

# Specimen Label

RIMSULFURON

GROUP

2

HERBICIDE



# Matrix<sup>®</sup> SG

## HERBICIDE

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### WATER SOLUBLE GRANULE

For weed control in Citrus Fruit, Stone Fruit, Tree Nuts, Pome Fruit, Grapes, Potatoes, Potatoes (Grown for Seed), Tomatoes (field grown), Field Corn (California), Blueberries, Raspberries, Blackberries and Grass Grown for Seed (Oregon & Washington)

Active Ingredients	By Weight
Rimsulfuron N-((4,6-dimethoxypyrimidin-2-yl)aminocarbonyl)-3-(ethylsulfonyl)-2-pyridinesulfonamide	25.0%
Other Ingredients	75.0%
TOTAL	100.0%

### FIRST AID

**IF IN EYES:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

**IF ON SKIN OR CLOTHING:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

**IF SWALLOWED:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. **DO NOT** induce vomiting unless told to do so by a poison control center or doctor. **DO NOT** give anything by mouth to an unconscious person.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-992-5994 for emergency medical treatment information.

### Precautionary Statements

#### Hazards to Humans and Domestic Animals

EPA Reg. No. 352-768

### Keep Out of Reach of Children

## CAUTION

Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with eyes, skin, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco, or using the toilet.

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeve shirt and long pants
- Chemical resistant gloves made of any waterproof material including nitrile rubber, natural rubber, neoprene rubber, or butyl rubber
- Shoes plus socks

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

### Engineering Control Statements

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

### USER SAFETY RECOMMENDATIONS

#### USERS SHOULD:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

### ENVIRONMENTAL HAZARDS

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

#### Surface Water Advisory

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 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 this product from runoff water and sediment. Runoff of this product will be greatly reduced by avoiding applications when rainfall or irrigation is expected to occur within 48 hours.

#### Windblown Soil Particles Advisory

This product has the potential to move off-site due to wind erosion. Soils that are subject to wind erosion usually have a high silt and/or fine to very fine sand fractions and low organic matter content. Other factors which can affect the movement of windblown soil include the intensity and direction of prevailing winds, vegetative cover, site slope, rainfall, and drainage patterns. Avoid applying this product if prevailing local conditions may be expected to result in off-site movement.

#### Non-target Organism Advisory

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 area. Protect the forage and habitat of non-target organisms by minimizing spray drift. For further guidance and instructions on how to minimize spray drift, refer to the Spray Drift Management section of this label.

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with the terms of this label. **READ ENTIRE LABEL. USE STRICTLY IN ACCORDANCE WITH PRECAUTIONARY STATEMENTS AND DIRECTIONS, AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS.**

**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 in your State responsible for pesticide regulation.

MATRIX® SG herbicide, also referred to below as MATRIX® SG herbicide or MATRIX® SG, must be used in accordance with the directions for use on this label or as otherwise permitted by FIFRA. Always read the entire label including the Limitation of Warranty and Liability.

### 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

### AGRICULTURAL USE REQUIREMENTS (Cont.)

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.

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, including plants, soil, or water, is:

- Coveralls
- Chemical resistant gloves made of any water proof material including nitrile rubber, natural rubber, neoprene rubber, or butyl rubber
- Shoes plus socks

### NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Pa rt170). The WPS applies when this product is used produce agricultural plants on farms, forests, nurseries, or greenhouses. Use on noncrop sites and turf (unimproved) are not within the scope of the Worker Protection Standard. **DO NOT** enter or allow worker entry into treated areas until sprays have dried.

### STORAGE AND DISPOSAL

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

**Pesticide Storage:** Store product in original container only. Store in a cool, dry place.

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

**Container Handling:** Refer to the Net Contents section of this product's labeling for the applicable "Nonrefillable Container" or "Refillable Container" designation.

**Nonrefillable Plastic and Metal Containers (Capacity Equal to or Less Than 50 Pounds):** Nonrefillable container. **DO NOT** reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 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, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. **DO NOT** burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities

**Nonrefillable Plastic and Metal Containers (Capacity Greater Than 50 Pounds):** Nonrefillable container. **DO NOT** reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. **DO NOT** burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

**Nonrefillable Plastic and Metal Containers, e.g., Intermediate Bulk Containers [IBC] (Size or Shape Too Large to be Tipped, Rolled or Turned Upside Down):** Nonrefillable container. **DO NOT** reuse or refill this container. Clean container promptly after emptying the contents from this container into application equipment or mix tank and before final disposal using the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer's instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour or pump rinsate into application equipment or

### STORAGE AND DISPOSAL (Cont.)

rinsate collection system. Repeat this pressure rinsing procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

**Nonrefillable Paper or Plastic Bags, Fiber Sacks including Flexible Intermediate Bulk Containers (FIBC) or Fiber Drums With Liners:** Nonrefillable container. **DO NOT** reuse or refill this container. Completely empty paper or plastic bag, fiber sack or drum liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application or manufacturing equipment. Then offer for recycling if available or dispose of empty paper or plastic bag, fiber sack or fiber drum and liner in a sanitary landfill, or by incineration. **DO NOT** burn, unless allowed by state and local ordinances.

**Refillable Fiber Drums With Liners:** Refillable container (fiber drum only). Refilling Fiber Drum: Refill this fiber drum with MATRIX® SG Herbicide containing rimsulfuron only. **DO NOT** reuse this fiber drum for any other purpose. Cleaning before refilling is the responsibility of the refiller. Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application or manufacturing equipment. Disposing of Fiber Drum and/or Liner: **DO NOT** reuse this fiber drum for any other purpose other than refilling (see preceding). Cleaning the container (liner and/or fiber drum) before final disposal is the responsibility of the person disposing of the container. Offer the liner for recycling if available or dispose of liner in a sanitary landfill, or by incineration. **DO NOT** burn, unless allowed by state and local ordinances. If drum is contaminated and cannot be reused, dispose of it in the manner required for its liner. To clean the fiber drum before final disposal, completely empty the fiber drum by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application or manufacturing equipment. Then offer the fiber drum for recycling if available or dispose of in a sanitary landfill, or by incineration. **DO NOT** burn, unless allowed by state and local ordinances.

**All Other Refillable Containers:** Refillable container. Refilling Container: Refill this container with MATRIX® SG containing rimsulfuron only. **DO NOT** reuse this container for any other purpose. Cleaning before refilling is the responsibility of the refiller. Prior to refilling, inspect carefully for damage including cracks, punctures, abrasions, worn out threads and closure devices. If damage is found, **DO NOT** use the container, contact Corteva Agriscience at the number below for instructions. Check for leaks after refilling and before transporting. If leaks are found, **DO NOT** reuse or transport container, contact Corteva Agriscience at the number below for instructions. Disposing of Container: **DO NOT** reuse this container for any other purpose other than refilling (see preceding). Cleaning the container before final disposal is the responsibility of the person disposing of the container. To clean the container before final disposal, use the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer's instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. **DO NOT** burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

**DO NOT** transport if this container is damaged or leaking. If the container is damaged, leaking or obsolete, or in the event of a major spill, fire or other emergency, contact Corteva Agriscience at 1-800-992-5994, day or night.

### PRODUCT INFORMATION

MATRIX® SG herbicide is a water soluble granule formulation that selectively controls certain broadleaf weeds and grasses in pome fruit, citrus fruit, tree nuts, stone fruit, blueberry, caneberry and small vine climbing fruit (except fuzzy kiwifruit) [grape] crops which have been established for at least one full growing season. MATRIX® SG herbicide also selectively controls certain broadleaf weeds and grasses in field corn (CA only), tuberous and corm vegetable [potatoes,] [potatoes grown for seed] and field grown tomatoes (direct seeded and transplant).

The best control is obtained when MATRIX® SG is applied to young, actively growing weeds. The degree and duration of control may depend on the following:

- weed spectrum and infestation intensity
- weed size at application
- environmental conditions at and following treatment

### BIOLOGICAL ACTIVITY AND ENVIRONMENTAL CONDITIONS

MATRIX® SG is absorbed through the roots and foliage of plants, rapidly inhibiting the growth of susceptible weeds. For Preemergence weed control, rainfall or sprinkler irrigation is needed to move MATRIX® SG into the soil. Weeds will generally not emerge from preemergence applications. In some cases, susceptible weeds may germinate and emerge a few days after application, but growth then ceases and leaves become chlorotic three to five days after emergence. Death of leaf tissue and growing point will follow in some species, while others will remain green but stunted and noncompetitive.

One to three weeks after postemergence application to weeds, leaves of susceptible plants appear chlorotic, and the growing point subsequently dies. In warm, moist conditions, the expression of herbicide symptoms is accelerated; in cold, dry conditions, expression of herbicide symptoms is delayed. Death of leaf tissue and growing point will follow in some species, while others will remain green but stunted and noncompetitive.

MATRIX® SG provides the best control of weeds in vigorously growing crops that shade competitive weeds. Weed control in areas of thin crop stand or seeding skips may not provide satisfactory control. However, a crop canopy that is too dense at application can intercept spray and reduce weed control.

The herbicidal action of MATRIX® SG may be less effective on weeds stressed from adverse environmental conditions (including extreme temperatures or moisture), abnormal soil conditions, or cultural practices. In addition, weeds hardened-off by drought stress are less susceptible to MATRIX® SG.

Postemergence weed control may be reduced if rainfall occurs soon after application. Several hours of dry weather are needed to allow MATRIX® SG to be sufficiently absorbed by weed foliage (generally MATRIX® SG is rainfast in 4 hours).

### RESTRICTIONS

TABLE 1 – APPLICATION, RETREATMENT and PRE-HARVEST INTERVAL RESTRICTIONS SUMMARY BY CROP

CROPS	Maximum Oz of Product / Acre / Single Application	Maximum Lb AI / Acre / Single Application	Maximum Number of Applications per Year	Maximum Oz of Product / Acre / Year	Maximum Lb AI / Acre / Year	Retreat Interval	Pre-Harvest Interval (PHI)
<b>BLUEBERRY</b> Lowbush and Highbush	4.0 oz	0.0625 lb ai	1-broadcast application <b>OR</b> 2-band applications	4.0 oz	0.0625 lb ai	30 days <sup>1</sup>	21 days
<b>CANE BERRY</b> Blackberry and Raspberry	4.0 oz	0.0625 lb ai	1-broadcast application <b>OR</b> 2-band applications	4.0 oz	0.0625 lb ai	30 days <sup>1</sup>	21 days
<b>CORN, FIELD<sup>2</sup></b> (California)	1.5 oz preemergence  1.0 oz postemergence	0.0234 preemergence  0.0156 postemergence	2	2.0 oz	0.0313 lb ai	28 days	30 days
<b>FRUIT, CITRUS, group 10-10:</b> Australian desert lime; Australian finger-lime; Australian round lime; Brown River finger lime; calamondin; citron; citrus hybrids; grapefruit; Japanese summer grapefruit; kumquat; lemon; lime; Mediterranean mandarin; mount white lime; New Guinea wild lime; orange, sour; orange, sweet; pummelo; Russell River lime; satsuma mandarin; sweet lime; tachibana orange; Tahiti lime; tangelo; tangerine (mandarin); tangor; trifoliolate orange; unqi fruit; cultivars, varieties, and/or hybrids of these	4.0 oz	0.0625 lb ai	1-broadcast application <b>OR</b> 2-band applications	4.0 oz	0.0625 lb ai	30 days <sup>1</sup>	3 days

### PRECAUTIONS

- Potato and tomato varieties may differ in their response to various herbicides. Corteva Agriscience advises that you first consult your state experiment station, university, or extension agent as to sensitivity to any herbicide. If no information is available, limit the initial use to a small area.
- Preemergence use on soils containing more than 6% organic matter may not provide adequate soil residual weed control and may result in reduced weed control.
- Preemergence and Postemergence use on rill irrigated potatoes and tomatoes (furrow or gravity) may not provide adequate weed control in the absence of rainfall.
- If sprinklers are used for frost protection, delay the application of MATRIX® SG until stress from environmental conditions have passed.
- Avoid spray drift to any adjacent crops or desirable plants as injury may occur.
- Crop injury may occur following an application of MATRIX® SG if there is a prolonged period of cold weather and/or cold weather in conjunction with wet soils caused by poor drainage or excessive use of sprinkler irrigation for frost protection.
- Draining or flushing equipment on or near desirable trees or other plants, or in areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots may injure these plants. Trees or other desirable plants whose roots extend into a treated crop use area may be injured.
- Carefully observe sprayer cleanup instructions, as spray tank residue may damage other crops.
- For best results, maintain spray tank solution at pH 5 to 7.
- If the selected companion herbicide has a ground or surface water advisory, consider the advisory when using the companion herbicide.
- Tank mixing MATRIX® SG with organophosphate insecticides in tomatoes may result in crop injury.
- Naturally occurring weed biotypes that are resistant to ALS inhibitor herbicides will also be resistant to MATRIX® SG (refer to Weed Resistance Management section)

