

# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

March 16, 2017

S.K. Theodorakis
Product Registration Manager
E.I. du Pont de Nemours and Company
DuPont Crop Protection
Stine-Haskell Research Center
PO Box 30
Newark, DE 19714-0030

Subject: Label Amendment – Minor label updates

Product Name: Dupont Matrix SG Herbicide

EPA Registration Number: 352-768 Application Date: 11/17/2016

Decision Number: 523834

Dear Mr. Theodorakis:

The amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, is acceptable. This approval does not affect any conditions that were previously imposed on this registration. You continue to be subject to existing conditions on your registration and any deadlines connected with them.

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

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

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Your release for shipment of the product constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6. If you have any questions, please contact Lisa Pahel by phone at (703) 347-0459, or via email at pahel.lisa@epa.gov.

Sincerely,

Shaja B. Joyner, Product Manager 20 Fungicide and Herbicide Branch Registration Division (7505P) Office of Pesticide Programs

In hom & for,

Enclosure



# **DuPont™ Matrix®SG**

#### **HERBICIDE**

GROUP 2 HERBICIDE

#### 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 and Blackberries

For Use in Rangeland Restoration West of the Mississippi River

For Selective Weed Control and Invasive Species Management in Non-Crop Sites

Active Ingredients			By Weight
Rimsulfuron			
N-((4,6-dimethoxypyrimidin-2-yl)aminoca	rbonyl)-3-(ethylsulfonyl)-2-pyridi	nesulfonamide	25.0%
Other Ingredients			75.0%
TOTAL	ACCEPTED		100.0%
EPA Reg. No. 352-768  Nonrefillable Container  Net: OR  Refillable Container  Net:	03/16/2017 Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 352-768	EPA Est. No	

# CAUTION

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

#### **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**: No specific intervention is indicated as this product is not likely to be hazardous by ingestion. However, consult a poison control center or doctor if necessary.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-441-3637 for emergency medical treatment information.

# PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION

Avoid contact with skin, eyes, 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 such a 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:** Wash hands before eating, drinking, chewing gum, using tobacco or using toilet. Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash 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.

#### **DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with the terms of this label.

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

DuPont™ MATRIX® SG herbicide, also referred to below as DuPont™ MATRIX® SG, MATRIX® SG herbicide or MATRIX® SG , must be used in accordance with the directions for use on this label; in separately issued labeling or exemptions under FIFRA (Supplemental Labels; Special Local Need Registrations; FIFRA Section 18 exemptions; FIFRA 2(ee) Bulletins) 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 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, such as plants, soil, or water, is:

Coveralls

Chemical resistant gloves made of any water proof material such as a 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 agri c u l t u ral 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.

#### 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, corn, blackberry, raspberry, blueberry and 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), 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

DuPont™ 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 (such as 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).

#### **PRECAUTIONS**

- Potato and tomato varieties may differ in their response to various herbicides. DuPont recommends 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.

#### 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, or similar areas. 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.

#### 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.

When herbicides that affect the same biological site of action are used repeatedly over several years to control the same weed species in the same field, naturally-occurring resistant biotypes may survive a correctly applied herbicide treatment, propagate, and become dominant in the field. Adequate control to these resistant weed biotypes cannot be expected. If weed control is unsatisfactory, it may be necessary to retreat the problem area using a product affecting a different site of action.

To better manage herbicide resistance through delaying the proliferation and possible dominance of herbicide resistant weed biotypes, it may be necessary to change cultural practices within and between crop seasons such as using a combination of tillage, retreatment, tank-mix partners and/or sequential herbicide applications that have a different site of action. Weed escapes that are allowed to go to seed will promote the spread of resistant biotypes.

It is advisable to keep accurate records of pesticides applied to individual fields to help obtain information on the spread and dispersal of resistant biotypes. Consult your agricultural dealer, consultant, applicator, and/or appropriate state agricultural extension service representative for specific alternative cultural practices or herbicide usage available in your area.

Naturally occurring weed biotypes that are resistant to "Amber" herbicide,  $DuPont^{TM}$  ALLY® herbicide,  $DuPont^{TM}$  GLEAN® FC herbicide,  $DuPont^{TM}$  EXPRESS® herbicide,  $DuPont^{TM}$  HARMONY® EXTRA herbicide, or  $DuPont^{TM}$  FINESSE® herbicide will also be resistant to  $DuPont^{TM}$  MATRIX® SG.

#### INTEGRATED PEST MANAGEMENT

MATRIX® SG should be integrated into an overall weed and pest management strategy whenever the use of a herbicide is required. Practices known to reduce weed development (tillage, crop competition) and herbicide use (weed scouting, proper application timing, banding) should be followed wherever possible. Consult local agricultural and weed authorities for additional IPM strategies established for your area.

This product may be used as part of an Integrated Pest Management (IPM) program, which can include biological, cultural, and genetic practices, aimed at preventing economic pest damage. Application of this product should be based on IPM principles and practices including field scouting or other detection methods, correct target pest identification, population monitoring, and treating when target pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop or site systems in your area.

#### **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.

Refer to the label(s) of the tank mix partner(s) for any additional use instructions or restrictions.

TABLE 1 - CROPS, USE RATES AND PRE-HARVEST INTERVAL FOR APPLICATIONS OF DUPONT  $^{\text{\tiny{TM}}}$  MATRIX® SG HERBICIDE

	RATE OF MATRIX® SG/ ACRE/YEAR		
CROPS	OZ PRODUCT	LB ACTIVE INGREDIENT (AI)	PRE-HARVEST INTERVAL (PHI)
BLUEBERRY: Lowbush and Highbush	4.0 oz	0.0625 lb ai	21 days
CANEBERRY: Blackberry and Raspberry	4.0 oz	0.0625 lb ai	21 days
CORN, FIELD (California)	0.5 – 2.0 oz*	0.008 – 0.032 lb ai*	Restriction: Do not apply to corn taller than 12 inches or exhibiting 6 or more leaf collars, whichever is more restrictive.
CITRUS FRUIT: 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; trifoliate orange; uniq fruit; cultivars, varieties, and/or hybrids of these	4.0 oz	0.0625 lb ai	3 days
POME FRUIT: 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	7 days
STONE FRUIT: 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	14 days
GRAPES	4.0 oz	0.0625 lb ai	14 days

	RATE OF DUPONT™ MATRIX® SG/ ACRE/YEAR		
CROPS	OZ PRODUCT	LB ACTIVE INGREDIENT (AI)	PRE-HARVEST INTERVAL (PHI)
TREE NUTS: 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	14 days
TOMATO: Direct Seeded and Transplant	1.0 – 4.0 oz*	0.016 – 0.0625 lb ai*	45 days
POTATOES	1.0 – 1.5 oz*	0.016 – 0.024 lb ai*	30 days

<sup>\*</sup> Refer to specific crop section on the label for use rate restrictions

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

#### APPLICATION INFORMATION

DuPont™ 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.

#### **BLUEBERRY** (High Bush)

For broadcast applications, make a single application of MATRIX® SG preemergence or early postemergence to actively growing weeds at 4 ounces 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.

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.

Allow a minimum of 30 days between applications.

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.

#### **Use Restrictions**

- Do not apply by air. Use ground application equipment only.
- Do not use on soils classified as Sand.
- When applied as a banded treatment (50% band or less), MATRIX® SG may be applied twice per year.
- Do not apply more than 4 oz product per acre per year.

