

## **PLEASE NOTE**

**This image contains more than one label  
approved for this product on this date.**

352-556

03/22/2007

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

MAR 22 2007

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

Mr. Jacob J. Vukich  
E.I. DuPont de Nemours & Company  
DuPont Crop Protection  
Stine-Haskell Research Center  
P. O. Box 30  
Newark, DE 19714-0030

Dear Ms. Vukich:

Subject: DuPont Resolve DF Herbicide (Update Label)  
EPA Registration No. 352-556  
Application Dated January 31, 2007

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act as amended is acceptable, provided you make the following changes before you release the product for shipment.

1. In your Precautionary Statements revise the statement "Causes eye irritation" to read "Causes moderate eye irritation.
2. Revise the last sentence of your Environmental Hazards section to read "Do not contaminate water by cleaning of equipment or disposal of equipment washwaters.

Submit one copy of your final printed labeling incorporating the above changes before you release the product for shipment. Amended labeling supersedes all previously accepted versions of DuPont Resolve DF Herbicide. A stamped copy of labeling is enclosed for your records.

Sincerely,

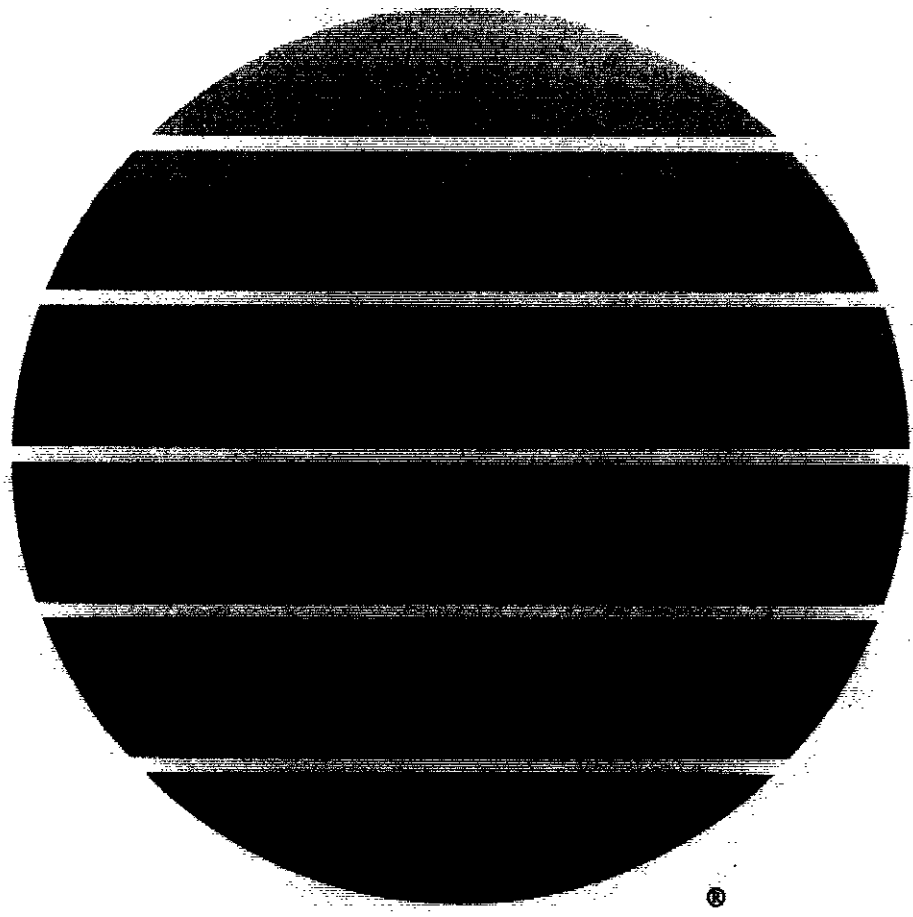
*James A. Tompkins*  
James A. Tompkins  
Product Manger 25  
Herbicide Branch  
Registration Division (7505P)



**DuPont™ Resolve™ DF**  
herbicide

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**DRAFT LABEL**



*“..... A Growing Partnership With Nature”*

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DuPont™

Resolve™ DF

herbicide

DRY FLOWABLE

For Weed Control  
In Field Corn

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

EPA REG. NO. 352-556

ACCEPTED  
with COMMENTS  
In EPA Letter Dated:  
MAR 22 2007

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act,  
as amended, for the pesticide  
registered under EPA Reg. No.  
352-556

KEEP OUT OF REACH OF CHILDREN

### CAUTION

#### 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 INHALED:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

**IF SWALLOWED:** No specific intervention is indicated as the compound 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

##### HAZARD TO HUMANS AND DOMESTIC ANIMALS

**CAUTION!** Causes eye irritation. Harmful if absorbed through skin. Avoid contact with skin, eyes, or clothing. Avoid breathing dust or spray mist.

##### PERSONAL PROTECTIVE EQUIPMENT

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

**Applicators and other handlers must wear:**

Long-sleeve shirt and long pants.

Chemical resistant gloves Category A (such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber), all > 14 mils.

Shoes plus socks.

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

##### USER SAFETY RECOMMENDATIONS

**USERS SHOULD:** Wash hands before eating, drinking, chewing gum, using tobacco or using toilet.

##### 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 by cleaning of equipment or disposal of wastes.

## DIRECTIONS FOR USE

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

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

### AGRICULTURAL USE REQUIREMENTS

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

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours.

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 Category A (such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber), all > 14 mils.

Shoes plus socks.

## GENERAL INFORMATION

DuPont™ RESOLVE™ DF herbicide should be used only in accordance with recommendations on this label or in supplemental DuPont publications. DuPont will not be responsible for losses or damage resulting from use of this product in any manner not specifically recommended by DuPont.

RESOLVE™ DF herbicide is a water dispersible granule containing 25% active ingredient by weight. RESOLVE™ DF is a selective herbicide for burndown and residual control of certain annual grass and broadleaf weeds when applied preemergence and postemergence to field corn. RESOLVE™ DF may be applied to "Roundup Ready" corn in tank mix combinations with glyphosate herbicides such as "Roundup Original", "Roundup Weathermax", or similar products to add residual control for later emerging weeds. Residual weed control is dependent on rainfall or sprinkler irrigation for herbicide activation.

Do not apply to field corn grown for seed, to popcorn or to sweet corn.

Do not apply preemergence to coarse-textured soils (sand, loamy sand or sandy loam) with less than 1% organic matter.

Do not apply by air in the State of New York.

Apply RESOLVE™ DF 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 RESOLVE™ DF on these types of corn is the responsibility of the user. Consult with your seed supplier before applying RESOLVE™ DF 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 RESOLVE™ DF 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 RESOLVE™ DF.

## APPLICATION INFORMATION

### WHEN TO APPLY

Do not apply more than a total of 2.0 oz RESOLVE™ DF (or 0.5 oz active ingredient rimsulfuron) during the crop year. This includes combinations of preemergence and postemergence applications of RESOLVE™ DF, as well as rimsulfuron from application(s) of products such as DuPont™ BASIS®, DuPont™ STEADFAST®, and DuPont™ CLARION™ herbicides. Limit preemergence rates of RESOLVE™ DF to a maximum of 1.25 oz product if following with postemergence applications of the rimsulfuron-containing products noted above.

Allow at least 3 weeks between preemergence applications of RESOLVE™ DF and postemergence applications of the herbicides noted above.

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.

### Fallow

#### Use rates

Apply RESOLVE™ DF at 1 to 2 ounces per acre.

#### Application Timing

RESOLVE™ DF may be used as a fallow treatment, in the spring or fall when the majority of weeds have emerged and are actively growing.

#### Tank Mixtures in Fallow

RESOLVE™ DF 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 instructions on this label and the labels of any tank mix partner before using any other herbicide in mixtures with RESOLVE™ DF. If the recommendations on the tank mix partner label conflict with this RESOLVE™ DF label, do not use in a tank mixture with RESOLVE™ DF.

### Field Corn

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

RESOLVE™ DF may be applied preemergence or preplant to corn. Applications of RESOLVE™ DF made before

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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**

DuPont™ RESOLVE™ DF may be applied at 0.5 - 2.0 oz product before corn emergence. See cumulative rimsulfuron rate limitations noted above. DuPont recommends a use rate of 1 - 1.5 oz/acre for most applications. Consult DuPont technical bulletins for additional rate recommendations.