**TABLE 1 – APPLICATION, RETREATMENT and PRE-HARVEST INTERVAL RESTRICTIONS SUMMARY BY CROP (Cont.)**

<b>CROPS</b>	<b>Maximum Oz of Product / Acre / Single Application</b>	<b>Maximum Lb AI / Acre/ Single Application</b>	<b>Maximum Number of Applications per Year</b>	<b>Maximum Oz of Product / Acre / Year</b>	<b>Maximum Lb AI / Acre / Year</b>	<b>Retreat Interval</b>	<b>Pre-Harvest Interval (PHI)</b>
<b>FRUIT, POME, group 11-10:</b> Apple; azarole; crabapple; loquat; mayhaw; medlar; pear; pear, Asian; quince; quince, Chinese; quince, Japanese; tejocote; cultivars, varieties, and/or hybrids of these	4.0 oz	0.0625 lb ai	1-broadcast application <b>OR</b> 2-band applications	4.0 oz	0.0625 lb ai	30 days <sup>1</sup>	7 days
<b>GRAPE</b>	4.0 oz	0.0625 lb ai	1-broadcast application <b>OR</b> 2-band applications	4.0 oz	0.0625 lb ai	30 days <sup>1</sup>	14 days
<b>FRUIT, STONE, group 12-12:</b> Apricot; apricot, Japanese; capulin; cherry, black; cherry, Nanking; cherry, sweet; cherry, tart; Jujube, Chinese; nectarine; peach; plum; plum, American; plum, beach; plum, Canada; plum, cherry; plum, Chickasaw; plum, Damson; plum, Japanese; plum, Klamath; plum, prune; plumcot; sloe; cultivars, varieties, and/or hybrids of these	4.0 oz	0.0625 lb ai	1-broadcast application <b>OR</b> 2-band applications	4.0 oz	0.0625 lb ai	30 days <sup>1</sup>	14 days
<b>GRASS GROWN FOR SEED</b> (Oregon, Washington)	3.0 oz	0.0469 lb ai	1	3.0 oz	0.0469 lb ai	N/A	NA
<b>NUT, TREE, group 14-12:</b> African nut-tree; almond; beechnut; Brazil nut; Brazilian pine; bunya; bur oak; butternut; Cajou nut; candlenut; cashew; chestnut; chinquapin; coconut; coquito nut; dika nut; ginkgo; Guiana chestnut; hazelnut (filbert); heartnut; hickory nut; Japanese horse-chestnut; macadamia nut; mongongo nut; monkey-pot; monkey puzzle nut; Okari nut; Pachira nut; peach palm nut; pecan; pequi; Pili nut; pine nut; pistachio; Sapucaia nut; tropical almond; walnut, black; walnut, English; yellowhorn; cultivars, varieties, and/or hybrids of these	4.0 oz	0.0625 lb ai	1-broadcast application <b>OR</b> 2-band applications	4.0 oz	0.0625 lb ai	30 days <sup>1</sup>	14 days
<b>TOMATO:</b> Direct Seeded and Transplant	4.0 oz	0.0625 lb ai Preemergence 0.0313 lb ai Postemergence	3	4.0 oz	0.0625 lb ai	7 days	45 days
<b>POTATO</b>	1.5 oz Preemergence 1.5 oz Postemergence	0.0234 lb ai Preemergence 0.0234 lb ai Postemergence	2	2.5 oz	0.0391 lb ai	14 days	30 days

<sup>1</sup>Except for yellow nutsedge - the minimum retreatment Interval is 14 days

<sup>2</sup>**DO NOT** apply to corn taller than 12 inches or exhibiting 6 or more leaf collars, whichever is more restrictive.

Refer to Application Information Section for additional use restrictions for each crop.

- **DO NOT** apply more than 4 ounces (0.0625 lb ai) MATRIX® SG per acre per year. Refer to Table 1 and the Application Information section for each crop/crop group for specific use restrictions.
- Injury to or loss of desirable trees or vegetation may result from failure to observe the following:
  - **DO NOT** apply, drain, or flush equipment on or near desirable trees or other plants, or on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots.
  - **DO NOT** use on lawns, walks, driveways, tennis courts. Prevent drift of spray to desirable plants.
  - **DO NOT** contaminate any body of water, including irrigation water that may be used on other crops.
- **DO NOT** apply to frozen or snow-covered soil. Crop injury may occur from applications made to poorly drained soils.
- **DO NOT** apply using Air Assisted (Air Blast) field crop sprayers.

## WEED RESISTANCE MANAGEMENT

MATRIX® SG, which contains the active ingredient rimsulfuron, is a Group 2 herbicide based on the mode of action classification system of the Weed Science Society of America.

Proactively implementing diversified weed control strategies to minimize selection for weed populations resistant to one or more herbicides is a best practice. A diversified weed management program may include the use of multiple herbicides with different sites of action and overlapping weed spectrum with or without tillage operations and/or other cultural practices. Research has demonstrated that using the labeled rate and directions for use is important to delay the selection for resistance.

The continued effectiveness of this product depends on the successful implementation of a weed resistance management program. To aid in the prevention of developing weeds resistant to this product, users should:

- Scout fields before application to ensure herbicides and rates will be appropriate for the weed species and weed sizes present.
- Start with a clean field, using either a burndown herbicide application or tillage.
- Control weeds early when they are relatively small (less than 4 inches).
- Apply full rates of MATRIX® SG for the most difficult to control weed in the field at the specified time (correct weed size) to minimize weed escapes.
- Scout fields after application to detect weed escapes or shifts in control of weed species.
- Control weed escapes before they reproduce by seed or proliferate vegetatively.
- Report any incidence of non-performance of this product against a particular weed to your representative, local retailer, or county extension agent.
- Contact your company representative, crop advisor, or extension agent to find out if suspected resistant weeds to this MOA have been found in your region. If resistant biotypes of target weeds have been reported, use the application rates of this product specified for your local conditions. Tank mix products so that there are multiple effective sites of actions for each target weed.
- If resistance is suspected, treat weed escapes with an herbicide having a site of action other than Group 2 and/or use nonchemical methods to remove escapes, as practical, with the goal of preventing further seed production.

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

- Failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds;
- A spreading patch of non-controlled plants of a particular weed species; and
- Surviving plants mixed with controlled individuals of the same species.
- Additionally, users should follow as many of the following herbicide resistance management practices as is practical:
- Use a broad spectrum soil-applied herbicide with other sites of action as a foundation in a weed control program.
- Utilize sequential applications of herbicides with alternative sites of action.
- Rotate the use of this product with non-Group 2 herbicides.
- Avoid making more than two applications of MATRIX® SG and any other Group 2 herbicides within a single growing season unless mixed with an herbicide with a different site of action with an overlapping spectrum for the difficult-to-control weeds.
- Incorporate non-chemical weed control practices, including mechanical cultivation, crop rotation, cover crops and weed-free crop seeds, as part of an integrated weed control program.
- Use good agronomic principles that enhance crop development and crop competitiveness.
- Thoroughly clean plant residues from equipment before leaving fields suspected to contain resistant weeds.
- Manage weeds in and around fields, during and after harvest to reduce weed seed production.

## MANDATORY SPRAY DRIFT MANAGEMENT

### Ground Boom Applications:

- Apply with the nozzle height recommended by the manufacturer, but no more than 3 feet above the ground or crop canopy unless making a rangeland application, in which case applicators may apply with a nozzle height no more than 4 feet above the ground.
- For applications prior to the emergence of crops and target weeds, applicators are required to use a Coarse or coarser droplet size (ASABE S572.1).
- For all other applications, applicators are required to use a Medium or coarser droplet size (ASABE S572.1).
- **DO NOT** apply when wind speeds exceed 10 miles per hour at the application site.
- **DO NOT** apply during temperature inversions.

## MANDATORY SPRAY DRIFT MANAGEMENT (Cont.)

### Aerial Applications:

- **DO NOT** release spray at a height greater than 10 feet above the vegetative canopy, unless a greater application height is necessary for pilot safety.
- For applications prior to the emergence of crops and target weeds, applicators are required to use a Coarse or coarser droplet size (ASABE S572.1).
- For all other applications, applicators are required to use a Medium or coarser droplet size (ASABE S572.1).
- The boom length must not exceed 65% of the wingspan for airplanes or 75% of the rotor blade diameter for helicopters.
- Applicators must use one-half swath displacement upwind at the downwind edge of the field.
- Nozzles must be oriented so the spray is directed toward the back of the aircraft.
- **DO NOT** apply when wind speeds exceed 10 miles per hour at the application site.
- **DO NOT** apply during temperature inversions.

### Boom-less Ground Applications:

- Applicators are required to use a Medium or coarser droplet size (ASABE S572.1) for all applications.
- **DO NOT** apply when wind speeds exceed 10 miles per hour at the application site.

## SPRAY DRIFT MANAGEMENT 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 nozzles 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

Use the lowest boom height that is compatible with the spray nozzles that will provide uniform coverage. For ground equipment, the boom should remain level with the crop and have minimal bounce.

### RELEASE HEIGHT – Aircraft

Higher release heights increase the potential for spray drift. When applying aurally to crops, **DO NOT** release spray at a height greater than 10 ft above the crop canopy, unless a greater application height is necessary for pilot safety.

### 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.

### 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 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.

#### DRIFT CONTROL ADDITIVES

Using product compatible drift control additives can reduce drift potential. When a drift control additive is used, read and carefully observe cautionary statements and all other information on the additive's label. If using an additive that increases viscosity, ensure that the nozzles and other application equipment will function properly with a viscous spray solution. Preferred drift control additives have been certified by the Council of Producers & Distributors of Agrotechnology (CPDA).

#### TANK MIXTURES

To broaden the weed control spectrum and /or extend the residual effectiveness of MATRIX® SG herbicide, MATRIX® SG may be tank mixed with other registered herbicides affecting a different site of action (mode of action) and/or adjuvants registered for use on the crops listed on MATRIX® SG labeling.

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.

#### USE SITES

### BUSHBERRY (BLUEBERRIES) AND CANEBERRY (RASPBERRIES, BLACKBERRIES)

#### APPLICATION INFORMATION

MATRIX® SG is most effective when applied preemergence or early postemergence to actively growing weeds. If weeds have emerged at the time of application, use an adjuvant (non-ionic surfactant at 1 quart/100 gallons, or crop oil/methylated seed oil at 1 gallon per 100 gallons of spray mix) with MATRIX® SG to improve foliar uptake and translocation.

To optimize residual weed control, MATRIX® SG must be moved into the soil via rainfall or overhead irrigation. The best residual control is obtained when at least 0.5 inches of rain or overhead irrigation comes within the first week after application.

#### Restrictions

- **DO NOT** apply by air. Use ground application equipment only.
- **DO NOT** use on soils classified as Sand.
- **DO NOT** apply more than 4 ounces (0.0625 lb ai) of MATRIX® SG broadcast per acre per year.
- **DO NOT** make more than 1 broadcast application or 2 band applications per year.
- Allow a minimum of 30 days between band applications, except for yellow nutsedge the minimum retreatment interval is 14 days.

#### BLUEBERRY (High Bush)

For broadcast applications, make a single application of MATRIX® SG preemergence or early postemergence to actively growing weeds at 4 ounces (0.0625 lb ai) per acre. Use a directed spray application adjusted to provide complete coverage of the weeds while minimizing the amount of spray coming into contact with the blueberry plants. MATRIX® SG may be applied twice per acre per year as a banded treatment preemergence or postemergence at the 4 ounces (0.0625 lb ai) of product rate, per conventional broadcast acre, at 50% banding or less. See below to calculate actual treatment area when using band applications.

$$\frac{\text{Band Width (inches)} \times \text{Rate per Broadcast}}{\text{Row Width (inches)} \times \text{Acre}} = \text{Amount MATRIX® SG Band Applied per Acre}$$

Use MATRIX® SG on high bush blueberries that have gone through at least one growing season and are in good health and vigor. Use a directed spray application adjusted to provide complete coverage of the weeds while minimizing the amount of spray coming into contact with the blueberry plants.

Application made after bud break may cause temporary chlorosis and/or stunting of leaves contacted by the spray. MATRIX® SG may be applied in tank mixture with other herbicides registered for use in high bush blueberries. It is the pesticide user's responsibility to ensure that

all products are registered for the intended use. Read and follow the applicable restriction and limitation 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.

#### BLUEBERRY (Low Bush)

All applications of MATRIX® SG are to be applied in the Vegetative Year growth stage of low bush blueberries. Make a single broadcast application of MATRIX® SG preemergence or early postemergence to actively growing weeds at 4 ounces (0.0625 lb ai) per acre. MATRIX® SG may be applied twice per acre per year as a banded treatment preemergence or postemergence at the 4 ounces (0.0625 lb ai) of product rate, per conventional broadcast acre, at 50% banding or less. See below to calculate actual treatment area when using band applications.

$$\frac{\text{Band Width (inches)} \times \text{Rate per Broadcast}}{\text{Row Width (inches)} \times \text{Acre}} = \text{Amount MATRIX® SG Band Applied per Acre}$$

For broadcast treatments, make the application prior to bud break of the blueberries. After bud break, use a directed spray application adjusted to provide complete coverage of the weeds while minimizing spray contact with the blueberry plants. Use MATRIX® SG on low bush blueberries that have gone through at least one growing season and are in good health and vigor. Use a directed spray application adjusted to provide complete coverage of the weeds while minimizing the amount of spray coming into contact with the blueberry plants.

