644 herbicide application up until time of barley, potato, or wheat planting. **Does not include furrow or flood irrigation.**

If the rainfall or pH requirements are not fully met, and barley or wheat is planted before the specified rotation interval, injury may be reduced by tillage, such as deep disking (greater than 6- inches deep) after crop harvest but before November 1.

The possibility of injury to barley or wheat planted the next season increases if less than normal precipitation occurs from the time of application to planting and/or within the first two months after ADA 53644 application.

### **Furrow-irrigated and Flood-irrigated Crops**

Following harvest of furrow-irrigated or flood-irrigated crops, thoroughly mix soil by plowing or deep disking to minimize the potential for herbicide carryover to the following crop.

Use of ADA 53644 in accordance with label directions is expected to result in normal growth of rotational crops in most situations; however, various environmental and agronomic factors, such as arid conditions, make it impossible to eliminate all risks associated with the use of this product and, therefore, rotational crop injury is always possible.

## **USE PRECAUTIONS**

In the event of a crop loss due to weather, dry beans, dry peas, Clearfield canola, Clearfield corn, Clearfield lentil, Clearfield sunflower, Clearfield wheat, edamame, peas (English), lima beans (succulent), snap beans, or soybeans can be replanted.

Application of products containing ALS inhibiting (HRAC Group 2) herbicides in the same year as ADA 53644 may increase the risk of injury to sensitive rotational crops. Consult all pertinent labels for use of these products in combinations.

If arid conditions occur during the year of application, rotational crop injury may occur.

## **STORAGE AND DISPOSAL**

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

**PESTICIDE STORAGE:** Store above 32°F in original containers only. If product freezes, return to room temperature and agitate to reconstitute. Keep container closed when not in use. **DO NOT** store near food or feed. In case of spill or leak on floor or paved surfaces, soak up with sand, earth or synthetic absorbent. Remove to chemical waste area.

**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 (five gallons or less):** Nonrefillable container. **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 and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**Nonrefillable Container (greater than five gallons):** Nonrefillable container. **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 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.

**Refillable Container:** Refillable container. Refill this container with Imazethapyr 2 SL. **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.

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