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

Apply RESOLVE™ DF 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 RESOLVE™ DF made after weed emergence will provide contact control of labeled weeds as well as limited residual control of later emergence.

**Postemergence Rates**

RESOLVE™ DF may be applied at 0.5 - 2 oz/acre as a postemergence broadcast application. DuPont recommends a use rate of 1 oz/acre for most applications. Consult DuPont technical bulletins for additional rate recommendations.

**Timing to Weeds**

- Tank mixtures of RESOLVE™ DF 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 within 5 to 7 days after application will enhance RESOLVE™ DF residual activity. If activating rainfall 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™ ACCENT® herbicide, if needed.

Do not apply more than 1 ounce of RESOLVE™ DF postemergence or 1.5 ounce preemergence unless instructed to do so by DuPont Technical Bulletins.

Do not apply more than 2 ounces of RESOLVE™ DF in a single use season.

**SPRAY ADJUVANTS**

For control of emerged weeds, application of RESOLVE™ DF must include a nonionic surfactant and an ammonium nitrogen fertilizer. If applied in tank mix combination with a glyphosate or glufosinate herbicide that contains a built-in adjuvant system, such as "Roundup Weathermax" or "Liberty", no additional surfactant needs to be added. Crop oil concentrate may be used in place of nonionic surfactant for burndown applications of RESOLVE™ DF made before crop emergence. Consult local DuPont fact sheets, technical bulletins, and service policies prior to using other adjuvant systems. Products must contain only EPA-exempt ingredients (40 CFR 1001).

**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 spray-grade ammonium sulfate (AMS).
- Do not use liquid nitrogen fertilizer as the total carrier solution after crop emergence.

**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 RESOLVE™ DF unless instructed to do so on DuPont Technical Bulletins.

**WEEDS CONTROLLED/SUPPRESSED**

**PREEMERGENCE CONTROL**

**Grasses**

- Barnyardgrass
- Bluegrass, annual\*
- Crabgrass, large\*
- Foxtail (bristly, giant, green, yellow)
- Panicum, fall\*
- Signalgrass, broadleaf\*
- Wheat, Volunteer
- Wild Oat\*

\* partial control/suppression

**Broadleaves**

- Carpetweed\*
- Chamomile, false
- Cocklebur\*
- Filaree, Redstem
- Henbit
- Jimsonweed\*
- Kochia (ALS-sensitive)
- Lambsquarters, common
- Morningglory, ivyleaf\*
- Mustard (birdsrape, black)
- Nightshade\* (hairy, black)
- Palmer amaranth\*
- Pigweed (prostrate, redroot, smooth)
- Purslane, common
- Ragweed, common\*
- Russian thistle, seedling\*
- Smartweed, Pennsylvania\*
- Velvetleaf\*

\* partial control/suppression

**POSTEMERGENCE CONTROL**

**Grasses (1 - 2")**

- 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\*

\* partial control/suppression

**Broadleaves (1 - 3")**

- Alfalfa, volunteer^
- Canada thistle\*
- Chickweed, common
- Cocklebur\*
- Dandelion (6" diameter)
- Henbit
- Kochia
- Lambsquarters, common\*
- Morningglory, ivyleaf\*
- Mustard, (birdsrape, black, wild)
- Nightshade, hairy\*
- Pigweed, (prostrate, redroot, smooth)
- Purslane, common\*
- Ragweed, common\*
- Shepherd's purse
- Smartweed, Pennsylvania\*
- Wild radish
- Velvetleaf\*

\*partial control/suppression

^ Except in California

**TANK MIXTURES**

DuPont™ RESOLVE™ DF may be tank mixed with full or reduced rates of other product registered for use in corn. Read and follow all manufactures label recommendations for the companion herbicide. If these recommendations conflict with this RESOLVE™ DF label, do not use as a tank mixture with RESOLVE™ DF.

**Preemergence to the Crop**

**For Additional Control of Grasses and Broadleaves**

RESOLVE™ DF may be tank mixed with full or reduced rates of preemergence grass and broadleaf herbicides such as atrazine, DuPont™ CINCH®, DuPont™ CINCH® ATZ, "Harness", "Outlook", "Balance PRO" and "Lumax" to provide added residual activity or burndown activity on emerged weeds. Consult tank mix partner labeling for rate and soil-type restrictions.

**Postemergence to the Crop**

**Tank Mixtures with Glyphosate**

RESOLVE™ DF may be tank mixed with glyphosate herbicides if applications are made to corn hybrids containing the "Roundup Ready" gene. Consult with your seed supplier to confirm the corn hybrid is "Roundup Ready" before making any herbicide application containing glyphosate herbicides.

When used in tank mixture with glyphosate herbicides, 1 oz RESOLVE™ DF will deliver improved burndown and/or residual activity on the following weeds, as compared to glyphosate used alone:

- Alfalfa, volunteer\*
- 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

\* Except in California

**Tank Mixtures with Glufosinate**

RESOLVE™ DF may be tank mixed with glufosinate herbicides 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 tank mixtures with glufosinate herbicide, 0.75 oz RESOLVE™ DF 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)

**For Additional Control of Kochia**

RESOLVE™ DF may be tank mixed with 1/3 to 2/3 pint per acre of "Starane" for improved control of kochia. Use higher rates when weed infestation is heavy. Refer to the specific "Starane" label for application timing and restrictions. RESOLVE™ DF may be tank mixed with "Starane" and additional 1/16 to 1/8 lb active ingredient dicamba (such as 2-4 fluid oz of "Banvel" or "Clarity") for broader spectrum weed control.

**For Additional Control of Broadleaf Weeds**

DuPont™ RESOLVE™ DF may be tank mixed with 2 pints per acre of "Lumax" or 2 1/3 pints per acre of "Lexar" for improved burndown or residual control of several broadleaf weeds including common waterhemp, common ragweed, common lambsquarters, and velvetleaf. When applying mixtures of RESOLVE™ DF plus "Lumax" or "Lexar" the use of a nonionic surfactant is recommended. Refer to "Lumax" or "Lexar" labels for additional information regarding application timing, tank mixtures, adjuvants, and rotational crops.

**For Additional Control of Broadleaf Weeds**

RESOLVE™ DF may be tank mixed with 0.5 to 0.75 fluid ounces per acre of "Impact" plus atrazine at 0.375 to 1.5 pounds active per acre for improved burndown or residual control of several broadleaf weeds including common waterhemp, common ragweed, common lambsquarters, and velvetleaf. When applying mixtures of RESOLVE™ DF plus "Impact" at 0.5 fluid ounces per acre the use of methylated seed oil is recommended. Refer to "Impact" label for additional information regarding application timing, tank mixtures, adjuvants, and rotational crops.

**FOR ALL APPLICATION TIMINGS**

- Do not apply RESOLVE™ DF tank mixtures with glyphosate herbicides to conventional corn hybrids that do not contain the "Roundup Ready" trait.
- Do not apply RESOLVE™ DF tank mixtures with glufosinate herbicides to conventional corn hybrids that do not contain the "Liberty Link" trait.
- To avoid crop injury or antagonism, apply the products indicated below at least seven days before or three days after the application of RESOLVE™ DF. Do not tank mix RESOLVE™ DF with "Basagran" and "Laddok" or severe crop injury may occur. Do not tank mix RESOLVE™ DF with foliar-applied organophosphate insecticides such as "Lorsban", malathion, parathion, etc., as severe crop injury may occur.
- Do not exceed labeled application rates. Do not tank mix RESOLVE™ DF with other products that contain the same active ingredients as RESOLVE™ DF (rimsulfuron) unless the label of either tank mix partner specifies the maximum rate that may be used.

Other than the exceptions noted, and in addition to the tank mix partners indicated in the preemergence and postemergence sections above, RESOLVE™ DF may be applied in tank mixture with glyphosate plus other products registered for use in field corn. RESOLVE™ DF may be applied in tank mix combinations with full or reduced rates of other products provided:

- The tank mix product is labeled for the same timing, method of application, adjuvants, and use restrictions as RESOLVE™ DF and other products used in the tank mixture.
- The tank mixture is not specifically prohibited on the label of the tank mix product.

**Tank Mixing Precautions:**

- Weed control and crop response with tank mixtures not specifically recommended in this label or in RESOLVE™ DF fact sheets or technical bulletins are the responsibility

of the user and manufacturer of the tank mix product.