MATRIX® SG may be applied in tank mixture with other herbicides registered for use in low bush blueberries. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restriction and limitation 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.

#### CANEBERRY (RASPBERRY AND BLACKBERRY)

For broadcast applications, make a single application of MATRIX® SG preemergence or early postemergence to actively growing weeds at 4 ounces (0.0625 lb ai) per acre. MATRIX® SG may be applied twice per acre per year as a banded treatment preemergence or postemergence at the 4 ounces (0.0625 lb ai) of product rate, per conventional broadcast acre, at 50% banding or less. See below to calculate actual treated area when using band applications.

$$\frac{\text{Band Width (inches)} \times \text{Rate per Broadcast}}{\text{Row Width (inches)} \times \text{Acre}} = \text{Amount MATRIX® SG Band Applied per Acre}$$

Use a directed spray application adjusted to provide complete coverage of the weeds while minimizing the amount of spray coming into contact with the caneberry plants.

#### Crop Age for Application

Apply MATRIX® SG to raspberries that have been established for at least one growing season and are in good health and vigor. For blackberries apply after plantings have gone through at least two growing seasons and are in good health and vigor. See **Use Precautions section below.**

#### Crop Grown Stage

##### For Every-year Bearing Crops:

To reduce the risk of injury to primocanes, apply before primocanes emerge in the spring, or wait until primocanes are approximately 3 feet tall or taller and make a directed application by adjusting the spray nozzles so that only the lower 12 inches of primocanes are exposed to the herbicide spray pattern. For blackberries that have trailing primocanes, apply before primocane emergence.

##### Alternate Year Bearing Crops:

Apply in the dormant period before canes start new growth or wait until new growth canes are several feet tall so that a directed application can be used. To avoid crop injury, **DO NOT** apply over the top of canes once new growth had started. Once canes are approximately 3 feet tall or taller, a directed application can be used provided the spray nozzles are adjusted so that only lower 12 inches of canes are exposed to the herbicide spray pattern.

MATRIX® SG may be applied in tank mixture with other herbicides registered for use in caneberreries. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restriction and limitation 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.

#### Use Precautions

If MATRIX® SG is applied over the top of emerged primocanes, injury to the primocanes may occur in the form of chlorosis and/or stunting of primocane growth and in severe situations, individual primocanes may die. To avoid injury to primocanes, apply before primocane emergence

or wait until they are at least 3 feet tall before making a directed spray so that only the bottom 12 inches of primocanes are exposed to the herbicide spray pattern.

MATRIX® SG may cause damage to plants that are small and/or weak due to weed competition, poor soil conditions, disease, insect damage or other factors that can reduce plant health and vigor.

MATRIX® SG may cause damage to plants growing in areas that are poorly drained, or areas that are subject to saturated or anaerobic soil conditions for an extended period of time.

## CITRUS FRUIT, POME FRUIT, STONE FRUIT, TREE NUTS AND GRAPES

### APPLICATION INFORMATION

Apply MATRIX® SG as a uniform broadcast application to the orchard or vineyard floor or as a uniform band application directed at the base of the trunk or vine.

For broadcast applications, make a single application of MATRIX® SG at 4 ounces (0.0625 lb ai) per acre per year. For improved weed management, MATRIX® SG may be applied in tank mixture with other registered preemergence herbicides.

MATRIX® SG may be applied twice per acre per year as a banded treatment preemergence or postemergence at the 4 ounces (0.0625 lb ai) of product rate, per conventional broadcast acre, at 50% banding or less. See below to calculate actual treated area when using band applications.

**Band Width (inches) x Rate per Broadcast = Amount MATRIX® SG**  
**Row Width (inches)      Acre                              Band Applied per Acre**

To help ensure uniform coverage, use a minimum of 10 gallons of spray solution per acre. Nozzle selection must meet manufacturer's spray volume and pressure instructions for preemergence or postemergence herbicide applications.

Apply only to crops that have been established for one full growing season and are in good health and vigor.

Best results are obtained when the soil is moist at the time of application, and 1/2 inch of rainfall or sprinkler irrigation occurs within 2 weeks after application. Time the application(s) to take advantage of normal rainfall patterns and cool temperatures. Moisture for activation usually occurs within 2-3 weeks after application.

MATRIX® SG may also be applied by certain chemigation methods, including micro-sprinkler. However, **DO NOT** apply by overhead, flood, or drip irrigation.

### Use Precautions

- Direct sprays to minimize spray contact with fruit or foliage.
- Avoid direct or indirect spray contact with crop foliage or fruit, except undesirable suckers.

### Use Restrictions

- **DO NOT** apply MATRIX® SG by air.
- Use ground application equipment only.
- **DO NOT** use MATRIX® SG in a spray solution with a pH of below 4.0 or above 8.0, or with spray additives that buffer the pH to below 4.0 or above 8.0, since degradation of MATRIX® SG may occur.
- **DO NOT** apply more than 4 oz (0.0625 lb ai) of MATRIX® SG broadcast per acre per year.
- **DO NOT** make more than 1 broadcast application or 2 band applications per year.
- Allow a minimum of 30 days retreatment interval between band applications, except for yellow nutsedge the minimum retreatment interval is 14 days.

## WEEDS CONTROLLED - BLUEBERRY, CANEBERRY (RASPBERRY, BLACKBERRY), GRAPES, TREE FRUITS (CITRUS, POME & STONE), AND TREE NUTS

Rainfall or irrigation is needed for herbicide activation. Length of control is a function of moisture for activation, soil temperature, soil texture and amount of moisture after application.

When weeds are present at application, include a labeled burndown herbicide, including glyphosate, paraquat, or glufosinate, with an appropriate adjuvant. MATRIX® SG will help provide postemergence control of the weeds listed in this label. For best results, make postemergence applications to young, actively growing weeds and include a spray adjuvant.

Residual weed control may be reduced when MATRIX® SG is applied where heavy crop trash and/or weed residue exists. Weed control may also be reduced when applications of MATRIX® SG are made to weeds under stress from drought, excessive water, temperature extremes, disease or low humidity.

## PREEMERGENCE WEED CONTROL

GRASSES	BROADLEAVES	
Barnyardgrass	Burclover	Marestail/horseweed
Bluegrass, annual	Chamomile, False	Mustard, Birdsrape
Crabgrass, large	Cheeseweed	Mustard, Black
Foxtail, Giant	Chickweed, common	Pigweed, Redroot
Foxtail, Green	Dandelion, common	Pigweed, Smooth
Foxtail, Yellow	(seedling) Fiddleneck,	Puncturevine
Quackgrass	coast	Purslane, Common
Ryegrass, Italian	Filaree, Redstem	Redmaids
Wheat, Volunteer	Filaree, Whitestem	Rocket, London
	Fleabane, hairy	Sowthistle, annual
	Groundsel, common	Spurge, prostrate
	Henbit	Spurge, spotted
	Kochia	Sweetclover, yellow
	Lettuce, prickly	Swinecress, lesser
	Mallow, common	Willowweed, panicle

## PREEMERGENCE PARTIAL WEED CONTROL

GRASSES	BROADLEAVES/SEDGES
Wild Oat	Cocklebur
	Dandelion, common (established)
	Lambsquarters, common
	Nightshade, Black
	Nightshade, Hairy
	Nutsedge, yellow
	Pigweed, Prostrate
	Ragweed, Common
	Velvetleaf

## POSTEMERGENCE WEED CONTROL

GRASSES (1-2 inches)	BROADLEAVES (1-2 inches)
Barley, Volunteer	Chamomile, False
Barnyardgrass	Chickweed, common
Bluegrass, Annual	Henbit
Crabgrass, large (1/2 inch)	Kochia
Foxtail, Bristly	Mustard, Black
Foxtail, Giant	Mustard, Wild
Foxtail, Green	Pigweed, Redroot
Foxtail, Yellow	Pigweed, Smooth
Panicum, Fall	Purslane, common
Wheat, Volunteer	Shepherd's-purse
	Wild Radish

## POSTEMERGENCE PARTIAL WEED CONTROL

GRASSES	BROADLEAVES/SEDGES
Johnsongrass, seedling	Cocklebur
Millet, wild-proso	Dandelion, common (>6 inches in diameter)
Oat, wild	Lambsquarters, common
Quackgrass	Nightshade, hairy
Stinkgrass	Nutsedge, yellow
	Pigweed, prostrate
	Ragweed, common
	Smartweed, Pennsylvania
	Thistle, Canada
	Velvetleaf

## SPECIFIC WEED PROBLEMS

**COMMON DANDELION AND MALLOW:** MATRIX® SG provides excellent preemergence control of common dandelion and mallow germinating from seed. In high rainfall areas or where sprinkler irrigation is used, a second application may be needed to extend residual control throughout the growing season. When applications are made postemergence to these weeds, always add a suitable burndown herbicide (e.g., glyphosate or paraquat). Small and medium sized plants (up to 6 inches in diameter) are controlled by postemergence applications of MATRIX® SG plus a burndown herbicide; however, plants that are larger than 6 inches in diameter may only be suppressed and may require a second application 4 to 6 weeks later.

**MARESTAIL AND FLEABANE:** Where marestail and fleabane are the target weeds, applications prior to emergence provide best results. This may require a fall application to help prevent fall germinated seedlings from becoming established during the winter. A foliar active herbicide with activity on fleabane and marestail (e.g., paraquat, glyphosate, and/or glufosinate) must be tank mixed with MATRIX® SG for best control and resistance management. After Fall application, a second application in the spring may be required to provide extended weed control into the summer. Where MATRIX® SG is applied for control of Marestail and Fleabane, it is also advised that another soil residual herbicide be included as a tank mix or rotational partner to aid in resistance management.

**PUNCTUREVINE:** For best results, apply early in the spring when you can expect rainfall or overhead irrigation to move MATRIX® SG into the weed

root zone before puncturevine germinates. Puncturevine emerges over a long period of time and late season germinations may not be controlled.

**YELLOW NUTSEDGE:** MATRIX® SG provides suppression of yellow nutsedge. To obtain the most effective results, use the highest rate allowed based on the width of your spray band and make two applications. For applications made postemergence to nutsedge, always add the appropriate rate of a glyphosate product and an effective adjuvant. On soils with high organic matter (6% or higher), always apply postemergence to weeds since preemergence applications are not as effective on these soils.

#### **Application Timing - Yellow Nutsedge**

**Preemergence plus Early Postemergence:** Make the preemergence application when you can expect rainfall or overhead irrigation to move MATRIX® SG into the nutsedge root zone prior to nutsedge emergence. Make a second application when emerging nutsedge is 2 to 4 inches tall.

**Postemergence plus second Postemergence:** Make first application when emerging nutsedge is 2 to 4 inches tall. Repeat application 14 days later. Note: If yellow nutsedge is greater than 6 inches tall at the first application, weed control effectiveness will be greatly reduced.

**ANNUAL SUMMER GRASSES (including Barnyardgrass, Green foxtail, and Crabgrass):** Where sprinkler irrigation is used, a fall or early spring application of MATRIX® SG will not provide season-long control of summer grasses like foxtail, barnyardgrass and crabgrass. For best results, use MATRIX® SG with a suitable tank-mix herbicide, including indaziflam, flumioxazin, oxyfluorfen, oryzalin or pendimethalin. A second application may be needed to provide extended control of summer grasses.

**Diuron Containing Products (Washington and Oregon):** On coarse textured soils where crops are grown under sprinkler irrigation, avoid using diuron containing products as a tank-mix partner with MATRIX® SG between June 1 and September 30 since crop injury may result. MATRIX® SG tank-mixed with diuron products can be used in the fall (after September 30), or early spring when temperatures are cool to moderate.

#### **CROP ROTATION - Fruit, Nut, and Vine Crops**

**Restriction: DO NOT** plant any crops, except field corn, tomatoes, potatoes, and those listed on this label in TABLE 1, within one year of the last MATRIX® SG application.

Prior to planting, fields to be rotated to the above crops need to have a thorough soil mixing - for example, two diskings, or a plowing and a disking. To help ensure rotational crop safety, a field bioassay needs to be completed prior to planting any other desired crops. The results of this bioassay may require the crop rotation interval to be extended. A successful field bioassay means growing to maturity a test strip of the crop(s) intended for production. The test strip must cross the entire field including knolls and low areas.