#### **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 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.

Allow a minimum of 30 days between applications.

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 low bush blueberries.

#### **Use Restrictions**

- Do not apply by air. Use ground application equipment only.
- Do not use on soils classified as Sand.
- When applied as a banded treatment (50% band or less), MATRIX® SG may be applied twice per year.
- Do not apply more than 4 oz product per acre per year.

#### 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 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. When applied as a banded treatment (50% band or less), MATRIX® SG may be applied twice per year. Allow a minimum of 30 days between applications.

#### **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.

#### **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.

DuPont™ MATRIX® SG may be applied in tank mixture with other herbicides registered for use in caneberries.

#### **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.

#### **Use Restrictions**

- Do not apply by air. Use ground application equipment only.
- Do not use on soils classified as Sand.
- When applied as a banded treatment (50% band or less), MATRIX® SG may be applied twice per year.
- Do not apply more than 4 oz product per acre per year.

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

#### APPLICATION INFORMATION

MATRIX® SG should be applied 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 per acre per year. For improved weed management, MATRIX® SG should be applied in tank mixture with other registered preemergence herbicides.

Unless otherwise specified on this label, or in separate published DuPont labeling, allow a minimum of 30 days between applications.

To help ensure uniform coverage, use a minimum of 10 gallons of spray solution per acre. Nozzle selection should meet manufacture'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 should occur within 2-3 weeks after application.

MATRIX® SG may also be applied by certain chemigation methods, such as 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.
- When applied as a banded treatment (50% band or less), MATRIX® SG may be applied twice per year. However, do not apply more than 4 ounces per acre on a broadcast application basis per year.

# WEEDS CONTROLLED - BLUEBERRY, CANEBERRY (RASPBERRY, BLACKBERRY) , GRAPE, 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 burn down herbicide, such as 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  $DuPont^{TM}$  MATRIX® SG is applied where 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
Barnyardgrass
Bluegrass, annual
Crabgrass, large
Foxtail, Giant
Foxtail, Green
Foxtail, Yellow
Quackgrass
Ryegrass, Italian
Wheat, Volunteer

BROADLEAVES
Burclover
Chamomile, False
Cheeseweed
Chickweed, common
Dandelion, common (seedling)
Fiddleneck, coast
Filaree, Redstem
Filaree, Whitestem
Fleabane, hairy
Groundsel, common
Henbit
Kochia
Lettuce, prickly
Mallow, common

Marestail/horseweed Mustard, Birdsrape Mustard, Black Pigweed, Redroot Pigweed, Smooth Puncturevine Purslane, Common Redmaids Rocket, London Sowthistle, annual Spurge, prostrate Spurge, spotted Sweetclover, yellow Swinecress, lesser Willowweed, panicle

#### PREEMERGENCE PARTIAL WEED CONTROL

GRASSES Wild Oat

#### BROADLEAVES/SEDGES

Cocklebur

Dandelion, common (established) Lambsquarters, common Nightshade, Black Nightshade, Hairy Nutsedge, yellow Pigweed, Prostrate Ragweed, Common

Velvetleaf

#### POSTEMERGENCE WEED CONTROL

GRASSES (1-2 inches) Barley, Volunteer Barnyardgrass Bluegrass, Annual Crabgrass, large (1/2 inch) Foxtail, Bristly Foxtail, Green Foxtail, Green Foxtail, Yellow Panicum, Fall Wheat, Volunteer

#### BROADLEAVES (1-2 inches)

Chamomile, False Chickweed, common

Henbit Kochia Mustard, Black Mustard, Wild Pigweed, Redroot Pigweed, Smooth Purslane, common Shepherd's-purse Wild Radish

#### POSTEMERGENCE PARTIAL WEED CONTROL

GRASSES Johnsongrass, seedling Millet, wild-proso Oat, wild Quackgrass Stinkgrass

#### BROADLEAVES/SEDGES

Cocklebur

Dandelion, common (>6 inches in diameter)

Lambsquarters, common Nightshade, hairy 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 such as 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 (such as paraquat, glyphosate, and 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 DuPont™ MATRIX® SG is applied for control of Marestail and Fleabane, it is also recommended 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 glyphosate 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 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 (such as 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 such as "Alion", "Chateau", "Goal", "Goaltender", 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 (such as, Karmex XP or Direx 4L) 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 should have a thorough soil mixing - for example, two diskings, or a plowing and a disking. To help ensure rotational crop safety, a field bioassay should 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 should 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, such as 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.

#### USE 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.

#### USE 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.

#### **POTATOES**

#### APPLICATION INFORMATION

#### PRE-EMERGENCE APPLICATIONS

For best results, apply DuPont™ MATRIX® SG at 1 to 1.5 ounces 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 (such as "Eptam 7E", "Prowl", "Lorox" DF, DuPont<sup>TM</sup> CINCH® or "Dual II Magnum", "Roundup" or glyphosate-containing products registered for potatoes) 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.

#### MATRIX® SG plus Metribuzin (Such as "Sencor")

Apply a tank mix combination of MATRIX® SG at 1 to 1.5 ounces per acre and Metribuzin at 1/3 to 1 1/3 lb per acre 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 "Eptam 7E"

Apply a tank mix of MATRIX® SG at 1 to 1.5 ounces per acre and "Eptam 7E" at label rates for better control of weeds such as 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 "Eptam 7E" vary by region, follow the instructions for your region. It is recommended to incorporate a tank mix of "Eptam 7E" + 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 "Eptam 7E" and MATRIX® SG in a split application. Read and follow both product labels for your area.

#### MATRIX® SG plus Pendimethalin (Such as "Prowl")

Apply a tank mix combination of MATRIX® SG at 1 to 1.5 ounces per acre and "Prowl" at label 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 "Prowl" label for your area.

#### MATRIX® SG plus Linuron (Such as "Lorox" DF)

Apply a tank mix combination of MATRIX® SG at 1 to 1.5 ounces per acre and "Lorox" DF at 1 to 4 lb per acre for better control of such weeds as common lambsquarter 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 "Lorox" DF label for your area.

## MATRIX® SG Plus S-Metalochlor (Such as DuPont™ CINCH® or "Dual II Magnum")

Apply a tank mix combination of MATRIX® SG at 1 to 1.5 ounces per acre and CINCH® or "Dual II Magnum" at 1 to 2 pt per acre 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 both product labels for your area.

#### POSTEMERGENCE APPLICATIONS

For postemergence applications, apply MATRIX® SG at 1 to 1.5 ounces 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 (such as drought, frost, cold temperatures, high temperatures, or extreme temperature variations), temporary chlorosis (lime green color) may occur after application of DuPont<sup>TM</sup> 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 (such as "Eptam 7E" and metribuzin) 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.

#### MATRIX® SG Plus Foliar Fungicides

MATRIX® SG may be tank mixed with other suitable registered fungicides on potatoes (such as DuPont™ CURZATE® 60DF, "Manzate", and "Bravo").

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 Metribuzin (Such as "Sencor")

Apply a tank mix combination of MATRIX® SG at 1 to 1.5 ounces per acre and Metribuzin (such as "Sencor") at 1/4 to 2/3 lb per acre for improved weed control of such weeds as Russian thistle, common lambsquarters and triazine-resistant weeds. Use a nonionic surfactant (NIS) at 0.125 % v/v (1 pt/100 gal of water). The addition of adjuvants to post emergence metribuzin applications may reduce crop tolerance. Adjuvants should be used 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 recommended for tank mix combinations with MATRIX® SG plus Metribuzin.