- Read and follow all applicable use directions, precautions, and limitations specified on the respective product labels and fact sheets.
- A corn plant's predisposition to develop fused tissue emerging from the whorl (rattail) after the V-11 stage may increase when a product containing dicamba (i.e. "Clarity", "Marksman") is applied to small corn under early stressful conditions. Be aware of this when applying tank mixes with dicamba to small corn (V-3 stage or smaller) under stressful conditions. See ENVIRONMENTAL CONDITIONS for a description of these stressful conditions.

**CHEMIGATION**

Do not apply RESOLVE™ DF through any type of irrigation system.

**MIXING INSTRUCTIONS**

1. Fill the tank 1/4 to 1/3 full of water.
2. While agitating, add the required amount of RESOLVE™ DF.
3. Continue agitation until the RESOLVE™ DF is fully dispersed, at least 5 minutes.
4. Once the RESOLVE™ DF is fully dispersed, maintain agitation and continue filling tank with water. RESOLVE™ DF should be thoroughly mixed with water before adding any other material.
5. As the tank is filling, add tank mix partners (if desired).
6. If the mixture is not continuously agitated, settling will occur. If settling occurs, thoroughly re-agitate before using.
7. Apply RESOLVE™ DF spray mixture within 48 hours of mixing to avoid product degradation.

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

**BROADCAST APPLICATION**

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 ASAE Standard S572. 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.

**AERIAL APPLICATION**

Aerial application is not permitted in the State of New York. Use nozzle types and arrangements that will provide optimum spray distribution and maximum coverage at a minimum of 5 GPA.



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Do not apply during a temperature inversion, when winds are gusty, or when conditions favor poor coverage and/or off-target spray movement.

## ENVIRONMENTAL CONDITIONS AND BIOLOGICAL ACTIVITY

DuPont™ RESOLVE™ DF is absorbed through the roots of plants, rapidly inhibiting the growth of susceptible weeds. Rainfall or sprinkler irrigation is needed to move RESOLVE™ DF into the soil. Susceptible weeds will generally not emerge from 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 but stunted and noncompetitive.

The herbicidal action of RESOLVE™ DF may be less effective on weeds stressed from adverse environmental conditions (such as extreme temperatures or moisture), abnormal soil conditions, or cultural practices.

## RESOLVE™ DF ROTATIONAL CROP GUIDELINES

The following rotational intervals should be observed when using RESOLVE™ DF:

### 1 OZ MAXIMUM USE RATE

Rotation Crop	Interval (months)
Corn, field	Anytime
Potatoes	Anytime
STS soybeans***	1
Tomato	1
Cereals, Winter (wheat)	4
Cereals, Spring (wheat, oats, barley)	9
Alfalfa*†	10
Cotton†	10
Canola†	10
Cucumber	10
Flax	10
Peas	10
Rice **	10
Red Clover†	10
Sorghum†	10
Corn, pop or sweet	10
Soybeans	10
Snap beans, dry beans	10
Sunflower	10
Sugarbeets†	10
Crops Not Listed	18

\* On sprinkler irrigated fields in Idaho, Utah, and Northern Nevada it is best to use deep fall tillage such as plowing prior to planting alfalfa. Product degradation may be less on furrow irrigated soils and may result in some crop injury.

† 18 months in the Red River Valley region of ND and MN. In all other areas, the rotation intervals should be extended to 18 months if drought conditions prevail after application and before the rotational crop is planted, unless sprinkler irrigation has been applied and totals greater than 15" during the growing season.

\*\*For soils with pH less than 6.5.

\*\*\*Sulfonylurea Tolerant Soybean

### 2 OZ MAXIMUM USE RATE

Rotation Crop	Interval (months)
Corn, field	Anytime
Potatoes	Anytime
Tomato	1
STS soybean***	4
Cereals, Winter (wheat)	4
Cereals, Spring (wheat, oats, barley)	9
Corn (pop or sweet)	10
Cotton†	10
Cucumber	10
Flax	10
Soybeans	10
Snap beans, dry beans	10
Sunflower	10
Crops Not Listed	18

†The rotation interval should be extended to 18 months if drought conditions prevail after application and before the rotational crop is planted, unless sprinkler irrigation has been applied and totals greater than 15" during the growing season.

\*\*\*Sulfonylurea Tolerant Soybean

## SPRAYER PREPARATION/CLEANUP

It is important that spray equipment is clean and free of previous pesticide deposits before using RESOLVE™ DF and then properly cleaned out following application. Clean all application equipment before applying RESOLVE™ DF. Follow the cleanup procedures specified on the label of the product previously sprayed. If no cleanup procedure is provided, use the procedure that follows. Immediately following applications of RESOLVE™ DF, thoroughly clean all mixing and spray equipment to avoid subsequent crop injury.

### Note :

- When cleaning spray equipment before applying RESOLVE™ DF, read and follow label directions for proper rinsate disposal of the product previously sprayed.
- A steam cleaning of aerial spray tanks is recommended to dislodge any visible pesticide deposits.
- When spraying or mixing equipment will be used over an extended period to apply multiple loads of RESOLVE™ DF, partially fill the tank with fresh water at the end of each day of spraying, flush the boom and hoses, and allow to sit overnight.

### Cleanup Procedure

1. Drain the tank and thoroughly hose down the interior surfaces. Flush the tank, hoses, and boom with clean water for a minimum of 5 min.
2. Partially fill the tank with clean water and add one gal of household ammonia\*\*\* (containing 3% active) for every 100 gal of water. Finish filling the tank with water, then flush the cleaning solution through the hoses, boom, and nozzles. Add more water to completely fill the tank and allow to agitate/recirculate for at least 15 min. Again, flush the hoses, boom, and nozzles with the cleaning solution, then drain the tank.
3. Repeat Step 2.
4. Remove the nozzles and screens and clean separately in a bucket containing the cleaning agent and water.

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5. Thoroughly rinse the tank with clean water for a minimum of 5 min, flushing the water through the hoses and boom.

\*\*\*Equivalent amounts of an alternate strength ammonia solution or a tank cleaner recommended in the DuPont bulletin "Sulfonylurea Herbicides, A Guide to Equipment Cleanout," may be used.

### **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.**

### **IMPORTANCE OF DROPLET SIZE**

The most effective way to reduce drift potential is to apply large droplets (>150 - 200 microns). The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. 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!** See Wind, Temperature and Humidity, and Temperature Inversions sections of this label.

### **Controlling Droplet Size - General Techniques**

- Volume - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- Pressure - Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. **WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE.**
- Nozzle Type - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles.

### **BOOM HEIGHT**

Set the boom at the lowest height that provides uniform coverage and reduces the exposure of droplets to evaporation and wind. For ground equipment, the boom should remain level with the crop and have minimal bounce.

### **WIND**

Drift potential increases at wind speeds of less than 3 mph (due to inversion potential) or more than 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. **AVOID APPLICATIONS DURING GUSTY OR WINDLESS CONDITIONS.**

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

### **TEMPERATURE AND HUMIDITY**

When making applications in hot and dry conditions, set up equipment to produce larger droplets to reduce effects of evaporation.

### **TEMPERATURE INVERSIONS**

Drift potential is high during a temperature inversion. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Temperature 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. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

### **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 and is configured properly, and that drift is not occurring.

### **INTEGRATED PEST MANAGEMENT**

This product may be used as part of an Integrated Pest Management (IPM) program that can include biological, cultural, and genetic practices aimed at preventing economic pest damage. IPM principles and practices include 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 systems in your area.

### **RESISTANCE**

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 that field. Adequate control of 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.

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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 recommendations available in your area.

### SOIL INSECTICIDE INTERACTION INFORMATION

DuPont™ RESOLVE™ DF may interact with certain insecticides previously applied to the crop. Crop response varies with field corn type, insecticide used, insecticide application method, and soil type.

RESOLVE™ DF may be applied to corn previously treated with "Fortress", "Aztec", or "Force" insecticides or nonorganophosphate (OP) soil insecticides regardless of soil type.

- Do not apply RESOLVE™ DF within 60 days of crop emergence where an organophosphate insecticide (such as Counter) was applied as an in-furrow treatment since crop injury may occur. Also, allow at least 60 days between a pre-emergence or pre-plant application of RESOLVE™ DF and application of an organophosphate insecticide since crop injury may result.
- DO NOT APPLY RESOLVE™ DF to corn previously treated with "Counter" 15G or to corn treated with "Counter" 20CR in furrow or over the row at cultivation.
- Applications of RESOLVE™ DF to corn previously treated with "Counter" 20 CR, "Lorsban", or "Thimet" may cause unacceptable crop injury, especially on soils of less than 4% organic matter.