#### **MICRO-SPRINKLER CHEMIGATION - Fruit, Nut, and Vine Crops**

MATRIX® SG may be applied via micro-sprinkler chemigation. The chemigation system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. The pesticide injection pipeline must also contain a functional (normally closed) solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected. Systems must use a metering pump, including a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticide(s) and capable of being fitted with a system interlock.

#### **RESTRICTIONS FOR CHEMIGATION - Fruit, Nut, and Vine Crops**

- When applying MATRIX® SG via chemigation to these crops, use micro-sprinkler equipment only.
- **DO NOT** connect an irrigation system used for MATRIX® SG Herbicide application to a public water system.
- **DO NOT** permit run-off during chemigation.

#### **PRECAUTIONS FOR CHEMIGATION- Fruit, Nut, and Vine Crops**

- Distributing treated water in an uneven manner can result in crop injury, lack of effectiveness, or over-tolerance pesticide residues in the crop. Therefore, to ensure that the mixture is applied evenly at the labeled rate, use sufficient water, apply the mixture for the proper length of time and ensure sprinkler produces a uniform water pattern.

- Continuous agitation in the mix tank is needed to keep the product from settling. If settling does occur, thoroughly agitate the tank mixture before using.

## **GRASS GROWN FOR SEED (OREGON, WASHINGTON)**

### **APPLICATION INFORMATION**

Use MATRIX® SG only in conjunction with carbon planted Perennial Ryegrass and Tall Fescue grown for seed.

The activated carbon band over the seed row absorbs MATRIX® SG so that seedling grass germinating beneath the carbon band is protected from the herbicide. The protection provided by the carbon band is only as good as the width and integrity of the band.

Heavy and/or persistent rains after planting can cause deterioration of the carbon band allowing MATRIX® SG to move into the grass root zone causing injury and/or stand loss. Standing water can also increase the risk of MATRIX® SG moving vertically through the carbon band or laterally beneath the band.

Variability in seedbed preparation, and unpredictable environmental conditions, including heavy rain, can compromise the protection provided by the carbon band. Therefore, to the extent consistent with applicable law, the grower assumes all risks of crop injury and/or stand loss associated with the use of MATRIX® SG.

Apply MATRIX® SG with properly calibrated ground equipment with good mechanical or by-pass agitation. Only apply MATRIX® SG on early fall planted fields (refer to Use Precautions section) that have been prepared with a smooth, fine seedbed that is firmly packed prior to planting.

During the planting operation, apply activated carbon at the label directed rate as long as that rate is not lower than 300 lbs per acre. Apply the activated carbon in a band at least 1" wide centered over the seed row. Use a minimum spray volume of 40 gallons per acre to apply the activated carbon.

### **WEEDS CONTROLLED - GRASS GROWN FOR SEED**

In the area outside of the carbon band, MATRIX® SG will provide control of seedling annual bluegrass, annual and perennial ryegrass, volunteer wheat, and roughstock bluegrass.

Note: Certain biotypes of diuron resistant annual bluegrass have shown reduced sensitivity to MATRIX® SG and may not be adequately controlled. Where these biotypes are known to exist, apply MATRIX® SG in a tank-mix with Kerb® SC, a pronamide containing herbicide.

Some biotypes of annual bluegrass that are resistant to other herbicides have also shown reduced sensitivity to MATRIX® SG. Where these biotypes are present, MATRIX® SG used alone will only provide suppression.

### **TANK MIXES WITH OTHER HERBICIDES**

MATRIX® SG can be applied in a tank-mix with other pre-emergence herbicides, including Kerb® SC or a diuron containing herbicide, that are also registered for use in carbon planted grass grown for seed. 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.

### **USE RATE**

Apply MATRIX® SG at 3.0 ounces (0.0469 lb ai) per acre immediately (within 5 days) after carbon planting and prior to grass emergence. In areas where there are biotypes of annual bluegrass that are resistant to MATRIX® SG, apply MATRIX® SG in a tank-mix with Kerb® SC. Make the application before grass emergence while the carbon band is still intact. **DO NOT** apply MATRIX® SG if heavy rainfall or overhead irrigation has caused dissipation of the carbon band. Best results are obtained when rainfall of 1/4 to 1/2", or light, frequent irrigation occurs, within two weeks after MATRIX® SG is applied.

If MATRIX® SG is being used on fields that are sprinkler irrigated, best practice is to irrigate before planting to provide enough moisture for grass germination and then apply not more than 1/4 to 1/2 inch of water in the first irrigation after MATRIX® SG is applied.

### **CROP ROTATION**

Where MATRIX® SG has been applied in the fall and stand loss has occurred over the winter; best practice is to wait until soil temperatures are warm enough to support rapid germination (usually mid to late March) before trying to replant grass in the spring.

### **Precautions**

- Crop injury and/or stand loss can occur in treated areas that have standing water.
- Crop injury may occur in areas of fields where heavy residue from the previous crop makes it difficult to form a smooth, fine seed bed.



- Crop injury may occur in areas of spray overlap.
- Crop injury may occur if the carbon band is less than 1" wide.

#### Restrictions

- **DO NOT** apply more than 3 oz (0.0469 lb ai) MATRIX® SG per acre per year.
- **DO NOT** make more than 1 application of MATRIX® SG per year.
- When a tank mix of MATRIX® SG and with Kerb® SC is applied, **DO NOT** graze livestock in the treated fields or cut treated fields for forage or hay for livestock feed for 180 days following application.
- **DO NOT** apply MATRIX® SG through any type of irrigation system.
- **DO NOT** use MATRIX® SG if heavy rainfall and/or overhead irrigation has caused deterioration of the carbon band prior to application.
- **DO NOT** use MATRIX® SG on fields that routinely have large areas of standing water.
- After planting, prior to grass emergence, **DO NOT** use gun-type sprinklers or other types of overhead irrigation that product large droplets that can displace the carbon band.
- **DO NOT** use MATRIX® SG on fields that have enough slope to cause surface runoff.
- To avoid herbicide injury related to late planted grass, **DO NOT** apply MATRIX® SG to fields planted after October 31.
- **DO NOT** apply MATRIX® SG to fields with sandy or gravelly soil.

## POTATOES

### APPLICATION INFORMATION

#### Use Precautions

- Crop injury can occur (leaf burn and temporary yellowing) when applications are made under high temperatures. Addition of fungicides may increase the level of crop injury.
- In warm, moist conditions, the expression of herbicide symptoms is accelerated; in cold, dry conditions, expression of herbicide symptoms is delayed and may be more variable in weed control.

#### Use Restrictions

- **DO NOT** apply MATRIX® SG on potatoes within 30 days of harvest.
- **DO NOT** make more than 2 applications of MATRIX® SG per year.
- **DO NOT** exceed 2.5 ounces (0.0391 lb ai) MATRIX® SG per acre per year.
- **DO NOT** apply to sweet potatoes or yams.
- **DO NOT** apply to potatoes growing in Greenhouses, Cold Frames, Pot cultures, etc. Apply only to potatoes growing in fields.

#### PRE-EMERGENCE APPLICATION

For best results, apply MATRIX® SG at 1 - 1.5 ounces (0.0156-0.0234 lb ai) product per acre, immediately after hilling, drag-off, or reservoir tillage (dam/dike operation), to a clean, newly prepared seedbed.

To activate MATRIX® SG in the soil, supply moisture by a single rainfall event, or apply sprinkler irrigation of 1/3 to 1" (sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), within 5 days after application, to move MATRIX® SG 2 to 3" deep into the soil profile. Activating sprinkler irrigation is required regardless of the soil moisture level at planting, or the cumulative precipitation that occurs over the next 5 days (unless rainfall occurs in a single event and equals the activation moisture requirement). If rainfall or sprinkler activation cannot be managed, waiting for weeds to emerge and applying MATRIX® SG postemergence would result in better weed control.

If a clean, newly prepared seedbed, free of emerged or germinating weeds does not occur, and weeds are present at application, add a spray adjuvant to the spray mix (See the "Spray Adjuvant" section of this label for additional information). Control may not be adequate for weeds that have an established root system before activation of MATRIX® SG.

#### TANK MIXTURES - PREEMERGENCE APPLICATIONS

MATRIX® SG may be tank mixed with pesticide products labeled for use on potatoes, including EPTC, pendimethalin, linuron, s-metolachlor (including CINCH® or EverpreX™), or glyphosate-containing products registered for potatoes, in accordance with the most restrictive label limitations and precautions.

MATRIX® SG may also be used in three-way tank mix combinations with the above pesticide(s). If these instructions conflict with this MATRIX® SG label, **DO NOT** use as a tank mix with MATRIX® SG.

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.

#### MATRIX® SG plus a Metribuzin Based Herbicide

Apply a tank mix combination of MATRIX® SG at 1 - 1.5 ounces (0.0156-0.0234 lb ai) per acre and a metribuzin herbicide at labeled rates

for better control of such weeds as kochia, Russian thistle and common lambsquarters. For best results apply after hilling or drag-off to a clean, newly prepared seedbed, before potatoes emerge and weeds germinate. Read and follow the metribuzin label for your area.

#### MATRIX® SG plus an EPTC Based Herbicide

Apply a tank mix of MATRIX® SG at 1 - 1.5 ounces (0.0156-0.0234 lb ai) per acre and EPTC herbicide at labeled rates for better control of weeds including hairy nightshade and crabgrass. For best results apply after hilling or drag-off to a clean, newly prepared seedbed, before potatoes emerge and weeds germinate. Since the rates and incorporation methods of EPTC based herbicides vary by region, follow the instructions for your region. It is advised to incorporate a tank mix of EPTC herbicide + MATRIX® SG using irrigation, and not equipment, to prevent poor weed control from deep incorporation of the MATRIX® SG.

If your area does not allow incorporation using irrigation, then apply EPTC herbicide and MATRIX® SG in a split application. Read and follow both product labels for your area.

#### MATRIX® SG plus a Pendimethalin Based Herbicide

Apply a tank mix combination of MATRIX® SG at 1 - 1.5 ounces (0.0156-0.0234 lb ai) per acre and pendimethalin herbicide at labeled rates for better control of such weeds as kochia, crabgrass, and common lambsquarters. For best results apply after hilling or drag-off to a clean, newly prepared seedbed, before potatoes emerge and weeds germinate. Read and follow the pendimethalin herbicide label for your area.

#### MATRIX® SG plus a Linuron Based Herbicide

Apply a tank mix combination of MATRIX® SG at 1 - 1.5 ounces (0.0156-0.0234 lb ai) per acre and a linuron herbicide at labeled rates for better control of such weeds as common lambsquarters and common ragweed. For best results apply after hilling or drag-off to a clean, newly prepared seedbed, before potatoes emerge and weeds germinate. Read and follow the linuron herbicide label for your area.

#### MATRIX® SG Plus a s-metolachlor Based Herbicide (including CINCH® or EverpreX™)

Apply a tank mix combination of MATRIX® SG at 1 - 1.5 ounces (0.0156 - 0.0234 lb ai) per acre and an s-metolachlor herbicide (including CINCH® or EverpreX™) at labeled rates for better control of such weeds as yellow nutsedge and black nightshade. For best results apply after hilling or drag-off to a clean, newly prepared seedbed, before potatoes emerge and weeds germinate. Read and follow product labels for your area.

#### POSTEMERGENCE APPLICATION

For postemergence applications, apply MATRIX® SG at 1 - 1.5 ounces (0.0156 - 0.0234 lb ai) per acre to young, actively growing weeds after crop emergence. Typically, small weeds (less than 1" in height or diameter) that are actively growing at application are most easily controlled (See the "Specific Weed Problem" section of this label for more information).

Under growing conditions that promote crop stress (including drought, frost, cold temperatures, high temperatures, or extreme temperature variations), temporary chlorosis (lime green color) may occur after application of MATRIX® SG. Symptoms usually disappear within 5 to 15 days.

For best results with MATRIX® SG postemergence, rainfall or sprinkler irrigation of 1/3 to 1" (sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), no sooner than 4 hours, but not more than 5 days after application, will activate MATRIX® SG in the soil and help provide control of subsequent flushes of annual weeds.

#### TANK MIXTURES (POTATOES) - POSTEMERGENCE APPLICATIONS

MATRIX® SG may be tank mixed with pesticide products labeled for use on potatoes (including "Eptam" 7E and metribuzin based products) in accordance with the most restrictive of label limitations and precautions. When tank mixing MATRIX® SG with another potato pesticide(s), read and follow all use directions, restrictions, and precautions of both MATRIX® SG and the tank mix partner(s).

MATRIX® SG may also be used in three-way tank mix combinations with the above pesticide(s). If these instructions conflict with this MATRIX® SG label, **DO NOT** use as a tank mix with MATRIX® SG.

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.

#### MATRIX® SG Plus Foliar Fungicides

MATRIX® SG may be tank mixed with other suitable registered fungicides on potatoes, including Curzate® 60DF (cymoxanil), mancozeb, and chlorothalonil fungicides at labeled rates.

Read and follow all manufacturer's label instructions for the companion fungicide. If these instructions conflict with this MATRIX® SG label, **DO NOT** use as a tank mix with MATRIX® SG.