#### MATRIX® SG Plus "Eptam 7E"

Apply MATRIX® SG herbicide at 1 to 1.5 ounces per acre in tankmix with up to 2 pints per acre of "Eptam 7E" herbicide. Include 1% volume/volume (1 gal per 100 gal spray solution) of either of a modified seed oil adjuvant (MSO) or 0.5% volume/volume (0.5 gal per 100 gal spray solution) of a organo-silicon/modified seed oil blend (OS/MSO – such as "Dyne-Amic", "Rivet", or "Phase"). 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 "Eptam 7E" can be added during the water in process if desired (read and follow all use directions, restrictions, and precautions on the "Eptam 7E" 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 such as 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). The combined rate of the applications cannot exceed 2.5 oz MATRIX® SG per acre.

#### **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 exceed 2.5 oz MATRIX® SG per acre on potatoes during the same growing season or a total of 4 oz MATRIX® SG on potatoes 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.

#### POTATOES GROWN FOR SEED

#### APPLICATION INFORMATION

DuPont<sup>TM</sup> 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 per acre
- Postemergence at 1.0 to 1.5 oz per acre
- In a sequential application Preemergence at 1.0-1.5 oz per acre, followed by Postemergence at 1.0 oz per acre.
- Postemergence at 1.0 oz per acre followed by Postemergence at 1.0 oz per acre.

To activate MATRIX® SG preemergence, 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.

#### **Use 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 anytime.
- Consider informing your state seed certification agency or inspector that MATRIX® SG has been applied. Under growing conditions that promote crop stress (such as 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 (such as chlorosis, leaf crinkling, pinching of terminal leaflet) but will usually disappear within 5 to 15 days of application.

#### **Use Restrictions**

- Do not exceed 2.5 oz per acre of MATRIX® SG in the same 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 generally 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 Barnyardgrass Foxtail, Giant Foxtail, Green Foxtail, Yellow Wheat, Volunteer

Filaree, Redstem Henbit Kochia

BROADLEAVES Chamomile, False

Mustard, Birdsrape Mustard, Black Pigweed, Prostrate Pigweed, Redroot Pigweed, Smooth Purslane, Common

#### PREEMERGENCE (PARTIAL CONTROL)

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

<sup>†</sup> Eastern Black Nightshade (Solanum ptycanthum) is NOT Controlled or suppressed

#### POSTEMERGENCE CONTROL

GRASSES Barley, Volunteer Barnyardgrass Bluegrass, Annual Crabgrass Foxtail, Bristly Foxtail, Giant Foxtail, Green Foxtail, Yellow

Panicum, Fall Wheat, Volunteer BROADLEAVES Chamomile, False Chickweed, Common

Henbit Kochia

Mustard, Birdsrape Mustard, Black Mustard, Wild Pigweed, Redroot Pigweed, Smooth Purslane, Common Shepherd's purse Wild Radish

#### POSTEMERGENCE (PARTIAL CONTROL);

GRASSES
Johnsongrass, Seedling
Millet, Wild Prosso
Quackgrass†
Stinkgrass
Wild Oat
Yellow Nutsedge

BROADLEAVES Thistle, Canada† Cocklebur Lambsquarters, Common Morningglory, Ivyleaf

Pigweed, Prostrate Ragweed, Common Smartweed, Pennsylvania Velvetleaf

Nightshade, Hairy Volunteer Alfalfa\*\*

Nightshade\*†, Black

- \* 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**

(See Also SPRAY DRIFT)

 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**

DuPont™ 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 to 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 to 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 to 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, should 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; should 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, such as 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 (should 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.

#### **USE 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.

#### **USE 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 DuPont™ 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

<sup>\*</sup> 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 or less MATRIX® SG per acre per year--9 months; greater than 1.5 oz of MATRIX® SG per acre per year--18 months

For Rotation to Alfalfa: MATRIX® SG in potatoes not to exceed 1 ounce per use year in Adams, Grant, Douglas and Lincoln counties of Washington, and MATRIX® SG in potatoes not to exceed 1.5 ounces 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 ounces per acre per year in Adams, Grant, Douglas and Lincoln counties of Washington, and MATRIX® SG in potatoes not to exceed 2.5 ounces per acre per year in Benton, Franklin, Klickitat, Walla Walla and Yakima counties in Washington and Morrow and Umatilla counties in Oregon.

<sup>\*\*</sup>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 Grass Crops Grown for Seed, Hay or Pasture: DuPont<sup>TM</sup> MATRIX® SG in potatoes not to exceed 1.5 ounces per acre per use year in Adams, Grant, Douglas and Lincoln counties of Washington, and MATRIX® SG in potatoes not to exceed 2.5 ounces 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 ounces per acre per use year in all areas.

NOTE: MATRIX® SG should 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.

# TOMATOES (DIRECT SEEDED AND TRANSPLANT)

#### **APPLICATION INFORMATION**

#### **Use Restrictions**

- Do not apply MATRIX® SG within 45 days of tomato harvest.
- Do not apply MATRIX® SG by air on tomatoes.
- Do not apply using assisted (Airblast) field crops sprayers on tomatoes.
- Do not exceed 4.0 ounces MATRIX® SG per acre (broadcast basis) on tomatoes during the same year.
- Banding applications of MATRIX® SG should not exceed 4.0 ounces on a broadcast basis in the same year.
- Do not apply to tomatoes growing in Greenhouses, Cold Frames, Pot cultures, etc. Apply only to tomatoes growing in fields.
- Do not apply through any type of irrigation system.

#### PRE-EMERGENCE APPLICATIONS

For preemergence applications to the crop, apply MATRIX® SG after seeding at 2.0-4.0 ounces product per acre.

To activate MATRIX® SG in the soil, supply moisture by a single rainfall event, or apply sprinkler irrigation of 1/2 to 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"), 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 may 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, the addition of a spray adjuvant may improve weed control (See the "Spray Adjuvant" section of this label for additional information). Control may not be adequate for weeds that are greater than 1" in height or diameter or weeds that have an established root system before activation of MATRIX® SG.

#### POSTEMERGENCE APPLICATIONS

For postemergence applications, apply MATRIX® SG at 1.0-2.0 ounces product per acre (use 2.0 ounces per acre for longer residual) 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 (such as 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 to 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.

Postemergence applications of MATRIX® SG should be made after the tomatoes reach the cotyledon stage.

#### **SEQUENTIAL APPLICATIONS - TOMATOES**

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 product per acre per year on a broadcast basis.

#### POSTEMERGENCE FOLLOWED BY POSTEMERGENCE

Multiple applications of DuPont™ 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 product per acre per year on a broadcast basis.

#### **BAND APPLICATIONS - TOMATOES**

MATRIX® SG can be applied preemergence and postemergence as a banded application. Use proportionally less spray mixture based on the soil area actually sprayed. See the "Preemergence Applications" and "Postemergence Applications" sections of this label for additional details on the use of MATRIX® SG.