### PRECAUTIONS

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

- Do not apply RESOLVE™ DF or drain or flush application 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 or spray to desirable plants.
- Do not contaminate any body of water.
- Thoroughly clean application equipment immediately after use. (See Sprayer Cleanup section of this label for instructions).

Crop injury may occur following an application of RESOLVE™ DF if there is a prolonged period of cold weather and/or in conjunction with wet soils.

Do not graze, feed forage, grain or fodder (stover) from treated areas to livestock within 30 days of RESOLVE™ DF application.

### STORAGE AND DISPOSAL

**Pesticide Storage:** Store product in original container only. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Store in a cool, dry place.

**Product Disposal:** Do not contaminate water, food, or feed by disposal. Waste resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**Container Disposal: For Plastic Containers:** Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. **For Fiber Sacks:** Completely empty fiber sack by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into manufacturing or application equipment. Then dispose of sack in a sanitary landfill or by incineration if allowed by State and local authorities. **For Fiber Drums With Liners:** Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Then dispose of liner in a sanitary landfill or by incineration if allowed by State and local authorities. If drum is contaminated and cannot be reused, dispose of in the same manner. **For Bags Containing Water Soluble Packets:** Do not reuse the outer box or the resealable plastic bag. When all water-soluble packets are used, the outer packaging should be clean and may be disposed of in a sanitary landfill or by incineration, or if allowed by State and local authorities, by open burning. If burned, stay out of smoke. If the resealable plastic bag contacts the formulated product in any way, the bag must be triple-rinsed with clean water. Add the rinsate to the spray tank and dispose of the outer wrap as described above. **For Metal Containers (non aerosol):** Triple rinse (or equivalent) the container. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. **For Paper and Plastic Bags:** Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

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When packaged in returnable and/or refillable containers:

**Container Refilling and Disposal (For Containers up to 250 gal)** - This is a refillable container. If the container is to be refilled, do not rinse with any material or introduce any pesticide other than DuPont™ RESOLVE™ DF herbicide. Reseal and return the container to any authorized DuPont refilling facility. If the container is not to be refilled, triple rinse (or equivalent) and offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or by open burning, if allowed by state and local authorities. If burned, keep out of smoke.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire or other emergency, call 1-800-441-3637 day or night.

**Container Disposal for Bulk Containers:** When this container is empty, replace the cap and seal all openings that have been opened during use, and return the container to the point of purchase or to a designated location named at time of purchase of this product. The container must only be refilled with this pesticide product. **DO NOT REUSE THE CONTAINER FOR ANY OTHER PURPOSE.** Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn-out threads and closure devices. Check for leaks after refilling and before transporting. Do not transport if this container is damaged, leaking or obsolete, contact DuPont at 1-800-441-3637. If not returned to the point of purchase or to a designated location, triple rinse emptied container and offer for recycling. Disposal of this container must be in compliance with state and local regulations.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire, or other emergency, call 1-800-441-3637, day or night.

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**LIMITATION OF WARRANTY AND LIABILITY**

NOTICE: Read this Limitation of Warranty and Liability Before Buying or Using This Product. 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.

For product information call: 1-888-6-DUPONT

Internet address: <http://cropprotection.dupont.com/>

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**NEXT**

**LABEL**

352-556

03/22/2007

H- 1/18

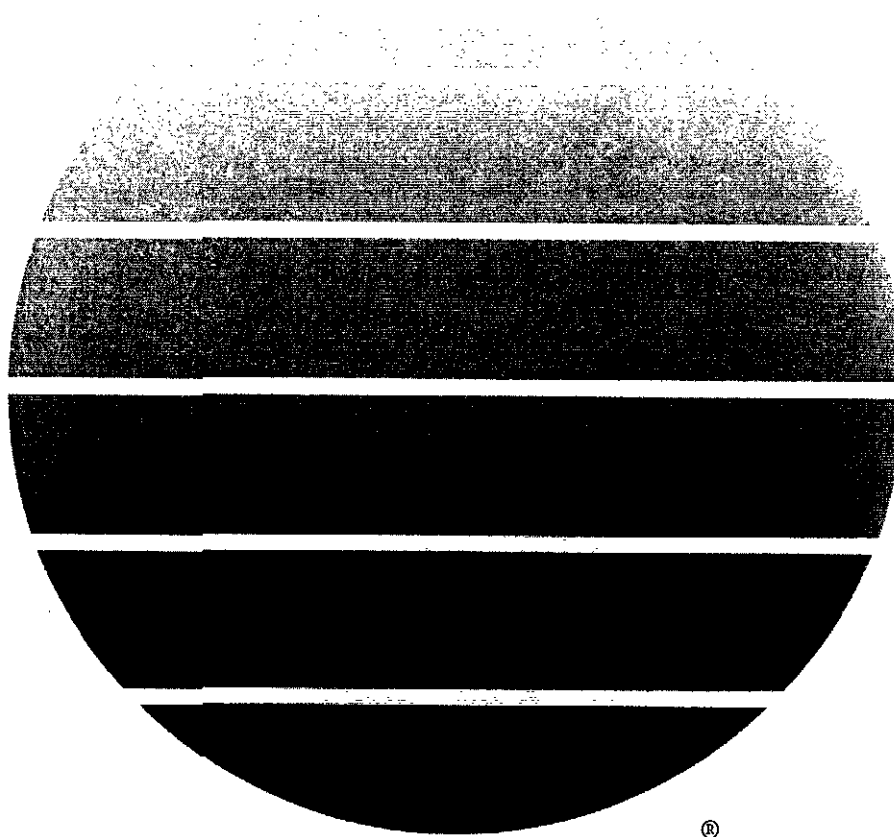


# DuPont™ Matrix®

herbicide

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## DRAFT LABEL



*“..... A Growing Partnership With Nature”*

**DUPONT™ MATRIX® HIGHLITES**

- For preemergence and postemergence weed control in potatoes, potatoes grown for seed, and field grown tomatoes (direct seeded and transplant).
- To activate MATRIX® 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® 2" to 3" deep into the soil profile.
- Use in tank mixtures with other registered herbicides for broader spectrum weed control (see TANK MIXTURES).
- Consult label text for complete instructions. Always read and follow label DIRECTIONS FOR USE.

**POTATOES**

- Apply MATRIX® at 1 to 1-1/2 oz product per acre, immediately after hilling, drag-off, or reservoir tillage (dam/dike operation). For best results apply to a clean, newly prepared seedbed, before potatoes emerge and weeds germinate.
- Postemergence - For postemergence applications, apply MATRIX® at 1 to 1 1/2 oz per acre to young, actively growing weeds after crop emergence.
- Application by ground, air or chemigation.
- Chemigation - MATRIX® can be applied using center pivot, lateral move, solid set, or hand move irrigation systems. For best results, use the highest recommended rate and apply preemergence to early postemergence to the weeds (weeds less than 1" tall).
- Do not apply MATRIX® within 60 days of potato harvest and do not exceed 2.5 oz per acre during the same season.

**TOMATOES**

- Preemergence - For preemergence applications to the crop, apply MATRIX® after seeding at 2.0 oz product per acre. For best results apply to a clean, newly prepared seedbed, before tomatoes emerge and weeds germinate. Applications may be applied Preemergence followed by single or multiple Postemergence applications.
- Postemergence - For postemergence applications, apply MATRIX® at 1.0-2.0 oz (use 2.0 oz per acre for longer residual) per acre to young, actively growing weeds after the crop has reached the cotyledon stage. Usually, small weeds (less than 1" in height or diameter) are most easily controlled. Multiple applications of MATRIX® may be applied postemergence to the crop. Optimum performance is seen when the first application is made to small actively growing weeds, followed by a second application 7 to 14 days later.

**CALIFORNIA:**

- Postemergence - For postemergence applications, apply MATRIX® at 2.0 oz product per acre to young, actively growing weeds after the crop has reached the cotyledon stage. Usually, small weeds (less than 1" in height or diameter) are most easily controlled. Multiple applications of MATRIX® may be applied postemergence to the crop. Optimum performance is seen when the first application is made to small actively growing weeds, followed by a second application 7 to 14 days later.