#### **MATRIX® SG Plus a Metribuzin Based Herbicide**

Apply a tank mix combination of MATRIX® SG at 1 - 1.5 ounces (0.0156-0.0234 lb ai) per acre and a metribuzin containing herbicide at labeled rates for improved weed control of such weeds as Russian thistle and common lambsquarters. Use a nonionic surfactant (NIS) at 0.125 % v/v (1 pt/100 gal of water). The addition of adjuvants to postemergence metribuzin applications may reduce crop safety. Use adjuvants with caution.

When possible, avoid post emergence applications on metribuzin sensitive varieties or if the crop is under stress. Read and follow both product labels for your area.

Note: The use of crop oil concentrate (COC) or methylated seed oil (MSO) is not advised for tank mix combinations with MATRIX® SG plus metribuzin.

#### **MATRIX® SG Plus an EPTC Based Herbicide**

Apply MATRIX® SG herbicide at 1 to 1.5 ounces (0.016-0.024 lb ai) per acre in tankmix with labeled rates of EPTC herbicide. Include 1% v/v (1 gal per 100 gal spray solution) of either of a modified seed oil adjuvant (MSO) or 0.5% v/v (0.5 gal per 100 gal spray solution) of a organo-silicone/modified seed oil blend (OS/MSO). Include 2 lb/acre of a spray-grade ammonium sulfate (AMS).

For best results, rainfall or sprinkler irrigation of 1/3 to 1" (sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), no sooner than 4 hours after application, but not more than 1 day after application.

Additional EPTC herbicide can be added during the water-in process if desired (read and follow all use directions, restrictions, and precautions on the EPTC product label before use. If these instructions conflict with this MATRIX® SG label, **DO NOT** use as a tank mix with MATRIX® SG.)

#### **SEQUENTIAL APPLICATIONS - POTATOES**

Depending upon rainfall or other environmental conditions, and the density of the top growth of the potato variety (those with poor top growth including Norkotah), annual weeds may have a second flush of germinating seedlings, and treated perennials may produce new growth from underground roots or stems. To maximize control of such weeds, it may be necessary to apply MATRIX® SG a second time, 14 to 28 days after the first application (typically, make applications to small weeds that are less than 1" in height or diameter that are actively growing). **DO NOT** make more than 2 applications, and the combined rate of the applications cannot exceed 2.5 ounces (0.0391 lb ai) MATRIX® SG per acre.

#### **POTATOES GROWN FOR SEED**

##### **APPLICATION INFORMATION**

MATRIX® SG may be used on potatoes grown for seed that use field grown tubers as the planted seed piece, and are at least the progeny of the first field planting\*.

- Apply MATRIX® SG by any of the following methods:
- Preemergence 1.5 oz (0.0234 lb ai) per acre
- Postemergence at 1.0 - 1.5 oz (0.0156-0.0234 lb ai) per acre
- In a sequential application Preemergence at 1.0-1.5 oz (0.0156-0.0234 lb ai) per acre, followed by Postemergence at 1.0 oz (0.0156 lb ai) per acre.
- Postemergence at 1.0 oz (0.0156 lb ai) per acre followed by second Postemergence at 1.0 oz (0.0156 lb ai) per acre.

To activate MATRIX® SG preemergence, supply moisture by a single rainfall event, or apply sprinkler irrigation of 1/3 - 1" (sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), within 5 days after application, to move MATRIX® SG 2 - 3" deep into the soil profile.

##### **Precautions**

- The rotational crop interval listed in the MATRIX® SG label may need to be extended to 18 months if seed potato production practices decrease water and/or time for MATRIX® SG breakdown. Practices that may shorten the breakdown are late planting or less frequent irrigations as compared to commercial production practices. Potatoes can be planted at any time.
- Consider informing your state seed certification agency or inspector that MATRIX® SG has been applied. Under growing conditions that promote crop stress (including drought, frost, cold temperatures, high temperatures, or extreme temperature variations), temporary chlorosis (lime green color) may occur after application. These symptoms may appear similar to virus like symptoms (including chlorosis, leaf crinkling, pinching of terminal leaflet) but will usually disappear within 5 to 15 days of application.

#### **Restrictions**

- **DO NOT** make more the 2 applications of MATRIX® SG per year.
- **DO NOT** exceed 2.5 oz (0.0391 lb ai) of MATRIX® SG per acre per year.
- **DO NOT** apply to plants suffering stress from lack of moisture, cold, herbicide injury, and insect or disease injury.
- **DO NOT** use on potatoes grown for seed if these are grown from microtubers or transplants. Depending on geography, these may be referred to as Generation 1, Nuclear, Elite 1, or Pre-Elite.
- The rotational crop interval for Spring Barley is extended to 18 months due to the shorter growing seasons and different cultural practices in seed production in the states of California, Idaho, Oregon, Montana, South Dakota, Washington, Colorado, and parts of North Dakota\*\*.

\* First field planting utilizes laboratory tested stocks which may be tissue cultured plantlets, greenhouse produced microtubers, minitubers, stem cuttings, or line selections.

\*\*All counties in North Dakota except Pembina, Towner, Walsh, Grand Forks, Trail and Cass.

#### **WEEDS CONTROLLED - POTATO**

##### **PREEMERGENCE CONTROL**

GRASSES	BROADLEAVES
Barnyardgrass	Chamomile, False
Foxtail, Giant	Filaree, Redstem
Foxtail, Green	Henbit
Foxtail, Yellow	Kochia
Wheat, Volunteer	Mustard, Birdsrape
	Mustard, Black
	Pigweed, Prostrate
	Pigweed, Redroot
	Pigweed, Smooth
	Purslane, Common

##### **PREEMERGENCE (PARTIAL CONTROL)**

GRASSES	BROADLEAVES
Crabgrass	Cocklebur
Wild Oat	Lambsquarters, Common
	Nightshade†, Black
	Nightshade, Hairy
	Pigweed, Prostrate
	Ragweed, Common
	Velvetleaf

† Eastern Black Nightshade (*Solanum ptycanthum*) is NOT Controlled or suppressed

##### **POSTEMERGENCE CONTROL**

GRASSES	BROADLEAVES
Barley, Volunteer	Chamomile, False
Barnyardgrass	Chickweed, Common
Bluegrass, Annual	Henbit
Crabgrass	Kochia
Foxtail, Bristly	Mustard, Birdsrape
Foxtail, Giant	Mustard, Black
Foxtail, Green	Mustard, Wild
Foxtail, Yellow	Pigweed, Redroot
Panicum, Fall	Pigweed, Smooth
Wheat, Volunteer	Purslane, Common
	Shepherd's purse
	Wild Radish

##### **POSTEMERGENCE (PARTIAL CONTROL)‡**

GRASSES	BROADLEAVES	
Johnsongrass, Seedling	Thistle, Canada†	Pigweed, Prostrate
Millet, Wild Proso	Cocklebur	Ragweed, Common
Quackgrass†	Lambsquarters, Common	Smartweed,
Stinkgrass	Morningglory, Ivyleaf	Pennsylvania
Wild Oat	Nightshade, Hairy	Velvetleaf
Yellow Nutsedge	Nightshade*†, Black	Volunteer Alfalfa**

\*Eastern Black Nightshade (*Solanum ptycanthum*) is NOT Controlled or suppressed.

\*\*Except in California

‡Weed partial control is a reduction in weed competition (reduced population and/or vigor) as visually compared to an untreated area. The degree of partial control varies with the rate used, the size of the weeds, and the environmental conditions following treatment.

†See Specific Weed Problems

## AERIAL APPLICATION

(Also read **MANDATORY SPRAY DRIFT MANAGEMENT** section)

- Use nozzle types and arrangements that will provide optimum spray distribution and maximum coverage at a minimum of 5 GPA. In California use a minimum of 10 GPA.

### Aerial Application Restrictions:

- **DO NOT** apply during a temperature inversion, when winds are gusty, or when conditions favor poor coverage and/or off-target spray movement.
- **DO NOT** apply by air in the state of California, except in Modoc or Siskiyou counties.
- **DO NOT** apply by air in the state of New York.

### CHEMIGATION - POTATOES ONLY

MATRIX® SG can be applied using center pivot, lateral move, solid set, or hand move irrigation systems in potatoes. **DO NOT** apply MATRIX® SG using any other type of irrigation system.

Check irrigation systems to insure uniform application of water to all areas. Failure to apply MATRIX® SG uniformly may result in crop injury and/or poor weed control.

For best results, use the highest labeled rate and apply preemergence to early postemergence to the weeds (weeds less than 1" tall). If weeds are present at application, add a nonionic surfactant containing at least 80% active ingredient to the spray mix at 1 - 2 pt/acre.

MATRIX® SG may be mixed in a supply tank with water, fertilizer, or other appropriate agricultural chemicals. Maintain continuous agitation in the injection nurse tanks during application.

For solid set and hand move irrigation systems, apply MATRIX® SG at the beginning of the set and then apply 1/3 - 1" of water for activation (sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1").

For center pivot and lateral move irrigation systems, apply MATRIX® SG in 1/3 - 1" of water for activation as a continuous injection (sandy soils apply at least 1/3", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1").

If you have questions about calibrating chemigation equipment, contact State Extension Service specialists, equipment manufacturers, or other experts. If the chemigation equipment needs adjustment, only the custodian responsible for its operation, or someone under the supervision of that custodian, can make the necessary adjustments.

### IRRIGATION SYSTEM REQUIREMENTS

The irrigation system must contain the following:

- a functional check valve
- vacuum relief valve
- a low pressure drain (to prevent water source contamination from backflow; must be located on the irrigation pipeline)
- functional interlocking controls (to automatically shut-off the pesticide injection pump when the water pump motor stops)
- a metering pump, including a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock

The pesticide injection pipeline must contain the following:

- a functional, automatic, quick-closing check valve (to prevent the flow of fluid back toward the injection pump)
- a functional, solenoid-operated valve (normally closed) located on the intake side of the injection pump (must be connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is shut down either automatically or manually)

The irrigation line or water pump must include a functional pressure switch that will stop the water pump motor when pesticide distribution is adversely affected by a decrease in water pressure.

### PRECAUTIONS FOR CHEMIGATION - POTATOES

Distributing treated water in an uneven manner can result in crop injury, lack of effectiveness, or over-tolerance pesticide residues in the crop. Therefore, to ensure that the mixture is applied evenly at the labeled rate, use sufficient water, and apply the mixture for the proper length of time.

### RESTRICTIONS FOR CHEMIGATION - POTATOES

- **DO NOT** permit run-off during chemigation.
- **DO NOT** apply when wind speed favors drift beyond the area intended for treatment.
- **DO NOT** connect an irrigation system (including greenhouse systems) used for MATRIX® SG application to a public water system.

### MATRIX® SG ROTATIONAL CROP RESTRICTIONS - POTATO

For crops listed below, planting prior to the interval shown may result in crop injury when using MATRIX® SG. Rotation intervals may need to

be extended to 18 months if drought conditions prevail after application and before the rotational crop is planted, unless supplemental sprinkler irrigation has been applied and totals greater than 15" during the growing season. For tank mixtures, follow the most restrictive rotational crop guideline

Rotation Crop	Interval (months)
Alfalfa**	4
Barley, Spring *	9
Beans, Dry	10
Beans, Succulent	10
Carrots (Kern County, CA)**	4
Carrots**	10
Corn, Field	Anytime
Corn, Popcorn	10
Corn, Sweet	10
Cotton	10
Cover Crops (erosion control)	4
Cucumber	10
Garlic	6
Grass, pasture, hay, seed**	4
Mint**	4
Oats, Spring	9
Onions**	10
Peas**	8
Potatoes	Anytime
Sunflowers	10
Soybeans	4
Tomatoes	Anytime
Wheat, Spring	9
Wheat, Winter	4
Crops Not Listed	18

\* Idaho - 18 months for Teton county, Caribou county, Madison county east of Hwy 20, and Fremont county east of Hwy 20. Colorado - Alamosa, Conejos, Costilla, Rio Grande and Saguache counties: 1.5 oz (0.0234 lb ai) or less MATRIX® SG per acre per year--9 months; greater than 1.5 oz (0.0234 lb ai) of MATRIX® SG per acre per year--18 months

\*\*For the select counties listed below in OR and WA where potatoes are grown under a minimum of 18 inches of sprinkler irrigation per season, alfalfa may be rotated at 4 months after application. All other areas may be rotated to alfalfa at 18 months after application. This rotation interval is for sand, loamy sand and sandy loam soils having not more than 1.5% organic matter where a minimum of 18 inches of sprinkler irrigation is used on the previous potato crop. Injury to the rotated crop may occur if less than 18 inches of irrigation is used on the previous potato crop. For tank mixtures, follow the most restrictive rotational crop guideline.