#### **TANK MIXTURES - TOMATOES**

MATRIX® SG may be tank mixed with pesticide products labeled for use on tomatoes in accordance with the most restrictive of label limitations and precautions. When tank mixing MATRIX® SG with another tomato 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. Tank mixtures with products that lower the spray solution pH may reduce weed control (such as LI700 surfactant).

#### **MATRIX® SG Plus Foliar Fungicides**

MATRIX® SG may be tank mixed with other suitable registered fungicides on tomatoes (such as "Manzate", and "Bravo"). Tank mixes with Copper containing fungicides may reduce weed control.

Read and follow all manufacturers' 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.

#### **TOMATOES: CALIFORNIA**

#### PREEMERGENCE APPLICATIONS

For preemergence applications to the crop, apply MATRIX® SG after seeding at 2.0-4.0 ounces product per acre. To activate MATRIX® SG in the soil, supply moisture by a single rainfall event, or apply sprinkler irrigation of 1/2 to 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"), 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 may 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, the addition of a spray adjuvant may improve weed control (See the "Spray Adjuvant" section of this label for additional information). Control may not be adequate for weeds that are greater than 1" in height or diameter or weeds that have an established root system before activation of MATRIX® SG.

#### POSTEMERGENCE APPLICATIONS

For postemergence applications, apply MATRIX® SG at 2.0 ounces 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 (such as 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 to 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.

Postemergence applications of MATRIX® SG should be made 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 DuPont™ 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 product per acre per year on a broadcast basis.

#### POSTEMERGENCE FOLLOWED BY 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 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 product per acre (For example, 0.5-1.0 ounces of product per conventional broadcast acre assuming 25% banding) followed by two separate postemergence band applications applied at 2 ounces, product per acre (For example, 0.5 ounceS 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 product per acre (For example, 0.5 ounces of product per conventional broadcast acre assuming 25% banding).

Restriction: Do not make any more than three band applications of MATRIX® SG in one year.

#### **WEEDS CONTROLLED - TOMATO**

#### PREEMERGENCE CONTROL

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

#### PREEMERGENCE (PARTIAL CONTROL)

GRASSES Crabgrass Wild Oat

**BROADLEAVES** 

Cocklebur

Lambsquarters, Common Nightshade\*, Black† Nightshade, Hairy Pigweed, Prostrate Ragweed, Common Velvetleaf

† See Specific Weed Problems

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

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

#### POSTEMERGENCE (PARTIAL CONTROL);

**GRASSES** Johnsongrass, Seedling Millet, Wild Prosso Stinkgrass Quackgrass† Wild Oat Yellow Nutsedge

**BROADLEAVES** Thistle, Canada†

Cocklebur

Lambsquarters, Common Morningglory, Ivyleaf Nightshade, Hairy

Nightshade\*†, Black (cotyledon stage only)

Pigweed, Prostrate Ragweed, Common Smartweed, Pennsylvania Velvetleaf

Volunteer Alfalfa\*\*

<sup>\*</sup> Eastern Black Nightshade (Solanum ptycanthum) is NOT Controlled or suppressed. Black Nightshade suppression is only for use in Tomatoes in California.

- \* 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 DuPont™ 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 per acre followed by a postemergence application at 1 to 2 ounces 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 recommended 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, local DuPont fact sheets, 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)

- $\bullet \text{ Apply } 0.125 \text{ to } 0.25\% \text{ v/v (1 to 2 pt/100 gal of water)}. \text{ The } 0.25\% \text{ v/v rate is preferred under arid or drought conditions.}$
- 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% volume/volume (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 Silcone are acceptable at labeled rates.

#### Ammonium Nitrogen Fertilizer

- Use 2 qt/acre of a high-quality urea ammonium nitrate (UAN), such as 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 DuPont™ MATRIX® SG unless instructed to do so on DuPont 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, "Twinjet", underleaf banding nozzles or flood jet nozzles. Nozzle screens should be no finer than 50 mesh. When using flood nozzles, the spray pattern should 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 to 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 Spraying MATRIX® SG and before Spraying Other Crops" section of this label.

For maximum preemergence activity, prior to application, the bed or soil surface should 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 recommended 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 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 (such as extreme temperatures or moisture), abnormal soil conditions, or cultural practices.

DuPont™ 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 such as 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, DuPont<sup>TM</sup> STEADFAST® Q, 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 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, not all white corn hybrids nor Hi-Lysine hybrids have been tested for crop safety, nor does DuPont have access to all seed company data.

Consequently, 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 herbicides on corn hybrids of 77 CRM or higher. As noted in the seed company publications, DuPont sulfonylurea herbicides such as MATRIX® SG should be used with caution on these hybrids. Consult with your local DuPont representative or the DuPont Label Web Site (http://cropprotection.dupont.com/) for any additional supplemental labeling information relative to potential corn hybrid sensitivity to MATRIX® SG.

#### **Fallow**

#### Use rates

Apply MATRIX® SG at 1 to 2 ounces 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 product before corn emergence. See cumulative rimsulfuron rate limitations noted above.

#### **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, DuPont<sup>TM</sup> STEADFAST® Q, and other post applied corn herbicide. Refer to the label of the respective sequential partner for specific use directions.

#### Preplant/Preemerge 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 burndown herbicide (ie glyphosate, gramaxone, dicamba, and/or 2,4-D) is recommended. 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. Observe direction for use and precaution and restrictions on the label of the burndown herbicide. When mixing with liquid nitrogen fertilizer or glyphosate, substitute a non-ionic surfactant for crop oil.

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

Apply DuPont™ MATRIX® SG to corn that is up to 12 inches tall. Do not apply to corn taller than 12 inches or exhibiting 6 or more leaf collars, 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 per acre as a postemergence broadcast application. Use the 1 ounce/acre rate for most postemergence applications. See cumulative rimsulfuron rate limitations noted above.

#### **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 to 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 DuPont<sup>TM</sup> ACCENT® 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 qt per 100 gal 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) such as 28%N or 32%N, or 2 lb/acre of a spraygrade 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.

#### WEEDS CONTROLLED/SUPPRESSED - FIELD CORN IN CALIFORNIA

#### Fallow/Fieldcorn - Postemergence to Weeds - MATRIX® SG Alone

GRASSES (1-2 inches) Barley, volunteer Barnyardgrass Bluegrass, annual Crabgrass, large (1/2") Cupgrass, woolly (1")

Foxtail (bristly, giant, green, yellow)

Johnsongrass, seedling\* Millet, Wild Proso\* Panicum, fall Quackgrass\* Ryegrass, Italian\* Shattercane (4") Signalgrass, broadleaf\* Stinkgrass\* Wheat, volunteer

Wild Oat\*

Yellow Nutsedge\*

BROADLEAVES (1-2 inches)

Canada thistle Chickweed, common Cocklebur

Dandelion (6" diameter)

Henbit Kochia

Lambsquarters, common Morningglory, ivyleaf\* Mustard (birdrape, black, wild)

Nightshade, hairy\*

Pigweed (prostrate, redroot, smooth)

Purslane, common\* Ragweed, common\* Shepherd's purse Smartweed, Pennsylvania\*

Wild Radish Velvetleaf\*

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

Barnyardgrass Bluegrass, annual Crabgrass, large

Foxtail (bristly, giant, green, yellow)

Panicum, fall Ryegrass, Italian Signalgrass, broadleaf Wheat, Volunteer Wild Oat

**BROADLEAVES** Carpetweed Mustard (birdsrape, black) Nightshade (hairy, black) Chamomile, false Palmer amaranth Cocklebur

Filaree, Redstem Pigweed (prostrate, redroot, smooth)

Purslane, common Henbit Jimsonweed Ragweed, common Kochia (ALS-sensitive) Russian thistle, seedling Lambsquarters, common Smartweed, Pennsylvania

Morningglory, ivyleaf Velvetleaf\*

\*Partial control or suppression - for full season control, follow with a sequential, in-crop application of MATRIX® SG or DuPont<sup>™</sup> STEADFAST® Q with appropriate tank mix partners.