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# DuPont™

# Matrix®

## herbicide

**ACCEPTED**  
 MAR 22 2007  
 Under the Federal Insecticide,  
 Fungicide, and Rodenticide Act,  
 as amended for the pesticide  
 registered under  
 EPA Reg. No. 352-556

### DRY FLOWABLE

**For Weed Control In Potatoes, Potatoes  
grown for seed and field grown Tomatoes**

<u>Active Ingredients</u>	<u>By Weight</u>
Rimsulfuron N-((4,6-dimethoxy-pyrimidin-2-yl) aminocarbonyl)-3-(ethylsulfonyl)- 2-pyridinesulfonamide	25.0%
<u>Inert Ingredients</u>	75.0%
TOTAL	100.0%

EPA REG. NO. 352-556

### KEEP OUT OF REACH OF CHILDREN

## CAUTION

### 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.

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

(next column)

### PRECAUTIONARY STATEMENTS

#### HAZARD TO HUMANS AND DOMESTIC ANIMALS

**CAUTION!** Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with skin, eyes, or clothing. Avoid breathing dust or spray mist.

#### PERSONAL PROTECTIVE EQUIPMENT

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

#### Applicators and other handlers must wear:

- Long-sleeve shirt and long pants.
- Chemical resistant gloves made of any water proof material such as polyethylene or polyvinylchloride.
- Shoes plus socks.

Discard clothing and other absorbent material that have been drenched or heavily contaminated with this product.

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

#### ENGINEERING CONTROL STATEMENTS

When handlers use closed systems, enclosed cabs or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR part 170 Section 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.

### 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 by cleaning of equipment or disposal of equipment washwaters.

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## GENERAL INFORMATION

DuPont™ MATRIX® herbicide must be used only in accordance with recommendations on this label or in separate published DuPont recommendations. DuPont will not be responsible for losses or damage resulting from use of this product in any manner not specifically recommended by DuPont.

MATRIX® herbicide is a dry flowable formulation that selectively controls certain broadleaf weeds and grasses in potatoes, potatoes grown for seed, and field grown tomatoes (direct seeded and transplant).

MATRIX® is recommended for use in most states, check with your state extension service or Department of Agriculture before use, to be certain MATRIX® is registered in your state.

The best control is obtained when MATRIX® 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

MATRIX® is noncorrosive to equipment, nonflammable, and nonvolatile.

## 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.

**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 polyethylene or polyvinylchloride.
- Shoes plus socks.

## POTATOES

### APPLICATION INFORMATION

#### PRE-EMERGENCE APPLICATIONS

For best results, apply MATRIX® at 1 to 1-1/2 oz product per acre, immediately after hilling, drag-off, or reservoir tillage (dam/dike operation), to a clean, newly prepared seedbed.

To activate MATRIX® 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® 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® 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®. Do not apply MATRIX® within 60 days of potato harvest. Do not exceed 2.5 oz of MATRIX® per acre per year.

#### TANK MIXTURES - PREEMERGENCE APPLICATIONS

MATRIX® may be tank mixed with pesticide products labeled for use on potatoes (such as "Eptam 7E", "Prowl", "Lorox" DF, DuPont™ 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® with another potato pesticide(s), read and follow all use directions, restrictions, and precautions of both MATRIX® and the tank mix partner(s).

MATRIX® may also be used in three-way tank mix combinations with the above pesticide(s). If these recommendations conflict with this MATRIX® label, do not use as a tank mix with MATRIX®.

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

Apply a tank mix combination of MATRIX® at 1 to 1-1/2 oz 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.

**DuPont™ MATRIX® plus "Eptam 7E"**

Apply a tank mix of MATRIX® at 1 to 1-1/2 oz 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 recommendations for your region. It is recommended to incorporate a tank mix of "Eptam 7E" + MATRIX® using irrigation, and not equipment, to prevent poor weed control from deep incorporation of the MATRIX®.

If your area does not allow incorporation using irrigation, then apply "Eptam 7E" and MATRIX® in a split application. Read and follow both product labels for your area.

**MATRIX® plus Pendimethalin (Such as "Prowl")**

Apply a tank mix combination of MATRIX® at 1 to 1-1/2 oz 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® plus Linuron (Such as "Lorox" DF)**

Apply a tank mix combination of MATRIX® at 1 to 1-1/2 oz 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® Plus S-Metalochlor (Such as DuPont™ CINCH® or "Dual II Magnum")**

Apply a tank mix combination of MATRIX® at 1 to 1-1/2 oz 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 - POTATOES**

For postemergence applications, apply MATRIX® at 1 to 1 1/2 oz 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 MATRIX®. Symptoms usually disappear within 5 to 15 days.

For best results with MATRIX® 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® in the soil and help provide control of subsequent flushes of annual weeds.

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

MATRIX® 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® with another potato pesticide(s), read and follow all use directions, restrictions, and precautions of both MATRIX® and the tank mix partner(s).

MATRIX® may also be used in three-way tank mix combinations with the above pesticide(s). If these recommendations conflict with this MATRIX® label, do not use as a tank mix with MATRIX®.

**MATRIX® Plus Foliar Fungicides**

MATRIX® 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 recommendations for the companion fungicide. If these recommendations conflict with this MATRIX® label, do not use as a tank mix with MATRIX®.

**MATRIX® Plus Metribuzin (Such as "Sencor")**

Apply a tank mix combination of MATRIX® at 1 to 1-1/2 oz 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® plus Metribuzin.

**MATRIX® Plus "Eptam 7E"**

Apply MATRIX® herbicide at 1 to 1.5 ounce per acre in tankmix with 1 pint 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 recommendations conflict with this DuPont™ MATRIX® label, do not use as a tank mix with MATRIX®.)

**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.

**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® 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® per acre.

**POTATOES GROWN FOR SEED**

MATRIX® 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® 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.

Do not exceed 2.5 oz per acre of MATRIX® in the same year.

To activate MATRIX 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 2" to 3" deep into the soil profile.

**Restrictions**

- 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\*\*.

**Precautions**

- The rotational crop interval listed in the MATRIX® label may need to be extended to 18 months if seed potato production practices decrease water and/or time for Matrix 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® 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.
- \* 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	(Echinochloa crus-galli)
Foxtail, Giant	(Setaria faberi)
Foxtail, Green	(Setaria viridis)
Foxtail, Yellow	(Setaria glauca)
Wheat, Volunteer	(Triticum aestivum)

**Broadleaves**

Chamomile, False	(Matricaria maritima L.)
Filaree, Redstem	(Erodium cicutarium)
Henbit	(Lamium amplexicaule)
Kochia	(Kochia scoparia)
Mustard, Birdrape	(Brassica rapa L.)
Mustard, Black	(Brassica nigra)
Pigweed, Prostrate	(Amaranthus blitoides)
Pigweed, Redroot	(Amaranthus retroflexus)
Pigweed, Smooth	(Amaranthus hybridus)
Purslane, Common	(Portulaca oleracea)

**PREEMERGENCE (PARTIAL CONTROL)**

**Grasses**

Crabgrass	(Digitaria spp.)
Wild Oat	(Avena fatua)

**Broadleaves**

Cocklebur	(Xanthium spp.)
Lambsquarters, Common	(Chenopodium album)
Nightshade†, Black	(Solanum nigrum)
Nightshade, Hairy	(Solanum sarrachoides)
Pigweed, Prostrate	(Amaranthus blitoides)
Ragweed, Common	(Ambrosia artemisiifolia)
Velvetleaf	(Abutilon theophrasti)

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

**POSTEMERGENCE CONTROL**

**Grasses**

Barley, Volunteer	(Hordeum vulgare)
Barnyardgrass	(Echinochloa crus-galli)
Bluegrass, Annual	(Poa annua)
Crabgrass	(Digitaria spp)
Foxtail, Bristly	(Setaria verticillata)
Foxtail, Giant	(Setaria faberi)
Foxtail, Green	(Setaria viridis)
Foxtail, Yellow	(Setaria glauca)
Panicum, Fall	(Panicum dichotomislorum)
Wheat, Volunteer	(Triticum aestivum)

**Broadleaves**

Chamomile, False	(Matricaria maritima L.)
Chickweed, Common	(Stellaria media)
Henbit	(Lamium amplexicaule)
Kochia	(Kochia scoparia)
Mustard, Birdsrape	(Brassica rapa L.)
Mustard, Black	(Brassica nigra)
Mustard, Wild	(Sinapis arvensis)
Pigweed, Redroot	(Amaranthus retroflexus)
Pigweed, Smooth	(Amaranthus hybridus)
Purslane, Common	(Portulaca, oleracea)
Shepherd's purse	(Capsella bursa-pastoris)
Wild Radish	(Raphanus raphanistrum)

**POSTEMERGENCE (PARTIAL CONTROL)‡**

**Grasses**

Johnsongrass, Seedling	(Sorghum halepense)
Millet, Wild Proso	(Panicum miliaceum)
Stinkgrass	(Eragrostis ciliaris)
Wild Oat	(Avena fatua)
Yellow Nutsedge	(Cyperus esculentus)

**Broadleaves**

Thistle, Canada†	(Cirsium arvense)
Cocklebur	(Xanthium spp.)
Lambsquarters, Common	(Chenopodium album)
Morningglory, Ivyleaf	(Ipomoea hederacea)
Nightshade, Hairy	(Solanum sarrachoides)
Nightshade*†, Black	(Solanum nigrum)
Pigweed, Prostrate	(Amaranthus blitoides)
Quackgrass†	(Agropyron repens)
Ragweed, Common	(Ambrosia artemisiifolia)
Smartweed, Pennsylvania	(Polygonum pennsylvanicum)
Velvetleaf	(Abutilon theophrasti)
Volunteer Alfalfa**	(Medicago sativa)

\* 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.
- 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 in the state of California, except in Modoc or Siskiyou counties, or in the state of New York.