**For Rotation to Alfalfa:** MATRIX® SG in potatoes not to exceed 1 oz (0.0156 lb ai) per use year in Adams, Grant, Douglas and Lincoln counties of Washington, and MATRIX® SG in potatoes not to exceed 1.5 oz (0.0234 lb ai) per acre per year in Benton, Franklin, Klickitat, Walla Walla and Yakima counties in Washington and Morrow and Umatilla counties in Oregon.

**For Rotation to Onions and Carrots:** MATRIX® SG in potatoes not to exceed 1.5 oz (0.0234 lb ai) per acre per year in Adams, Grant, Douglas and Lincoln counties of Washington, and MATRIX® SG in potatoes not to exceed 2.5 oz (0.0391 lb ai) per acre per year in Benton, Franklin, Klickitat, Walla Walla and Yakima counties in Washington and Morrow and Umatilla counties in Oregon.

**For Rotation to Grass Crops Grown for Seed, Hay or Pasture:** MATRIX® SG in potatoes not to exceed 1.5 oz (0.0234 lb ai) per acre per use year in Adams, Grant, Douglas and Lincoln counties of Washington, and MATRIX® SG in potatoes not to exceed 2.5 oz (0.0391 lb ai) per acre per use year in Benton, Franklin, Klickitat, Walla Walla and Yakima counties in Washington and Morrow and Umatilla counties in Oregon.

**For Rotation to Peas and Mints:** MATRIX® SG in potatoes not to exceed 1.5 oz (0.0234 lb ai) per acre per use year in all areas.

NOTE: MATRIX® SG must not be used in a tankmix or sequential application program with other soil residual ALS-inhibiting herbicides on potatoes as the combined effects of these herbicides on the planting of subsequent crops have not been thoroughly investigated and crop injury may occur.



## POSTEMERGENCE APPLICATIONS

For postemergence applications, apply MATRIX® SG at 2.0 ounces (0.0313 lb ai) product per acre to young, actively growing weeds after the crop has reached the cotyledon stage. Optimum performance is obtained when weeds are less than 1" in height or diameter and are actively growing.

Use a surfactant at a minimum rate of 0.25% v/v (2 pints/100 gallons of water). The use of crop oil concentrate, methylated seed oils, nitrogen fertilizer solution or nonionic surfactant rates above 0.25% v/v may result in temporary crop chlorosis (lime green color). Symptoms usually disappear within 5 to 15 days.

Under growing conditions that promote crop stress (including drought, frost, cold temperatures, high temperatures, extreme temperature variations or saturated or water-logged soils), temporary crop chlorosis (lime green color) may occur after application of MATRIX® SG. Symptoms usually disappear within 5 to 15 days.

For best results with MATRIX® SG postemergence, rainfall or sprinkler irrigation of 1/2 - 1" (sandy soils apply at least 1/2", sandy loams apply at least 1/2", silt soils apply at least 3/4", clay soils apply at least 1"), no sooner than 4 hours, but not more than 5 days after application, will activate MATRIX® SG in the soil and help provide control of subsequent flushes of annual weeds.

Make postemergence applications of MATRIX® SG after the tomatoes reach the cotyledon stage.

## SEQUENTIAL APPLICATIONS

Annual weeds at times may have multiple flushes of seedlings, or treated weeds may sometimes regrow from underground stems or roots, depending upon rainfall and other environmental conditions. To maximize control of such weeds, it may be necessary to use sequential applications of MATRIX® SG.

### PREEMERGENCE FOLLOWED BY POSTEMERGENCE

Applications of MATRIX® SG may be applied Preemergence followed by single or multiple applications Postemergence.

**Restriction:** For sequential applications, the total amount of MATRIX® SG cannot exceed 4.0 ounces (0.0625 lb ai) product per acre per year on a broadcast basis.

### POSTEMERGENCE FOLLOWED BY SECOND POSTEMERGENCE

Multiple applications of MATRIX® SG may be applied postemergence, optimum control is seen when the first application is made to small actively growing weeds, followed by a second application 7 to 14 days later.

**Restriction:** For sequential applications, the total amount of MATRIX® SG cannot exceed 4.0 ounces (0.0625 lb ai) product per acre per year on a broadcast basis.

## BAND APPLICATIONS - TOMATOES:

MATRIX® SG can be applied in a preemergence band at 2.0 - 4.0 ounces (0.0313 - 0.0625 lb ai) product per acre (For example, 0.5 - 1.0 ounces (0.0078 - 0.0156 lb ai) of product per conventional broadcast acre assuming 25% banding) followed by two separate postemergence band applications applied at 2 ounces (0.0313 lb ai), product per acre (For example, 0.5 ounces (0.0078 lb ai) of product per conventional broadcast acre assuming 25% banding) over the same sprayed area.

MATRIX® SG can be applied using three postemergence band applications at 2.0 ounces (0.0313 lb ai) product per acre (For example, 0.5 ounces (0.0078 lb ai) of product per conventional broadcast acre assuming 25% banding). See below to calculate actual treated area when using band applications.

**Restrictions:** For band applications, the total amount of MATRIX® SG cannot exceed 4.0 ounces (0.0625 lb ai) product on a broadcast basis per acre per year. **DO NOT** make more than 3 band applications of MATRIX® SG per year.

**Band Width (inches) x Rate per Broadcast = Amount MATRIX® SG**  
**Row Width (inches) Acre Band Applied per Acre**

## WEEDS CONTROLLED - TOMATO

### PREEMERGENCE CONTROL

GRASSES	BROADLEAVES
Barnyardgrass	Filaree, Redstem
Foxtail, Giant	Henbit
Foxtail, Green	Kochia
Foxtail, Yellow	Mustard, Black
Wheat, Volunteer	Pigweed, Redroot
	Pigweed, Smooth
	Purslane, Common

### PREEMERGENCE (PARTIAL CONTROL)

GRASSES	BROADLEAVES
Crabgrass	Cocklebur
Wild Oat	Lambsquarters, Common
	Nightshade*, Black†
	Nightshade, Hairy
	Pigweed, Prostrate
	Ragweed, Common
	Velvetleaf

\* Eastern Black Nightshade (*Solanum ptycanthum*) is NOT Controlled or suppressed.

Black Nightshade suppression is only for use in Tomatoes in California.

† See Specific Weed Problems

### POSTEMERGENCE CONTROL (Weeds not to exceed 1" in height)

GRASSES	BROADLEAVES
Barley, Volunteer	Chamomile, False
Barnyardgrass	Chickweed, Common
Bluegrass, Annual	Henbit
Crabgrass	Kochia
Foxtail, Bristly	Mustard, Birdsrape
Foxtail, Giant	Mustard, Black
Foxtail, Green	Mustard, Wild
Foxtail, Yellow	Pigweed, Redroot
Panicum, Fall	Pigweed, Smooth
Wheat, Volunteer	Purslane, Common
	Shepherd's purse
	Wild Radish

### POSTEMERGENCE (PARTIAL CONTROL)‡

GRASSES	BROADLEAVES
Johnsongrass, Seedling	Thistle, Canada†
Millet, Wild Proso	Cocklebur
Stinkgrass	Lambsquarters, Common
Quackgrass†	Morningglory, Ivyleaf
Wild Oat	Nightshade, Hairy
Yellow Nutsedge	Nightshade*†, Black (cotyledon stage only)
	Pigweed, Prostrate
	Ragweed, Common
	Smartweed, Pennsylvania
	Velvetleaf
	Volunteer Alfalfa**

\* Eastern Black Nightshade (*Solanum ptycanthum*) is NOT Controlled or suppressed.

Black Nightshade partial control is only for use in Tomatoes in California.

\*\*Except California

‡ Partial control is a reduction in weed competition (reduced population and/or vigor) as visually compared to an untreated area. The degree of partial control varies with the rate used, the size of the weeds, and the environmental conditions following treatment.

† See Specific Weed Problems

## SPECIFIC WEED PROBLEMS

**Quackgrass:** For best results, apply MATRIX® SG postemergence to quackgrass that is 4 to 8" tall. Quackgrass not emerged at the time of application will not be controlled or suppressed, and would require a second postemergence application for acceptable control.

**Black Nightshade (Tomatoes):** For best results, apply MATRIX® SG preemergence (prior to weed germination) at 2 - 4 ounces (0.0313 - 0.0625 lb ai) per acre followed by a postemergence application at 1 - 2 ounces (0.0156 - 0.0313 lb ai) per acre to small actively growing weeds.

**Canada Thistle:** For best results, apply MATRIX® SG postemergence to small actively growing Canada thistle. Canada thistle not emerged at the time of application will not be controlled or suppressed, and would require a second postemergence application for acceptable control.

## MATRIX® SG ROTATIONAL CROP GUIDELINES - TOMATO

For crops listed below, planting prior to the interval shown may result in crop injury when using MATRIX® SG. Rotation intervals may need to be extended to 18 months if drought conditions prevail after application and before the rotational crop is planted, unless supplemental sprinkler irrigation has been applied and totals greater than 15" during the growing season. For tank mixtures, follow the most restrictive rotational crop guideline.

Rotation Crop	Interval (months)
Beans, Dry	10
Beans, Snap	10
Corn, Field	Anytime
Corn, Sweet	10
Cotton	10
Cucumber	10
Garlic	6
Potatoes	Anytime
Soybeans	10
Tomatoes	Anytime
Wheat, Winter	4
Crops Not Listed	12

Note: Where drip irrigated tomatoes are grown, rotate only to tomato, potato or field corn as crop injury may result.

Rotational crops may be planted at indicated intervals provided the fields are deep disked or plowed, and thorough soil mixing is achieved, prior to planting the rotational crop.

## CULTIVATION

A timely cultivation may be necessary to control suppressed weeds, weeds that were beyond the maximum size at application, or weeds that emerge after an application of MATRIX® SG.

- Cultivation up to 7 days before the postemergence application of MATRIX® SG may decrease weed control by pruning weed roots, placing the weeds under stress, or covering the weeds with soil and preventing coverage by MATRIX® SG.
- To allow MATRIX® SG to fully control treated weeds, cultivation is not advised for 7 days after application.
- Optimum timing for cultivation is 7 - 14 days after a postemergence application of MATRIX® SG.

## SPRAY ADJUVANTS

Include a spray adjuvant with applications of MATRIX® SG when applied by itself and postemergence to the weeds. Consult your Ag dealer or applicator, technical bulletins, and service policies prior to using an adjuvant system. If another herbicide is tank mixed with MATRIX® SG, select adjuvants authorized for use with both products. Products must contain only EPA-exempt ingredients (40 CFR 1001).

### Nonionic Surfactant (NIS)

- Apply 0.125 - 0.25% v/v (1 - 2 pt/100 gal of water). The 0.25% v/v rate is preferred under arid or drought conditions.
- Surfactant products must contain at least 80% nonionic surfactant with a hydrophilic/lipophilic balance (HLB) greater than 12.

### Petroleum Crop Oil Concentrate (COC) or Modified Seed Oil (MSO)

- Apply at 1% v/v (1 gal per 100 gal spray solution), or 2% under arid conditions.
- Oil adjuvants must contain at least 80% high quality, petroleum (mineral) or modified vegetable seed oil with at least 15% surfactant emulsifiers.
- Blended products which contain both MSO and silicone are acceptable at labeled rates.

### Ammonium Nitrogen Fertilizer

- Use 2 qt/acre of a high-quality urea ammonium nitrate (UAN), including 28%N or 32%N, or 2 lb/acre of a spray grade ammonium sulfate (AMS). Use 4 qt/acre UAN or 4 lb/acre AMS under arid conditions.
- **DO NOT** use liquid nitrogen fertilizer as the total carrier solution.

### Special Adjuvant Types

- Combination adjuvant products may be used at doses that provide the required amount of NIS and ammonium nitrogen fertilizer. Consult product literature for use rates and restrictions.
- **DO NOT** use any other adjuvant rates or mixtures with MATRIX® SG unless instructed to do so on company Technical Bulletins.

### Precautions:

1. The use of silicone polymer type surfactants is not suggested as reduced weed control may result.
2. Avoid using crop oil concentrate (COC) or methylated seed oil (MSO) when potatoes are under heat stress (>85 degrees F) as multiple stresses may cause crop injury.

## EQUIPMENT-SPRAY VOLUMES

Agitate the spray tank continuously to keep the material in suspension.

**DO NOT** use equipment and/or spray volumes that will cause damage from spray by drift onto nontarget sites. **DO NOT** make applications when

weather conditions are likely to cause spray to drift onto nontarget sites. (See the "Spray Drift Management" section of this label for additional information).

## GROUND APPLICATION - POTATOES AND TOMATOES

To ensure optimum spray distribution and thorough coverage, apply MATRIX® SG with a properly calibrated, low-pressure (20 to 40 psi) boom sprayer equipped with flat fan nozzles, twin-style nozzles, underleaf banding nozzles or flood jet nozzles. Nozzle screens must be no finer than 50 mesh. When using flood nozzles, the spray pattern needs to overlap 100% for optimum product performance. For banded applications even flow flat fan or twin jet spray nozzles may provide a more uniform spray distribution.