#### **Tank Mixtures**

#### **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 such as atrazine, glyphosate, paraquat, dicamba, and 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

#### Tank Mixtures with Glyphosate

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. Glyphosate may be tank mixed with post emerge applications of MATRIX® SG when made to corn hybrids containing the "Roundup Ready" or "Agrisure" gene. Consult with your seed supplier to confirm the corn hybrid is "Roundup Ready" before making any herbicide application containing glyphosate herbicides. Refer to the Spray Adjuvants section for additional information on proper adjuvant selection.

Barley, volunteer Barnyardgrass Bluegrass, annual Canada thistle Chamomile, false

Chickweed, common Cocklebur

Crabgrass

Dandelion (6" diameter) Filaree, redstem

Foxtail (bristly, giant, green, yellow)

Henbit

Johnsongrass, seedling Kochia

Lambsquarters, common Millet, Wild Proso Morningglory, ivyleaf

Mustard (birdsrape, black, wild)

Nightshade, hairy

Panicum, fall

Pigweed (prostrate, redroot, smooth)

Purslane, common Quackgrass Ragweed, common Ryegrass, Italian Sandbur (field, longspine) Shepherd's purse Signalgrass, broadleaf Smartweed, Pennsylvania

Stinkgrass Velvetleaf Wheat, volunteer Wild buckwheat Wild oat Wild radish Yellow Nutsedge

#### Tank Mixtures with Glufosinate

MATRIX® SG may be tank mixed with glufosinate herbicide if applications are made to corn hybrids containing the "Liberty Link" gene. Consult with your seed supplier to confirm the corn hybrid is "Liberty Link" 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)

#### DUPONT™ 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.
- 5. 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.
- 6. Dispersed tank mix partners can settle if the tank mixture is not continually agitated. If settling occurs, thoroughly reagitate before using.
- 7. Apply MATRIX® SG spray mixture within 24 hours of mixing to avoid product degradation.
- $8. \ \text{If MATRIX} \otimes \ \text{SG}$  and a tank mix partner are to be applied in multiple loads, fully dissolve the MATRIX  $\otimes \ \text{SG}$  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 of 15 gallons of water 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 best performance, select nozzles and pressure that deliver MEDIUM spray droplets, as indicated, for example, by ASABE Standard S572.1. Nozzles that deliver COARSE spray droplets may be used to reduce drift, provided spray volume is increased to maintain coverage on small weeds.

For optimal product performance and minimal spray drift, adjust the spray boom to the lowest possible spray height recommended 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 nonorganophosphate soil insecticides regardless of soil type.
- Allow at least 60 days between a preemergence or preplant 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.

#### **Use Restrictions**

- Do not apply to field corn grown for seed, to popcorn or to sweet corn.
- Do not apply more than 1.5 oz per acre per year preemergence to field corn.
- Do not apply more than 1.0 oz per acre per year postemergence to field corn.
- Do not apply more than a total of 2.0 oz per acre of DuPont™ MATRIX® SG (or 0.5 oz active ingredient rimsulfuron) during the crop year. This includes combinations of preemergence or postemergence applications of MATRIX SG; as well as rimsulfuron from application(s) of products such as STEADFAST Q.
- Limit preemergence rates of MATRIX SG to a maximum of 1.25 oz 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 infurrow treatment since crop injury may occur.
- Do not tank mix MATRIX® SG with foliar-applied organophosphate insecticides such as "Lorsban", malathion, parathion, etc, as severe crop injury may occur.
- Do not tank mix MATRIX® SG with "Basagran" 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 use on lawns, walks, driveways, tennis courts, or similar areas.
- Do not contaminate any body of water.

# SELECTIVE WEED CONTROL AND INVASIVE SPECIES MANAGEMENT IN NON-CROP SITES

#### PRODUCT INFORMATION

MATRIX® SG can be sprayed for weed control on private, public and military lands as follows: nonagricultural areas (such as airports, highway, railroad and utility rights-of-way, sewage disposal areas, etc.); uncultivated agricultural areas -non-crop producing (such as farmyards, fuel storage areas, fence rows, non-irrigation ditchbanks, barrier strips, etc.); industrial sites - outdoor (such as lumberyards, pipeline and tank farms, etc.) and non-cropland wildlife habitats.

#### **INVASIVE SPECIES MANAGEMENT**

This product may be used on public, private, and tribal lands to treat certain weed species infestations that have been determined to be invasive, consistent with the Federal Interagency Committee for the Management of Noxious and Exotic Weeds (FICMNEW) National Early Detection and Rapid Response (EDRR) System for invasive plants.

Effective EDRR systems address invasions by eradicating the invader where possible, and controlling them when the invasive species is too established to be feasibly eradicated. Once an EDRR assessment has been completed and action is recommended, a Rapid Response needs to be taken to quickly contain, deny reproduction, and if possible, eliminate the invader. Consult your appropriate state extension service, forest service, or regional multidisciplinary invasive species management coordination team to determine the appropriate Rapid Response provisions and allowed treatments in your area.

#### **USE INFORMATION**

MATRIX® SG is non-corrosive to spray equipment, nonflammable and non-volatile.

MATRIX® SG may be used in weed management programs on non-crop sites to provide residual preemergence and early postemergence control of the following weeds:

Barnyardgrass Brome, downy Crabgrass, large Foxtail, giant Foxtail, green Foxtail, yellow Filaree redstem Fleabane, hairy Mallow, common Marestail/horseweed\* Medusahead Mustard, black Pigweed, redroot

Pigweed, smooth

Puncturevine

Echinochloa crus-galli
Bromus tectorum
Digitaria sanguinalis
Setaria faberi
Setaria viridis
Setaria glauca
Erodium cicutarium
Conyza bonariensis
Malva neglecta
Conyza canadensis
Taeniatherum caput-medusae
Brassica nigra

Brassica nigra Amaranthus retroflexus Amaranthus hybridus Tribulus terrestris

\*Naturally occurring resistant biotypes of this weed are known to exist in some areas of the U.S.  $DuPont^{TM}$  MATRIX® SG will not control these biotypes.

Refer to other sections of this label for additional weeds controlled.

To provide a broader spectrum of residual weed control, MATRIX® SG may be applied in a tank mixture with other registered preemergence herbicides. When weeds are present at application, include a labeled burn down herbicide, such as glyphosate, or glufosinate, with an appropriate adjuvant.

For best results, make postemergence applications to young, actively growing weeds and include a spray adjuvant. Refer to the label of the tank mixture partner(s) for any additional use instructions or restrictions. Follow the most restrictive labeling of any of the tank-mix component products.

#### **TANK MIXTURES**

MATRIX® SG may be tank mixed with other herbicides registered for non-crop use. It may also be tank-mixed with any adjuvants registered for non-crop use. Refer to the label of the tank mix partner(s) for any additional use instructions or restrictions.