**CHEMIGATION - POTATOES ONLY**

MATRIX® can be applied using center pivot, lateral move, solid set, or hand move irrigation systems in potatoes. Do not apply MATRIX® using any other type of irrigation system. Check irrigation systems to insure uniform application of water to all areas. Failure to apply MATRIX® uniformly may result in crop injury and/or poor weed control.

For best results, use the highest recommended 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® 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® 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® 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.

**CHEMIGATION PRECAUTIONS**

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 recommended rate, use sufficient water, and apply the mixture for the proper length of time.

- 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® application to a public water system.

**MATRIX® ROTATIONAL CROP GUIDELINES - POTATO**

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

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

- \* Idaho - 18 months for Teton county, Caribou county. Madison county east of Hwy 20, and Fremont county east of Hwy 20.

Colorado - Alamosa, Conejos, Costilla, Rio Grande and Saguache counties: 1.5 oz or less MATRIX® per acre per season--9 months; greater than 1.5 oz of MATRIX® per acre per season--18 months

- \*\*Potatoes grown under sprinkler irrigation with a minimum of 18 inches of water per season. This rotation interval is for sand, loamy sand and sandy loam soils having not more than 1.5% organic matter where a minimum of 18 inches of sprinkler irrigation is used on the previous potato crop. Injury to the rotated crop may occur if less than 18 inches of irrigation is used on the previous potato crop. For tank mixtures, follow the most restrictive rotational crop guideline.

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

For Rotation to Grass Crops Grown for Seed, Hay or Pasture: MATRIX® in potatoes not to exceed 1.5 ounces per acre per use season in Adams, Grant, Douglas and Lincoln counties of Washington, and MATRIX® in potatoes not to exceed 2.5 ounces per acre per use season 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® in potatoes not to exceed 1.5 ounces per acre per use season in all areas.

NOTE: MATRIX® 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.

**RESTRICTIONS**

*Potatoes*

- Do not apply MATRIX® on potatoes within 60 days of harvest.
- Do not exceed 2.5 oz MATRIX® per acre on potatoes during the same growing season.
- Do not apply to sweet potatoes or yams.
- Do not use MATRIX® on potatoes grown for seed, except as directed on this labeling or supplemental labeling.
- Do not apply to potatoes growing in Greenhouses, Cold Frames, Pot cultures, etc. Apply only to potatoes growing in fields.

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## **TOMATOES (DIRECT SEEDED AND TRANSPLANT)**

### **PREEMERGENCE APPLICATIONS**

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

To activate MATRIX® 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® 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® 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®.

### **POSTEMERGENCE APPLICATIONS**

For postemergence applications, apply MATRIX® at 1.0-2.0 oz product per acre (use 2.0 oz 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®. Symptoms usually disappear within 5 to 15 days.

For best results with MATRIX® 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® in the soil and help provide control of subsequent flushes of annual weeds.

Postemergence applications of MATRIX® 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®.

### **PREEMERGENCE FOLLOWED BY POSTEMERGENCE**

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

Note : For sequential applications the total amount of MATRIX® cannot exceed 4.0 oz. product per acre per year on a broadcast basis.

### **POSTEMERGENCE FOLLOWED BY POSTEMERGENCE**

Multiple applications of MATRIX® 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.

Note : For sequential applications the total amount of MATRIX® cannot exceed 4.0 oz. product per acre per year on a broadcast basis.

### **BAND APPLICATIONS - TOMATOES**

MATRIX® 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®.

### **TANK MIXTURES - TOMATOES**

MATRIX® 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® with another tomato pesticide(s), read and follow all use directions, restrictions, and precautions of both MATRIX® and the tank mix partner(s).

MATRIX® may also be used in three-way tank mix combinations with the above pesticide(s). If these recommendations conflict with this MATRIX® label, do not use as a tank mix with MATRIX®. Tank mixtures with products that lower the spray solution pH may reduce weed control (such as LI700 surfactant).

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

MATRIX® 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 recommendations for the companion fungicide. If these recommendations conflict with this MATRIX® label, do not use as a tank mix with MATRIX®.

## **TOMATOES: CALIFORNIA**

### **PREEMERGENCE APPLICATIONS**

For preemergence applications to the crop, apply MATRIX® after seeding at 2.0-4.0 oz. product per acre. To activate MATRIX® 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® 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 DuPont™ MATRIX® 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®.

**POSTEMERGENCE APPLICATIONS**

For postemergence applications, apply MATRIX® at 2.0 oz. 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®. Symptoms usually disappear within 5 to 15 days.

For best results with MATRIX® 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® in the soil and help provide control of subsequent flushes of annual weeds.

Postemergence applications of MATRIX® 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®.

**PREEMERGENCE FOLLOWED BY POSTEMERGENCE**

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

Note : For sequential applications the total amount of MATRIX® cannot exceed 4.0 oz. product per acre per year on a broadcast basis.

**POSTEMERGENCE FOLLOWED BY POSTEMERGENCE**

Multiple applications of MATRIX® 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.

Note : For sequential applications the total amount of MATRIX® cannot exceed 4.0 oz. product per acre per year on a broadcast basis.

**BAND APPLICATIONS - TOMATOES:**

Matrix can be applied in a preemergence band at 2.0 - 4.0 oz. product per acre (For example, 0.5-1.0 oz. of product per conventional broadcast acre assuming 25% banding) followed by two separate postemergence band applications applied at 2 oz. product per acre (For example, 0.5 oz of product per conventional broadcast acre assuming 25% banding) over the same sprayed area.

Matrix can be applied using three postemergence band applications at 2 oz. product per acre (For example, 0.5 oz of product per conventional broadcast acre assuming 25% banding).

Do not make any more than three band applications of Matrix in one growing season.

**WEEDS CONTROLLED - TOMATO**

**PREEMERGENCE CONTROL**

**Grasses**

- Barnyardgrass (Echinochloa crus-galli)
- Foxtail, Giant (Setaria faberi)
- Foxtail, Green (Setaria viridis)
- Foxtail, Yellow (Setaria glauca)
- Wheat, Volunteer (Triticum aestivum)

**Broadleaves**

- Filaree, Redstem (Erodium cicutarium)
- Henbit (Lamium amplexicaule)
- Kochia (Kochia scoparia)
- Mustard, Black (Brassica nigra)
- Pigweed, Redroot (Amaranthus retroflexus)
- Pigweed, Smooth (Amaranthus hybridus)
- Purslane, Common (Portulaca oleracea)

**PREEMERGENCE (PARTIAL CONTROL)**

**Grasses**

- Crabgrass (Digitaria spp.)
- Wild Oat (Avena fatua)

**Broadleaves**

- Cocklebur (Xanthium spp.)
- Lambsquarters, Common (Chenopodium album)
- Nightshade\*, Black† (Solanum nigrum)
- Nightshade, Hairy (Solanum sarrachoides)
- Pigweed, Prostrate (Amaranthus blitoides)
- Ragweed, Common (Ambrosia artemisiifolia)
- Velvetleaf (Abutilon theophrasti)