With ground application equipment, use enough water to deliver 10 - 40 gal total spray solution per acre. Avoid overlapping, and shut off spray booms while starting, turning, slowing, or stopping, or injury to the crop may result.

## SPRAYER CLEANUP

Spray equipment or nurse tanks used in chemigation, must be cleaned before MATRIX® SG is sprayed. Follow the cleanup procedures specified on the labels of previously applied products. If no directions are provided, follow the 6 steps outlined in the "After Applying MATRIX® SG and Before Applying to Other Crops" section of this label.

For maximum preemergence activity, prior to application, the bed or soil surface must be smooth and relatively free of crop and weed trash (dead weeds, decaying leaves, clippings, etc.). Leaves and trash may be removed by blowing the area to be treated or by thoroughly mixing the trash into the soil through cultivation prior to herbicide application. Cultural practices that result in redistribution or disturbance of the soil surface after treatment will decrease the herbicidal effectiveness of MATRIX® SG. Cutting water furrows, or cultivations that mix untreated soil into the treated areas, will also reduce the effectiveness of the herbicide treatment.

For best weed management apply MATRIX® SG with another suitable residual herbicide registered for that crop. This is advised for all soil types, but especially so for coarse textured soils under standard sprinklers or micro-sprinklers.

More than one banded application of MATRIX® SG may be needed to provide extended weed control.

## CORN, FIELD (CALIFORNIA)

### APPLICATION INFORMATION

MATRIX® SG is a selective herbicide for burndown and residual control of certain annual grass and broadleaf weeds when applied fallow, preemergence and postemergence to field corn. MATRIX® SG may be applied in tank mix combinations with other corn herbicides for improved burndown and residual control. Residual weed control is dependent on rainfall, sprinkler irrigation, flood irrigation or furrow irrigation for herbicide activation. Furrow irrigation may not provide proper activation on tops of beds if rainfall or furrow irrigation does not drive MATRIX® SG into the soil and weed root zones.

MATRIX® SG is absorbed through the roots and leaf tissue of plants, rapidly inhibiting the growth of susceptible weeds. Rainfall or sprinkler irrigation is needed to move MATRIX® SG into the soil. Susceptible weeds will generally not emerge from a preemergence application. In some cases, susceptible weeds may germinate and emerge a few days after application, but growth then ceases and leaves become chlorotic three to five days after emergence. Death of leaf tissue and growing point will follow in some species, while others will remain green, stunted and noncompetitive.

The herbicidal action of MATRIX® SG may be less effective on weeds stressed from adverse environmental conditions (including extreme temperatures or moisture), abnormal soil conditions, or cultural practices.

MATRIX® SG treatments are most effective in controlling weeds when adequate rainfall or irrigation is received 5 - 7 days after application. If cultivation is necessary because of soil crusting, soil compaction or weed germination before rain or irrigation occurs, use shallow tillage, including a rotary hoe, to lightly incorporate MATRIX® SG and make certain corn seeds are below the tilled area.

MATRIX® SG is best used in a planned sequential application herbicide program, to be followed by an in-crop application of MATRIX® SG, and/or other post applied corn herbicides. Refer to the label of the respective sequential partner for specific use directions.

Allow at least 4 weeks between preemergence applications of MATRIX® SG and postemergence applications of MATRIX® SG.

Make sequential applications after the corn has reached the 2-collar (V2) stage but before the corn exceeds the maximum application height listed on the respective product labels.

Avoid making preemergence applications to coarse-textured soils (sand, loamy sand or sandy loam) with less than 1% organic matter as crop injury may occur.

Apply MATRIX® SG to field corn hybrids with a relative maturity (RM) of 77 days or more, including “food grade” (yellow dent, hard endosperm), waxy and High-Oil corn. Not all field corn hybrids of less than 77 days RM, nor all white corn hybrids nor Hi-Lysine hybrids have been tested for crop safety, nor does Corteva Agriscience have access to all seed company data.

Consequently, to the extent consistent with applicable law, injury arising from the use of MATRIX® SG on these types of corn is the responsibility of the user. Consult with your seed supplier before applying MATRIX® SG to any of these corn types. Seed company publications indicate “Warning”, “Crop Response Warning”, or “Sensitive” notations for the use of some ALS inhibitor (Group 2) herbicides on corn hybrids of 77 CRM or higher. As noted in the seed company publications, sulfonylurea herbicides, including MATRIX® SG, must be used with caution on these hybrids. Consult with your local company representative for any additional information relative to potential corn hybrid sensitivity to MATRIX® SG.

#### **Fallow**

#### **Use rates**

Apply MATRIX® SG at 1 - 2 ounces (0.0156 - 0.0313 lb ai) per acre.

#### **Application Timing**

MATRIX® SG may be used as a fallow treatment, in the fall, winter or spring when the majority of weeds have emerged and are actively growing. Field corn may be planted to this treated area at any time.

#### **Field Corn**

#### **WHEN TO APPLY- Preemergence to the Crop**

MATRIX® SG may be applied preemergence or preplant to corn. Applications of MATRIX® SG made before weed emergence will provide residual control of labeled weeds. Control of emerged weeds will require the addition of spray adjuvants as noted below.

#### **Preemergence Rates**

MATRIX® SG may be applied at 1.0 - 1.5 ounces (0.0156 - 0.0234 lb ai) product before corn emergence. See Use Restrictions below for rimsulfuron rate limitations.

#### **Timing to Crop**

MATRIX® SG herbicide may be used in either conventional, conservation tillage, or no-till crop management systems, and may be applied either preplant, preplant incorporated (less than 2" deep) or preemergence for use in field corn production. Applications of MATRIX® SG made before weed emergence will provide residual control of labeled weeds. Control of emerged weeds will require the addition of spray adjuvants as noted in this label.

#### **Preplant Surface Applied**

MATRIX® SG is best used in a planned sequential application program, followed by MATRIX® SG and/or other post applied corn herbicides. Refer to the label of the respective sequential partner for specific use directions.

#### **Preplant/Preemergence Burndown**

Apply MATRIX® SG when weeds are young and actively growing but before they exceed the sizes listed on this label. When weeds exceed listed maximum height or weeds not controlled by MATRIX® SG are present, the addition of a burndown herbicide containing glyphosate, paraquat, dicamba, and/or 2,4-D is advised. If giant ragweed, common cocklebur, henbit, Pennsylvania smartweed or purple deadnettle are present at the time of application, the addition of atrazine will improve control. 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 mixing with liquid nitrogen fertilizer or glyphosate, substitute a non-ionic surfactant for crop oil.

#### **WHEN TO APPLY - Postemergence to the Crop**

Apply MATRIX® SG to corn that is up to 12 inches tall or exhibiting 6 or more leaf collars (V6), whichever is more restrictive.

Applications of MATRIX® SG made after weed emergence will provide contact control of labeled weeds as well as limited residual control of later emergence.

#### **Postemergence Rates**

Apply MATRIX® SG at 0.5 - 1.0 ounces (0.0078 - 0.0156 lb ai) per acre as a postemergence broadcast application. Use the 1 ounce (0.0156 lb ai) per acre rate for most postemergence applications. See Use Restrictions below for cumulative rimsulfuron rate limitations.

#### **Timing to Emerged Weeds**

- Tank mixtures of MATRIX® SG with glyphosate or glufosinate herbicides may be applied after weeds emerge but before they reach the maximum size listed on the glyphosate or glufosinate herbicide labels.
- Adequate soil moisture is required for optimum activity. Rainfall or irrigation within 5 - 7 days after application will enhance MATRIX® SG residual activity. If activating rainfall, flood, furrow or sprinkler irrigation (>0.5 inch) is not received within 5 - 7 days after application, follow with a cultivation or with a sequential application of a nicosulfuron containing herbicide, if needed.

#### **Spray Adjuvants**

For control of emerged weeds, application of MATRIX® SG must include an appropriate adjuvant and an ammonium nitrogen fertilizer. If applied in tank mix combination with a glyphosate or glufosinate herbicide that contains a built-in adjuvant system, no additional surfactant needs to be added. Products must contain only EPA-exempt ingredients (40 CFR 1001).

**DO NOT** use with spray additives that alter the pH of the spray solution below pH 5.0 or above pH 9.0 as rapid product degradation can occur. Spray solutions of pH 6.0 - 8.0 allow for optimum stability of MATRIX® SG.

#### **Petroleum Crop Oil Concentrate (COC) or Modified Seed Oil (MSO)**

- Apply at 1% v/v (1 gallon per 100 gallons spray solution) or 2% under arid conditions.
- MSO adjuvants may be used at 0.5% v/v (0.5 gallon per 100 gallons spray solution) if specifically noted on adjuvant product labeling.
- Oil adjuvants must contain at least 80% high quality, petroleum (mineral) or modified vegetable seed oil with at least 15% surfactant emulsifiers

#### **Nonionic Surfactant (NIS)**

- Apply at 0.25% v/v (1 quart per 100 gallons spray solution).
- Surfactant products must contain at least 60% nonionic surfactant with a hydrophilic/lipophilic balance (HLB) greater than 12.

#### **Ammonium Nitrogen Fertilizer**

- Use 2 qt/acre of a high-quality urea ammonium nitrate (UAN) including 28%N or 32%N, or 2 lb/acre of a spray grade ammonium sulfate (AMS).

#### **Special Adjuvant Types**

- Combination adjuvant products may be used at doses that provide the required amount of NIS and ammonium nitrogen fertilizer. Consult product literature for use rates and restrictions.

#### **Use Restrictions**

- **DO NOT** apply to field corn grown for seed, to popcorn or to sweet corn.
- **DO NOT** apply to field corn taller than 12 inches tall or exhibiting 6 or more leaf collars (V6), whichever is more restrictive.
- **DO NOT** apply more than 1.5 oz (0.0234 lb ai) per acre per year preemergence to field corn.
- **DO NOT** apply more than 1.0 oz (0.0156 lb ai) per acre per year postemergence to field corn.
- **DO NOT** apply more than a total of 2.0 oz (0.0313 lb ai) per acre per year. This includes combinations of preemergence or postemergence applications of MATRIX SG; as well as rimsulfuron from application(s) of other products that contain rimsulfuron.
- **DO NOT** make more than 2 applications of MATRIX® SG per year.
- Allow at least 28 days between applications.
- Limit preemergence rates of MATRIX SG to a maximum of 1.25 oz (0.0195 lb ai) product if following with postemergence applications of the rimsulfuron containing products above.
- **DO NOT** apply by air in California.
- **DO NOT** apply MATRIX® SG within 45 days of crop emergence where an organophosphate insecticide was applied as an in-furrow treatment since crop injury may occur.
- **DO NOT** tank mix MATRIX® SG with foliar-applied organophosphate insecticides including chlorpyrifos, malathion, parathion, etc, as severe crop injury may occur.
- **DO NOT** tank mix MATRIX® SG with a bentazon herbicide product, as severe crop injury may occur.
- **DO NOT** graze, feed forage, grain or fodder (stover) from treated areas to livestock within 30 days of MATRIX® SG application.
- **DO NOT** irrigate MATRIX® SG into coarse soils at planting time when soils are saturated.
- **DO NOT** apply through any type of irrigation system.
- **DO NOT** use flood or furrow irrigation to apply MATRIX® SG.
- **DO NOT** treat frozen soil.

Injury or loss of desirable trees or vegetation may result from failure to observe the following:

- **DO NOT** apply MATRIX® SG or drain or flush application equipment on or near desirable trees or other plants, or in areas where their roots may extend or in locations where the chemical may be washed or moved into contact with their roots.
- **DO NOT** contaminate any body of water.

## WEEDS CONTROLLED/SUPPRESSED - FIELD CORN IN CALIFORNIA

### Fallow/Field corn - Postemergence to Weeds - MATRIX® SG Alone

GRASSES (1-2 inches)	BROADLEAVES (1-2 inches)
Barley, volunteer	Canada thistle
Barnyardgrass	Chickweed, common
Bluegrass, annual	Cocklebur
Crabgrass, large (1/2")	Dandelion (6" diameter)
Cupgrass, woolly (1")	Henbit
Foxtail (bristly, giant, green, yellow)	Kochia
Johnsongrass, seedling*	Lambsquarters, common
Millet, Wild Proso*	Morningglory, ivyleaf*
Panicum, fall	Mustard (birdsrape, black, wild)
Quackgrass*	Nightshade, hairy*
Ryegrass, Italian*	Pigweed (prostrate, redroot, smooth)
Shattercane (4")	Purslane, common*
Signalgrass, broadleaf*	Ragweed, common*
Stinkgrass*	Shepherd's purse
Wheat, volunteer	Smartweed, Pennsylvania*
Wild Oat*	Wild Radish
Yellow Nutsedge*	Velvetleaf*

### Fallow/Field Corn - Preemergence and Residual\* - MATRIX® SG Alone

GRASSES	BROADLEAVES	
Barnyardgrass	Carpetweed	Mustard (birdsrape, black)
Bluegrass, annual	Chamomile, false	Nightshade (hairy, black)
Crabgrass, large	Cocklebur	Palmer amaranth
Foxtail (bristly, giant, green, yellow)	Filaree, Redstem	Pigweed (prostrate, redroot, smooth)
Panicum, fall	Henbit	Purslane, common
Ryegrass, Italian	Jimsonweed	Ragweed, common
Signalgrass, broadleaf	Kochia (ALS-sensitive)	Russian thistle, seedling
Wheat, Volunteer	Lambsquarters, common	Smartweed, Pennsylvania
Wild Oat	Morningglory, ivyleaf	Velvetleaf*

\*Partial control or suppression - for full season control, follow with a sequential, in-crop application of MATRIX® SG or with appropriate tank mix partners.