#### APPLICATION INFORMATION

Apply MATRIX® SG at 4.0 ounces broadcast per acre. For best preemergence residual activity, MATRIX® SG must be activated by rainfall and applied when soil temperatures are cool. Make applications to take advantage of normal rainfall patterns (minimum of 1/2 inch) and cooler temperatures. For best results, moisure for activation should occur within 2-3 weeks after application.

To help ensure uniform coverage, use a minimum of 10 gallons of spray solution per acre. Nozzle selection should meet manufacturer's spray volume and pressure recommendations for preemergence or postemergence herbicide applications. MATRIX® may be applied using ground or aerial spray equipment.

#### **AERIAL APPLICATIONS**

Fixed wing aircraft and helicopters can be used to apply MATRIX® SG. Aerial equipment designed to minimize spray drift, such as a helicopter equipped with a "Microfoil Boom" or raindrop nozzles, must be used and calibrated. Except when applying with a "Microfoil Boom", a drift control agent may be added at the labeled rate.

Restriction: Do not make applications by fixed wing aircraft unless appropriate buffer zones can be maintained to prevent spray drift out of the target area or, when treating open tracts of land, spray drift as a result of fixed wing aircraft application can be tolerated.

#### NON-CROPLAND RESTORATION

MATRIX® SG is labeled for the control of downy brome (cheatgrass), medusahead and certain broadleaf weeds in non-cropland. In order to release desirable, perennial grass species for site restoration, MATRIX® SG may be applied at 3.0 to 4.0 ounces of product per acre in the fall, within 6 weeks before the expected date when the soil freezes. Use the higher rate for medusahead control.

To provide broader spectrum broadleaf weed control in non-crop land restoration a tank mixture of MATRIX® SG and TELAR® XP may be used. Include TELAR® XP at the use rate of 0.5 ounce per acre. Refer to the TELAR® XP label for specific weeds controlled.

#### **USE PRECAUTIONS**

Treatment of powdery, dry soil or light, sandy soil when there is little likelihood of rainfall soon after treatment may result in off target movement and possible damage to susceptible crops when soil particles are moved by wind or water.

Injury to crops may result if treated soil is washed, blown, or moved onto land used to produce crops. Exposure to MATRIX® SG may injure or kill most crops.

Injury may be more severe when the crops are irrigated. Avoid applying MATRIX® SG when these conditions are identified and powdery, dry soil or light or sandy soil are known to be prevalent in the area to be treated.

Where food and/or feed crops are grown, or in areas where food and/or feed crops are planned to be grown, care should be taken to prevent any direct spray of MATRIX® SG onto, or drift to, these crops or planned planting areas since severe crop

injury may occur. Crops (especially crops other than pome fruit, stone fruit, tree nuts, citrus, grapes, potatoes, tomatoes and field corn) whose roots extend into a treated area may be injured.

If non-crop sites treated with DuPont™ MATRIX® SG are to be converted to an agricultural use other than rangeland, consult the Rotational Crop Guidelines sections of this label for all rotational crop instructions.

#### **USE RESTRICTIONS**

Do not apply more than 4.0 ounces of MATRIX® SG per acre per year.

Do not use MATRIX® SG in a spray solution or with spray additives that buffer the pH to below 4.0, or above 8.0, as degradation of MATRIX® SG may occur.

Do not apply in or on irrigation canals or ditches including their outer banks.

Do not use in the state of New York

#### RANGELAND RESTORATION WEST OF THE MISSISSIPPI RIVER

#### PRODUCT INFORMATION

MATRIX® SG herbicide is a water soluble granule that is mixed in water and applied as a spray. MATRIX® SG is non-corrosive to spray equipment, non-flammable and non-volatile.

A restoration management program that includes MATRIX® SG herbicide may be used when rangeland has become severely infested with invasive weed species, and deteriorated to where it is no longer suitable for grazing or forage production. To reclaim these lands, the invasive weed species must first be controlled to either allow native grasses to reestablish or to be replanted where practical with other desirable perennial grasses. The grasses must be allowed time to reestablish before grazing or forage production is resumed. A typical restoration management program will take one to two years.

In order to establish and/or release desirable, perennial grass species for rangeland restoration, MATRIX® SG may be used to control the undesirable grasses and broadleaf weeds listed in the Weeds Controlled section of this label. The residual activity of MATRIX® SG will also help prevent the reemergence of many of these weeds while desirable grasses are being reestablished. At the maximum application rate of 4.0 ounces of MATRIX® SG per acre per year desirable rangeland perennial grasses in the treated area may exhibit a temporary chlorosis following application. The use of an adjuvant with MATRIX® SG can increase desirable perennial grass injury.

#### **RESTORATION PROGRAM**

An effective restoration program may include one or more of the following steps (A through F):

- A. Identifying and inventorying the weed infestation and desired grass densities.
- B. Consulting and planning the entire program with personnel experienced in herbicide programs and range restoration.
- C. Making applications of MATRIX® SG prior to soil freeze up or after spring thaw. Make sure all label precautions are followed.
- D. Include a tank mix partner labeled for use on rangeland to broaden the spectrum of weeds controlled
- E. Planting grass seed as needed to improve the site, per the Grass Replant Interval section of the label.
  - Planting to obtain the highest possible grass stand establishment.
  - Planting a selected grass mixture to improve the desired stand
  - Using a properly fitted drill to help ensure correct seed placement and depth is suggested.
  - Seeding in late fall to best ensure moisture for seed germination. Seeding in the spring has the highest risk of stand failure.
  - Consulting with a knowledgeable grass seed supplier to select the best-suited varieties for your area.
- F. Treating for second year, forbes control (if necessary):
  - Treat with DuPont TELAR® XP (0.25 to 1 ounce per acre) + bromoxynil (1 pint per acre) to weeds at the early growth stage.

#### **GRASS REPLANT INTERVAL**

The replant interval is for soils with a pH of less than 7.5. Soils having a pH greater than 7.5 will require a longer interval. The replant interval is for applications made in the spring. Because MATRIX® SG degradation is slowed by cold, dry, or frozen soils, applications made in the fall should consider the replant interval as beginning in the spring following treatment. Following a treatment with MATRIX® SG at use rates up to 4.0 ounces of product per acre, the following grasses may be replanted at least 7 months after a spring application. Rainfall or irrigation of at least 1/2 inch following treatment is necessary to replant 7 months after a DuPont™ MATRIX® SG application. If the treated site does not receive at least 1/2 inch of rainfall or irrigation within four weeks after MATRIX® SG application, then the grass replant interval is 12 months.

Crested wheatgrass Intermediate wheatgrass Blue bunch wheatgrass Squirreltail Beadless (creeping) wildr

SquirreltailElymus elymoidesBeadless (creeping) wildryeLeymus triticoidesBig bluegrassPoa amplaIdaho fescueFestuca idahoensisSmooth bromeBromus inermis

Testing has indicated that there is considerable variation in response among species and types of grasses when seeded into areas treated with MATRIX® SG. If species other than those listed above are to be planted into areas treated with MATRIX® SG a field bioassay should be performed, or previous experience may be used to determine the feasibility of replanting treated areas. To conduct a field bioassay, grow to maturity test strips of the grass species you plan to grow the following year. The test strips should cross the entire field including knolls and low areas. Crop response to the bioassay will indicate whether or not to plant the grass species grown in the test strips.