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

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

† See Specific Weed Problems



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

**Grasses**

Barley, Volunteer	(Hordeum vulgare)
Barnyardgrass	(Echinochloa crus-galli)
Bluegrass, Annual	(Poa annua)
Crabgrass	(Digitaria spp.)
Foxtail, Bristly	(Setaria verticillata)
Foxtail, Giant	(Setaria faberi)
Foxtail, Green	(Setaria viridis)
Foxtail, Yellow	(Setaria glauca)
Panicum, Fall	(Panicum dichotomislorum)
Wheat, Volunteer	(Triticum aestivum)

**Broadleaves**

Chamomile, False	(Matricaria maritima L.)
Chickweed, Common	(Stellaria media)
Henbit	(Lamium amplexicaule)
Kochia	(Kochia scoparia)
Mustard, Birdrape	(Brassica rapa L.)
Mustard, Black	(Brassica nigra)
Mustard, Wild	(Sinapis arvensis)
Pigweed, Redroot	(Amaranthus retroflexus)
Pigweed, Smooth	(Amaranthus hybridus)
Purslane, Common	(Portulaca, oleracea)
Shepherd's purse	(Capsella bursa-pastoris)
Wild Radish	(Raphanus raphanistrum)

**POSTEMERGENCE (PARTIAL CONTROL)‡**

**Grasses**

Johnsongrass, Seedling	(Sorghum halepense)
Millet, Wild Proso	(Panicum miliaceum)
Stinkgrass	(Eragrostis ciliaris)
Quackgrass†	(Agropyron repens)
Wild Oat	(Avena fatua)
Yellow Nutsedge	(Cyperus esculentus)

**Broadleaves**

Thistle, Canada†	(Cirsium arvense)
Cocklebur	(Xanthium spp.)
Lambsquarters, Common	(Chenopodium album)
Morningglory, Ivyleaf	(Ipomoea hederacea)
Nightshade, Hairy	(Solanum sarrachoides)
Nightshade*†, Black	(Solanum nigrum)
(cotyledon stage only)	
Pigweed, Prostrate	(Amaranthus blitoides)
Ragweed, Common	(Ambrosia artemisiifolia)
Smartweed, Pennsylvania	(Polygonum pennsylvanicum)
Velvetleaf	(Abutilon theophrasti)
Volunteer Alfalfa**	(Medicago sativa)

\* 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

**DUPONT™ MATRIX® ROTATIONAL CROP GUIDELINES - TOMATO**

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

**RESTRICTIONS**

**Tomatoes**

- Do not apply MATRIX® within 45 days of tomato harvest.
- Do not apply MATRIX® by air on tomatoes.
- Do not apply using assisted (Airblast) field crops sprayers on tomatoes.
- Do not exceed 4.0 oz. MATRIX® per acre (broadcast basis) on tomatoes during the same growing season.
- Banding applications of MATRIX® should not exceed 4.0 ounces on a broadcast basis in the same growing season.
- 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.

**GENERAL CROP USES**

**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®.

- Cultivation up to 7 days before the postemergence application of MATRIX® may decrease weed control by pruning weed roots, placing the weeds under stress, or covering the weeds with soil and preventing coverage by MATRIX®.
- To allow MATRIX® 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®.

**SPECIFIC WEED PROBLEMS**

**Quackgrass:** For best results, apply DuPont™ MATRIX® 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® preemergence (prior to weed germination) at 2 - 4 oz per acre followed by a postemergence application at 1 to 2 oz per acre to small actively growing weeds.

**Canada Thistle:** For best results, apply MATRIX® 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.

**SPRAY ADJUVANTS**

Include a spray adjuvant with applications of MATRIX® 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®, select adjuvants authorized for use with both products. Products must contain only EPA-exempt ingredients (40 CFR 1001).

**Nonionic Surfactant (NIS)**

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

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

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

**Ammonium Nitrogen Fertilizer**

- An ammonium nitrogen fertilizer may be added to the spray mix, in addition to a crop oil concentrate or nonionic surfactant, but is not required to optimize performance of this product.
- 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, COC, MSO and/or ammonium nitrogen fertilizer. Consult product literature for use rates and restrictions.

- In addition to the adjuvants specified above, other adjuvant types may be used if they provide the same functionality and have been evaluated and approved by DuPont product management. Consult separate DuPont technical bulletins for detailed information before using adjuvant types not specified on this label.

**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).

**BIOLOGICAL ACTIVITY AND ENVIRONMENTAL CONDITIONS**

MATRIX® 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® 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® 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® 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®.

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

**GROUND APPLICATION - POTATOES AND TOMATOES**

To ensure optimum spray distribution and thorough coverage, apply DuPont™ MATRIX® 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.

**MIXING INSTRUCTIONS**

1. Fill the tank 1/4 to 1/3 full of water.
2. While agitating, add the required amount of MATRIX®.
3. Continue agitation until the MATRIX® is fully dispersed, at least 5 minutes.
4. Once the MATRIX® is fully dispersed, maintain agitation and continue filling tank with water. MATRIX® should be thoroughly mixed with water before adding any other material.
5. As the tank is filling, add tank mix partners (if desired) then add the required volume of spray adjuvant (if needed). Always add the spray adjuvant last.
6. If the mixture is not continuously agitated, settling will occur. If settling occurs, thoroughly re-agitate before using.
7. Apply MATRIX® spray mixture within 48 hours of mixing to avoid product degradation.
8. If MATRIX® and a tank mix partner are to be applied in multiple loads, pre-slurry the MATRIX® in clean water prior to adding to the tank. This will prevent the tank mix partner from interfering with the dissolution of the MATRIX®.

Do not use MATRIX® in a spray solution, or with spray additives that reduce the pH to below 4.0, or MATRIX® degradation may occur.

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

**SPRAYER CLEANUP**

Spray equipment or nurse tanks used in chemigation, must be cleaned before MATRIX® 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® and before Spraying Crops Other Than Potatoes and Tomatoes" section of this label.

**AT THE END OF THE DAY**

When multiple loads of MATRIX® 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 MATRIX® AND BEFORE SPRAYING CROPS OTHER THAN POTATOES AND TOMATOES**

1. Drain tank; thoroughly rinse spray tanks, boom, and hoses with clean water. Loosen and physically remove any visible deposits.
2. Fill the tank with clean water and 1 gal of household ammonia\* (contains at least 3% active ingredient) for every 100 gal of water. Flush the hoses, boom, and nozzles with the cleaning solution. Then add more water to completely fill the tank. Circulate the cleaning solution through the tank and hoses for at least 15 min. Flush the hoses, boom, and nozzles again with the cleaning solution, and then drain the tank.
3. Remove the nozzles and screens and clean separately in a bucket containing ammonia\* and water.
4. Repeat step 2.
5. Rinse the tank, boom, and hoses with clean water.
6. If only ammonia is used as a cleaner, the rinsate solution may be applied back to the crop(s) recommended on this label. If other 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.

\* Equivalent amounts of an alternate-strength ammonia solution or a DuPont-approved spray equipment cleaner can be used in the cleanup procedure. Carefully read and follow the individual cleaner instructions. Consult your agricultural dealer, applicator, or DuPont representative for a listing of approved spray equipment cleaners.

**Notes:**

1. Caution: Do not use chlorine bleach with ammonia, as dangerous gases will form. Do not clean equipment in an enclosed area.
2. Steam-cleaning spray tanks is recommended prior to performing the above cleanout procedure to facilitate the removal of any caked deposits.
3. When MATRIX® is tank mixed with other pesticides, all required cleanout procedures should be examined and the most rigorous procedure should be followed.
4. In addition to this cleanout procedure, all preapplication cleanout guidelines on subsequently applied products should be followed as per the individual labels.
5. Where routine spraying practices include shared equipment frequently being switched between applications of MATRIX® and applications of other pesticides to MATRIX®-sensitive crops during the same spray season, it is recommended that a sprayer be dedicated to MATRIX® to further reduce the chance of crop injury.

**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.**

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### **IMPORTANCE OF DROPLET SIZE**

The most effective way to reduce drift potential is to apply large droplets (>150 - 200 microns). The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. 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!** See Wind, Temperature and Humidity, and Temperature Inversions sections of this label.

### **CONTROLLING DROPLET SIZE - GENERAL TECHNIQUES**

- Volume - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- Pressure - Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. **WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE.**
- Nozzle Type - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles.