## TANK MIXTURES

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.

### Fallow

MATRIX® SG may be used as a fallow treatment, and may be tank mixed with other herbicides that are registered for use in fallow. Read and follow all applicable use instructions on this label and the labels of any tank mix partner before using in mixtures with MATRIX® SG. **DO NOT** use the tank mix partner if its label conflicts with this MATRIX® SG label.

### Field Corn

MATRIX® SG may be tank mixed with full or reduced rates of preemergence grass and broadleaf herbicides including atrazine, glyphosate, paraquat, dicamba, and/or 2,4-D to provide added residual activity or burndown activity on emerged weeds. Consult tank mix partner labeling for rate and soil-type restrictions. Read and follow all manufacturers' label instructions for the companion herbicide(s). **DO NOT** use a tank mix partner product if its label conflicts with this MATRIX® SG label.

Ensure the tank mix product is labeled for the same timing, method of application, adjuvants, and use restrictions as MATRIX® SG, as well as other products used in the tank mixture.

Read and follow all applicable use directions, precautions, and limitations specified on the respective product labels.

### Postemergence to the Crop

#### MATRIX® SG plus a Glyphosate Based Herbicide

When used in tank mixture with glyphosate, MATRIX® SG will deliver improved burndown and/or residual activity on the following weeds,

as compared to glyphosate used alone. A glyphosate-based herbicide may be tank mixed for postemergence applications of MATRIX® SG when made to glyphosate-resistant corn hybrids. Consult with your seed supplier to confirm the corn hybrid is glyphosate-resistant before making any herbicide application.

Refer to the Spray Adjuvants section for additional information on proper adjuvant selection.

Barley, volunteer	Panicum, fall
Barnyardgrass	Pigweed (prostrate, redroot, smooth)
Bluegrass, annual	Purslane, common
Canada thistle	Quackgrass
Chamomile, false	Ragweed, common
Chickweed, common	Ryegrass, Italian
Cocklebur	Sandbur (field, longspine)
Crabgrass	Shepherd's purse
Dandelion (6" diameter)	Signalgrass, broadleaf
Filaree, redstem	Smartweed, Pennsylvania
Foxtail (bristly, giant, green, yellow)	Stinkgrass
Henbit	Velvetleaf
Johnsongrass, seedling	Wheat, volunteer
Kochia	Wild buckwheat
Lambsquarters, common	Wild oat
Millet, Wild Proso	Wild radish
Morningglory, ivyleaf	Yellow Nutsedge
Mustard (birdsrape, black, wild)	
Nightshade, hairy	

#### MATRIX® SG plus a Glufosinate Based Herbicide

MATRIX® SG may be tank mixed with a glufosinate herbicide if applications are made to glufosinate-resistant corn hybrids. Consult with your seed supplier to confirm the corn hybrid is glufosinate-resistant before applying any herbicide containing glufosinate. When used in a tank mixture with glufosinate herbicide, MATRIX® SG will deliver improved burndown and/or limited residual activity on the following weeds, as compared to glufosinate used alone:

Velvetleaf
Pigweed, redroot
Lambsquarters, common
Foxtail (giant, yellow)

#### MATRIX® SG ROTATIONAL CROP GUIDELINES - FIELD CORN

For crops listed below, planting prior to the interval shown may result in crop injury when using MATRIX® SG. Rotation intervals may need to be extended to 18 months if drought conditions prevail after application and before the rotational crop is planted, unless supplemental sprinkler irrigation has been applied and totals greater than 15" during the growing season. For tank mixtures, follow the most restrictive rotational crop guideline.

Rotation Crop	Interval (months)
Beans, Dry	10
Beans, Snap	10
Corn, Field	Anytime
Corn, Sweet	10
Cotton	10
Cucumber	10
Garlic	6
Potatoes	Anytime
Soybeans	10
Tomatoes	Anytime
Wheat, Winter	4
Crops Not Listed	12

Rotational crops may be planted at indicated intervals provided the fields are deep disked or plowed, and thorough soil mixing is achieved, prior to planting the rotational crop.

#### Mixing Instructions

MATRIX® SG must be completely dissolved in clean water before adding to spray tanks that **DO NOT** have continuous agitation during loading and mixing.

#### Water Carrier Instructions

1. Fill the tank 1/4 to 1/3 full of water.
2. While agitating, add the required amount of MATRIX® SG.
3. Continue agitation until the MATRIX® SG is fully dissolved, at least 5 minutes.
4. Once the MATRIX® SG is fully dissolved, maintain agitation and continue filling tank with water.



- As the tank is filling, add tank mix partners and then add the required volume of spray adjuvant. Always add spray adjuvant last. Antifoaming agents may be used.
- Dispersed tank mix partners can settle if the tank mixture is not continually agitated. If settling occurs, thoroughly re-agitate before using.
- Apply MATRIX® SG spray mixture within 24 hours of mixing to avoid product degradation.
- If MATRIX® SG and a tank mix partner are to be applied in multiple loads, fully dissolve the MATRIX® SG in clean water prior to adding to the tank.

If the selected companion herbicides has a ground water advisory, consider this advisory when using the companion herbicide.

### Application and Spray Volumes

#### Ground

Use a minimum spray volume of 15 gallons per acre (GPA) to ensure thorough coverage of the weeds and the best performance. Use a minimum of 10 GPA for light, scattered stands of weeds.

For optimal product performance and minimal spray drift, adjust the spray boom to the lowest possible spray height specified in manufacturers' specifications. Ensure that equipment is set up to avoid applying an excessive rate directly over the rows and into the corn plant whorl. Overlaps or starting, stopping, slowing, and turning while spraying may result in crop injury.

#### Use Precautions

- MATRIX® SG may interact with certain insecticides previously applied to the crop. Crop response varies with field corn type, insecticide used, insecticide application methods, and soil type.
- MATRIX® SG may be applied to corn previously treated with non-organophosphate soil insecticides regardless of soil type.
- Allow at least 60 days between a preplant or preemergence application of MATRIX® SG and application of organophosphate insecticide since crop injury may result.
- Crop injury may occur following an application of MATRIX® SG if there is a prolonged period of cold weather and / or in conjunction with wet soils.
- Prevent drift or spray onto desirable plants.
- Thoroughly clean application equipment immediately after use.

### ADDITIONAL USE INFORMATION - ALL CROPS MIXING INSTRUCTIONS

MATRIX® SG must be completely dissolved in cleanwater before adding to spray tanks that **DO NOT** have continuous agitation during loading and mixing. (This is common for airplanes with turbine engines).

Fill the tank 1/4 to 1/3 full of water. While agitating, add the required amount of MATRIX® SG herbicide.

- Continue agitation until the MATRIX® SG herbicide is fully dissolved, at least 5 minutes.
- Once the MATRIX® SG herbicide is fully dissolved, maintain agitation and continue filling tank with water.
- As the tank is filling, add tank mix partners (if desired) then add the required of spray adjuvant (if needed). Always add the spray adjuvant last.
- Dispersed tank mix partners can settle if the tank mixture is not continually agitated. If settling occurs, thoroughly re-agitate before using.
- Apply MATRIX® SG herbicide spray mixture within 24 hours of mixing to avoid product degradation.
- If MATRIX® SG and a tank mix partner are to be applied in multiple loads, fully dissolve the MATRIX® SG in clean water prior to adding to the tank.

If the selected companion herbicide has a ground or surface water advisory, consider this advisory when using the companion herbicide.

### SPRAYER CLEANUP

The spray equipment must be cleaned before MATRIX® SG is sprayed. Follow the cleanup procedures specified on the labels of the previously applied products. If no directions are provided, follow the steps outlined in the "After Spraying MATRIX® SG and before Spraying Other Crops" section of this label.

#### At the End of the Day

When spraying or mixing equipment will be used over an extended period to apply multiple loads of MATRIX® SG herbicide, partially fill the tank with fresh water at the end of each day of spraying, flush the boom and hoses, and allow to sit overnight. This will prevent the buildup of dried pesticide deposits from accumulating in the application equipment.

#### After Applying MATRIX® SG and Before Applying to Other Crops

To avoid subsequent injury to desirable crops, thoroughly clean all mixing and spray equipment immediately following applications of MATRIX® SG as follows:

- Empty the tank and drain the sump completely.
- Spray the tank walls with clean water using a minimum volume of 10% of the tank volume. Circulate the water through the lines, including all by-pass lines, for at least two minutes. Flush the boom well and empty the sprayer. Completely drain the sump.
- Repeat step 2.
- Remove the nozzles and screens and clean separately in a bucket containing water.

The rinsate solution may be applied back to the crop(s) listed on this label. **DO NOT** exceed the maximum labeled use rate. If cleaners are used, consult the cleaner label for rinsate disposal instructions. If no instructions are given, dispose of the rinsate on site or at an approved waste disposal facility.

#### Notes:

- Always start with a clean spray tank.
- Steam-cleaning aerial spray tanks is advised to facilitate the removal of any caked deposits.
- When MATRIX® SG is tank mixed with other pesticides, all cleanout procedures for each product must be examined and the most rigorous procedure must be followed.
- Follow any pre-cleanout guidelines specified on other product labels.

### USEPA REGISTERED PRODUCTS MENTIONED IN THIS LABEL FOR USE IN TANK MIXTURES OR OTHER REASONS

PRODUCT BRAND NAME	ACTIVE INGREDIENT(S)	EPA REGISTRATION NUMBER
Cinch®*	s-metolachlor	352-625
EverpreX™*	s-metolachlor	352-923
Kerb® SC	pronamide	62719-578
Curzate 60 DF	cymoxanil	352-592

\*Not registered for use in California

**NOTICE TO BUYER:** Purchase of this material does not confer any rights under patents of countries outside of the United States.

### LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read this Limitation of Warranty and Liability before buying or using this Product. To the extent consistent with applicable law, Corteva Agriscience will not be responsible for losses or damages resulting from the use of this product in any manner not specifically directed by Corteva Agriscience. User assumes all risks associated with such non-directed use. If the terms are not acceptable, return the product at once, unopened and the purchase price will be refunded.

It is impossible to eliminate all risks associated with the use of this product. Such risks arise from weather conditions, soil factors, off target movement, unconventional farming techniques, presence of other materials, the manner of use or application, or other unknown factors, all of which are beyond the control of Corteva Agriscience. These risks can cause: ineffectiveness of the product, crop injury, or injury to non-target crops or plants. WHEN YOU BUY OR USE THIS PRODUCT, YOU AGREE TO ACCEPT THESE RISKS.

Corteva Agriscience warrants that this product conforms to the chemical description on the label thereof and is reasonably fit for the purpose stated in the Directions for Use, subject to the inherent risks described above, when used in accordance with the Directions for Use under normal conditions.

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### **LIMITATION OF WARRANTY AND LIABILITY (Cont.)**

To the extent consistent with applicable law that allows such requirement, Corteva Agriscience or its Ag Retailer must have prompt notice of any claim so that an immediate inspection of buyer's or user's growing crops can be made. Buyer and all users shall promptly notify Corteva Agriscience or a Corteva Agriscience Ag Retailer of any claims, whether based on contract, negligence, strict liability, other tort or otherwise, or be barred from any remedy.

This Limitation of Warranty and Liability may not be amended by any oral or written agreement.

<sup>TM</sup>Trademarks of Corteva Agriscience and its affiliated companies.

**For product information call: 1-800-258-3033**

**Corteva Agriscience LLC  
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Label Code: CD02-628-021

Replaced Label: CD02-628-020

EPA accepted \_\_\_/\_\_\_/\_\_\_\_\_

### **Revisions:**

#### **Changed by Notification to EPA accepted 6/29/21:**

1. Removed "insecticide" from the descriptor as indicated below

**DuPont<sup>TM</sup> Matrix<sup>®</sup> SG**

**[Alternate Brand Name: Matrix SG]**

**HERBICIDE, INSECTICIDE**

#### **Changes made via Non-notification 10/25/21**

**Related to the change of company name and contact information for company 352 accepted by EPA October 4, 2021.**

1. Trademark statement: updated to "<sup>TM</sup>Trademarks of Corteva Agriscience and its affiliated companies"
2. Produced For: Updated company name to "Corteva Agriscience LLC"
3. Throughout label: Updated references to "DuPont" to "Corteva Agriscience"