Agropyron cristatum

Thinopyrum intermedium

Pseudoroegneria spicata

#### **APPLICATION EQUIPMENT**

MATRIX® SG may be applied using ground or aerial spray equipment.

#### **AERIAL APPLICATIONS**

Fixed wing aircraft and helicopters can be used to apply MATRIX® SG. Aerial equipment designed to minimize spray drift, such as a helicopter equipped with a "Microfoil Boom" or raindrop nozzles, must be used and calibrated. Except when applying with a "Microfoil Boom", a drift control agent may be added at the labeled rate.

Restriction: Do not make applications by fixed wing aircraft unless appropriate buffer zones can be maintained to prevent spray drift out of the target area or, when treating open tracts of land, spray drift as a result of fixed wing aircraft application can be tolerated.

#### **APPLICATION RATES AND TIMING**

Apply MATRIX® SG at 2.0 to 4.0 ounces per acre in the fall or spring, prior to moisture expectation and plant growth. Do not apply when soil is frozen. For residual activity, moisture is required to activate MATRIX® SG herbicide. When applied at lower rates in the spring, MATRIX® SG provides suppression\* of weeds listed. When applied at higher rates in the fall, weed control is afforded. \*

Weed suppression is a visual reduction in weed competition (reduced population and/or vigor) as compared to an untreated check. The degree of actual control that may occur will vary with the size of the weeds, the degree of weed or desirable grass competition, and environmental conditions.

#### **TANK MIXTURES**

MATRIX® SG may be tank mixed with other herbicides registerd for use in rangeland. It may also be tank mixed with any adjuvants registered for rangeland use. Refer to the label of the tank mix partner(s) for any additional use intructions or restrictions. MATRIX® SG may be tank mixed with DuPontTM TELAR® XP herbicide (0.25 to 1.0 ounces per acre) to broaden the spectrum of broadleaf and grass weed control. Refer to the TELAR® XP label for additional information on weed species controlled, use rates, and instructions or restrictions.

#### **WEEDS CONTROLLED**

When applied at 2.0 ounces per acre in the spring, MATRIX® SG suppresses the following weeds and when applied at 3.0 ounces per acre in the fall, MATRIX® SG controls the following weeds:

Brome, downy (cheatgrass)

Brome, Japanese
Cheat

Bromus tectorum
Brome, Japanese
Bromus japonicus
Bromus secalinus

When applied at 4.0 ounces per acre, MATRIX® SG controls the following additional weeds:

Barnyardgrass Echinochloa crus-galli Crabgrass, large Digitaria sanguinalis Foxtail, giant Setaria faberi Foxtail, green Setaria viridis Foxtail, yellow Setaria glauca Filaree redstem Erodium cicutarium Fleabane, hairy Conyza bonariensis Mallow, common Malva neglecta Marestail/horseweed\* Medusahead

Marestail/horseweed\*Conyza canadensisMedusaheadTaeniatherum caput-medusaeMustard, blackBrassica nigraPigweed, redrootAmaranthus retroflexusPigweed, smoothAmaranthus hybridusPuncturevineTribulus terrestris

\*Naturally occurring resistant biotypes of this weed are known to exist in some areas of the U.S. DuPont™ MATRIX® SG will not control these biotypes.

#### **USE PRECAUTIONS**

Treatment of powdery, dry soil or light, sandy soil when there is little likelihood of rainfall soon after treatment may result in off target movement and possible damage to susceptible crops when soil particles are moved by wind or water.

Injury to crops may result if treated soil is washed, blown, or moved onto land used to produce crops. Exposure to MATRIX® SG may injure or kill most crops.

Injury may be more severe when the crops are irrigated. Avoid applying MATRIX® SG when these conditions are identified and powdery, dry soil or light or sandy soil are known to be prevalent in the area to be treated.

Where food and/or feed crops are grown, or in areas where food and/or feed crops are planned to be grown, care should be taken to prevent any direct spray of MATRIX® SG onto, or drift to, these crops or planned planting areas since severe crop injury may occur. Crops (especially crops other than pome fruit, stone fruit, tree nuts, citrus, grapes, potatoes, tomatoes and field corn) whose roots extend into a treated area may be injured.

If restoration sites treated with MATRIX® SG are to be converted to an agricultural use other than rangeland, consult the Rotational Crop Guidelines sections of this label for all rotational crop instructions.

#### **USE RESTRICTIONS**

Do not graze treated sites or cut for forage or hay for a minimum of 1 year after application in order to allow newly emerged grasses sufficient time to become established. Where practical, fencing or other measures are to be used to prevent early grazing of re-established sites to help promote active grass restoration.

Do not apply more than 4.0 ounces of MATRIX® SG per acre per year.

Do not use MATRIX® SG in a spray solution or with spray additives that buffer the pH to below 4.0, or above 8.0, as degradation of MATRIX® SG may occur.

Do not apply in or on irrigation canals or ditches including their outer banks.

Do not apply through any type of irrigation system.

# **ADDITIONAL USE INFORMATION - ALL CROPS AND USES**

#### **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).

- 1. Fill the tank 1/4 to 1/3 full of water.
- 2. While agitating, add the required amount of MATRIX® SG herbicide.
- 3. Continue agitation until the MATRIX® SG herbicide is fully dissolved, at least 5 minutes.
- 4. Once the MATRIX® SG herbicide is fully dissolved, maintain agitation and continue filling tank with water.
- 5. 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.
- 6. Dispersed tank mix partners can settle if the tank mixture is not continually agitated. If settling occurs, thoroughly reagitate before using.
- 7. Apply MATRIX® SG herbicide spray mixture within 24 hours of mixing to avoid product degradation.
- 8. 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 multiple loads of MATRIX® SG herbicide are applied, it is recommended that during periods at the end of each day of spraying, the interior of the tank be rinsed with fresh water and then partially filled, and the boom and hoses be flushed. This will prevent the buildup of dried pesticide deposits from accumulating in the application equipment.

#### After Spraying DuPont™ MATRIX® SG and before Spraying Other Crops

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

- 1. Empty the tank and drain the sump completely.
- 2. 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.
- 3. Repeat step 2.
- 4. 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:

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

#### **SPRAY DRIFT MANAGEMENT**

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

AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR. Where states have more stringent regulations, they must be followed.

#### IMPORTANCE OF DROPLET SIZE

The most effective way to reduce drift potential is to apply the largest droplets which are consistent with pest control objectives. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage.

Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly or under unfavorable environmental conditions.

A droplet size classification system describes the range of droplet sizes produced by spray nozzles. The American Society of Agricultural and Biological Engineers (ASABE) provide a Standard that describes droplet size spectrum categories defined by a number of reference nozzles (fine, coarse, etc.). Droplet spectra resulting from the use of a specific nozzle may also be described in terms of volume mean diameter (VMD). Coarser droplet size spectra have larger VMD's and lower drift potential.

#### **CONTROLLING DROPLET SIZE**

- **Nozzle Type** Select a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. The use of low-drift nozzles will reduce drift potential.
- **Pressure** The lowest spray pressures recommended for the nozzle produce the largest droplets. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, using a higher-capacity nozzle instead of increasing pressure results in the coarsest droplet spectrum.
- Flow Rate/Orifice Size Using the highest flow rate nozzles (largest orifice) that are consistent with pest control objectives reduces the potential for spray drift. Nozzles with higher rated flows produce coarser droplet spectra.

#### CONTROLLING DROPLET SIZE - AIRCRAFT

- Nozzle Type Solid stream, or other low drift nozzles produce the coarsest droplet spectra.
- Number of Nozzles Using the minimum number of nozzles with the highest flow rate that provide uniform coverage will produce a coarser droplet spectrum.
- Nozzle Orientation Orienting nozzles in a manner that minimizes the effects of air shear will produce the coarsest droplet spectra. For some nozzles such as solid stream, pointing the nozzles straight back parallel to the air stream will produce a coarser droplet spectrum than other orientations.
- **Pressure** Selecting the pressure that produces the coarsest droplet spectrum for a particular nozzle and airspeed reduces spray drift potential. For some nozzle types such as solid streams, lower pressures can produce finer droplet spectra and increase drift potential.

#### **BOOM LENGTH (AIRCRAFT) AND APPLICATION HEIGHT**

- Boom Length (aircraft) Using shorter booms decreases drift potential. Boom lengths are expressed as a percentage of an aircraft's wingspan or a helicopter's rotor blade diameter. Shorter boom length and proper positioning can minimize drift caused by wingtip or rotor vortices.
- **Application Height (aircraft)** Applications made at the lowest height that are consistent with pest control objectives and the safe operation of the aircraft will reduce the potential for spray drift.
- **Application Height (ground)** Applications made at the lowest height consistent with pest control objectives, and that allow the applicator to keep the boom level with the application site and minimize bounce, will reduce the exposure of spray droplets to evaporation and wind, and reduce spray drift potential.

#### WIND

Drift potential is lowest when applications are made in light to gentle sustained winds (2-10 mph), which are blowing in a constant direction. Many factors, including droplet size and equipment type also determine drift potential at any given wind speed.

**Note**: Local terrain can influence wind patterns. Every applicator must be familiar with local wind patterns and how they affect spray drift.

#### **TEMPERATURE AND HUMIDITY**

Setting up equipment to produce larger droplets to compensate for droplet evaporation can reduce spray drift potential.

Droplet evaporation is most severe when conditions are both hot and dry.

#### SURFACE TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Surface inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Surface inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Mist or fog may indicate the presence of an inversion. If neither is present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

#### SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are preventing drift and not interfering with uniform deposition of the product.

#### AIR-ASSISTED (AIR BLAST) FIELD CROP SPRAYERS

Air-assisted field crop sprayers carry droplets to the target via a downward-directed airstream. Some may reduce the potential for drift, but if a sprayer is unsuitable for the application and/or set up improperly, high drift potential can result. It is the responsibility of the applicator to determine that a sprayer is suitable for the intended application, that it is configured properly, and that drift potential has been minimized.

Note: Air assisted field sprayers can affect product performance by affecting spray coverage and canopy penetration. Read the specific crop use and application equipment instructions to determine if an air assisted field crop sprayer can be used.

#### **SENSITIVE AREAS**

Making applications when there is a sustained wind moving away from adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is an effective way to minimize the effect of 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 Chemical Producers and Distributors Association (CPDA).

#### 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 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 DuPont™ 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 DuPont™ 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 such as cracks, punctures, abrasions, worn out threads and closure devices. If damage is found, do not use the container, contact DuPont 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 DuPont 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.

Outer Foil Pouches of Water Soluble Packets (WSP): Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available or, dispose of the empty outer foil pouch in the trash as long as WSP is unbroken. If the outer pouch contacts the formulated product in any way, the pouch must be triple rinsed with clean water. Add the rinsate to the spray tank and dispose of the outer pouch as described previously.

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 DuPont at 1-800-441-3637, day or night.

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

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NOTICE: Read this Limitation of Warranty and Liability before buying or using this Product. DuPont wil not be responsible for losses or damages resulting from the use of this product in any manner not specifically directed by DuPont. 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 DuPont. 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.

DuPont 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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To the extent consistent with applicable law that allows such requirement, DuPont 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 DuPont or a DuPont 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.



# **DuPont Crop Protection**

# ACCEPTED 03/16/2017

Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 352-768

# SUPPLEMENTAL LABELING

DUPONT TM MATRIX® SG **HERBICIDE** FOR USE IN BLUEBERRIES, RASPBERRIES, AND **BLACKBERRIES** 

# **DUPONT<sup>TM</sup> MATRIX® SG Herbicide**

EPA Reg. No. 352-768

# FOR USE IN BLUEBERRIES, RASPBERRIES, AND BLACKBERRIES

This supplemental labeling expires on March 31, 2020 and must not used or distributed after this date.

#### **DIRECTIONS FOR USE**

It is a violation of federal law to use this product in a manner inconsistent with its labeling. DuPont™ MATRIX® SG must be used only in accordance with instructions on this label or in separate published DuPont instructions.

DuPont will not be responsible for losses or damages resulting from the use of this product in any manner not specifically stated on this label or other labels or bulletins published by DuPont. User assumes all risk associated with such non-specified use.

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

#### APPLICATION INFORMATION

MATRIX<sup>TM</sup> 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.

#### **BLUEBERRY** (High Bush)

For broadcast applications, make a single application of MATRIX® SG preemergence or early postemergence to actively growing weeds at 4 ounces 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.

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.

Allow a minimum of 30 days between applications.

Application made after bud break may c ause temporary chlorosis and/or stunting of leaves contacted by the spray. 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.

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#### **USE RESTRICTIONS:**

Do not apply by air. Use ground application equipment only.

Do not use on soils classified as Sand.

Do not apply within 21 days of first harvest.

When applied as a banded treatment (50% band or less), MATRIX® SG may be applied twice per year.

Do not apply more than 4 ounces per acre per year.

#### **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 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.

Allow a minimum of 30 days between applications.

MATRIX® SG may be applied in tank mixture with other herbicides registered for use in low bush blueberries.

#### **USE RESTRICTIONS:**

Do not apply by air. Use ground application equipment only.

Do not use on soils classified as Sand.

Do not apply within 21 days of first harvest.

When applied as a banded treatment (50% band or less), MATRIX® SG may be applied twice per year.

Do not apply more than 4 ounces per acre per year.

#### 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 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. When applied as a banded treatment (50% band or less), MATRIX® SG may be applied twice per year. Allow a minimum of 30 days between applications.

#### **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 precautions.

#### **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 caneberries.

#### **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

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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.

#### **USE RESTRICTIONS:**

Do not apply by air. Use ground application equipment only.

Do not use on soils classified as Sand.

Do not apply within 21 days of first harvest.

When applied as a banded treatment (50% band or less), MATRIX® SG may be applied twice per year.

Do not apply more than 4 ounces per acre per year.

#### **IMPORTANT**

BEFORE USING DUPONT™ MATRIX® SG HERBICIDE, READ AND FOLLOW ALL APPLICABLE DIRECTIONS, RESTRICTIONS AND PRECAUTIONS ON THE EPA REGISTERED LABEL.

This bulletin contains new or supplemental instructions for use of the product which may not appear on the package label, and may contain recommendations which are not appropriate for all geographies and weed control situations. Follow the instructions carefully.

This labeling must be in the possession of the user at the time of pesticide application.

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