### **CONTROLLING DROPLET SIZE - AIRCRAFT**

- Number of Nozzles - Use the minimum number of nozzles with the highest flow rate that provide uniform coverage.
- Nozzle Orientation - Orienting nozzles so that the spray is emitted backwards, parallel to the airstream will produce larger droplets than other orientations.
- Nozzle Type - Solid stream nozzles (such as disc and core with swirl plate removed) oriented straight back produce larger droplets than other nozzle types.
- Boom Length - the boom length should not exceed 3/4 of the wing or rotor length--longer booms increase drift potential.
- Application Height - Application more than 10 ft above the canopy increases the potential for spray drift.

### **BOOM HEIGHT**

Set the boom at the lowest height that provides uniform coverage and reduces the exposure of droplets to evaporation and wind. For ground equipment, the boom should remain level with the crop and have minimal bounce.

### **WIND**

Drift potential increases at wind speeds of less than 3 mph (due to inversion potential) or more than 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. **AVOID APPLICATIONS DURING GUSTY OR WINDLESS CONDITIONS.**

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

### **TEMPERATURE AND HUMIDITY**

When making applications in hot and dry conditions, set up equipment to produce larger droplets to reduce effects of evaporation.

### **TEMPERATURE INVERSIONS**

Drift potential is high during a temperature inversion. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Temperature 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. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

### **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.

### **RESISTANCE**

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 recommendations available in your area.

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

### INTEGRATED PEST MANAGEMENT

DuPont recommends the use of Integrated Pest Management (IPM) programs to control pests. 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.

### 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 DuPont™ MATRIX® until stress from environmental conditions have passed.
- Avoid spray drift to any adjacent crops as injury may occur.
- Crop injury may occur following an application of MATRIX® 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.
- Tank mixing MATRIX® 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.
  - Carefully observe sprayer cleanup instructions, as spray tank residue may damage crops other than potatoes or tomatoes.
- Do not apply using Air Assisted (Air Blast) field crop sprayers.

### STORAGE AND DISPOSAL

**Storage:** Store product in original container only. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Store in a cool, dry place.

**Product Disposal:** Do not contaminate water, food, or feed by disposal. Waste resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**Container Disposal: For Plastic Containers:** Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. **For Fiber Sacks:** Completely empty fiber sack by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into manufacturing or application equipment. Then dispose of sack in a sanitary landfill or by incineration if allowed by State and local authorities. **For Fiber Drums With Liners:** Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Then dispose of liner in a sanitary landfill or by incineration if allowed by State and local authorities. If drum is contaminated and cannot be reused, dispose of in the same manner. **For Bags Containing Water Soluble Packets:** Do not reuse the outer box or the resealable plastic bag. When all water-soluble packets are used, the outer packaging should be clean and may be disposed of in a sanitary landfill or by incineration, or if allowed by State and local authorities, by open burning. If burned, stay out of smoke. If the resealable plastic bag contacts the formulated product in any way, the bag must be triple-rinsed with clean water. Add the rinsate to the spray tank and dispose of the outer wrap as described above. **For Metal Containers (non aerosol):** Triple rinse (or equivalent) the container. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. **For Paper and Plastic Bags:** Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

**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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**LIMITATION OF WARRANTY AND LIABILITY**

NOTICE: Read this Limitation of Warranty and Liability Before Buying or Using This Product. 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.

For product information call: 1-888-6-DUPONT

Internet address: [www.dupont.com/ag/us](http://www.dupont.com/ag/us)

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**SUPPLEMENTAL LABELING**

**DuPont Crop  
Protection**

**MATRIX® HERBICIDE  
DUPONT™ MATRIX® HERBICIDE  
LOW RATE USE IN POTATOES**

**MATRIX® HERBICIDE**

EPA Reg. No. 352-556

**DUPONT™ MATRIX® HERBICIDE**

EPA Reg. No. 352-556

**LOW RATE USE IN POTATOES -  
SOUTHWESTERN AND SOUTHCENTRAL IDAHO, MALHEUR COUNTY IN  
OREGON, AND HUMBOLDT AND ELKO COUNTIES IN NEVADA**

**GENERAL INFORMATION**

DuPont™ MATRIX® Herbicide and MATRIX® Herbicide (MATRIX®) is a dry flowable formulation that selectively controls certain broadleaf weeds and grasses in potatoes. The best control is obtained when MATRIX® is applied to young, actively growing weeds. The degree and duration of control may depend on the weed spectrum and infestation intensity, the weed size at application and/or the environmental conditions at and following treatment.

MATRIX® is noncorrosive to equipment, nonflammable, and nonvolatile.

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

**DIRECTIONS FOR USE**

MATRIX® Herbicide when applied preemergence at 1/2 ounce per acre, will control Redroot Pigweed. When applied postemergence at 1/2 ounce per acre will control Redroot Pigweed, and partially control Wild Oat, Barnyardgrass and Green Foxtail in potatoes. This 1/2 ounce per acre rate is only recommended to supplement a standard potato herbicide program so as to improve overall weed control results. It is not designed to replace a full rate MATRIX® planned weed control program. This reduced rate is only recommended for use in southwestern and south central Idaho (including the counties of Ada, Canyon, Adams, Washington, Valley, Gem, Owyhee, Payette, Boise, Elmore, Gooding, Jerome, Lincoln, Camas, Twin Falls, Blair, Minidoka and Cassia) and in Malheur county in Oregon, and Humboldt and Elko counties of Nevada.

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

**PREEMERGENCE APPLICATIONS**

For preemergence applications to control Redroot Pigweed apply MATRIX® at 1/2 ounce per acre, immediately after hilling, drag-off, or reservoir tillage (dam/dike operation), to a clean, newly prepared seedbed.

To activate MATRIX® in the soil, supply moisture by a single rainfall event of 1/3 to 1", 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® 2 to 3" deep into the soil profile. Activating moisture 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® postemergence will result in better weed control.

If a clean, newly prepared seedbed, free of emerged or germinating weeds is not feasible, and weeds are present at application, add a nonionic surfactant containing at least 80% active ingredient to the spray mix at 0.125 to 0.25% v/v (1 to 2 pt/100 gal of water). Control may not be adequate for weeds that have an established root system before rainfall or sprinkler activation of MATRIX®.

Preemergence applications can be made by ground or air.

**POSTEMERGENCE APPLICATIONS**

For postemergence applications, apply MATRIX® at 1/2 ounce per acre to young, actively growing weeds after crop emergence. Typically, small weeds (less than 1" in height or diameter) that

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are actively growing at application are most easily controlled. For control of Redroot Pigweed height should not exceed 3 inches. For partial control of Wild Oat, Barnyardgrass and Green Foxtail weed height should not exceed 2 inches or the 3-leaf stage.

Postemergence applications can be made by ground or by air.

**Adjuvants:**

Applications of DuPont™ MATRIX® Herbicide and MATRIX® Herbicide (MATRIX®) when applied by itself and postemergence to the weeds must include an adjuvant. Use either a Petroleum Crop Oil Concentrate (COC), Modified Seed Oil (MSO) or nonionic surfactant (NIS).

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

- Apply at 1-% volume/volume (1 gal per 100-gal spray solution).
- Methylated seed oil (MSO) is the preferred adjuvant.
- 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 0.125 to 0.25% v/v (1 to 2-pt/100 gal of water).
- The 0.25% v/v rate is preferred under arid or drought conditions.
- Surfactant products must contain at least 60% nonionic surfactant with a hydrophilic/lipophilic balance (HLB) greater than 12.

**Ammonium Nitrogen Fertilizer**

- An ammonium nitrogen fertilizer can be used in addition to the adjuvant. Use 1 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).

**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.

**Tank Mixtures**

Read and follow all manufacturers label recommendations for the companion product. If these recommendations conflict with this MATRIX® label, do not use as a tank mix with MATRIX®.

**MATRIX® plus Metribuzin**

Apply a tank mix combination of MATRIX® at 1/2 ounce per acre and Metribuzin (such as "Sencor") at 1/4 to 2/3 lb per acre for improved weed control. 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.

Avoid post emergence applications on metribuzin sensitive varieties, or if the crop is under stress. Read and follow the product label 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® plus Metribuzin.

**MATRIX® plus "Eptam"**

Apply a tank mix combination of MATRIX® at 1/2 ounce per acre and "Eptam" before potatoes exceed 4-6" in height for improved weed control. Use a nonionic surfactant at 0.125% v/v (1 pt/100 gal of water) or methylated seed oil (MSO) at 1.0 %V/V (1 gallon/100 gallons of water).

Read and follow the product label for your area.

**CROP ROTATION**

Sugarbeets, alfalfa, and onions grown under irrigation can be planted 10 months after using 1/2 ounce per acre of MATRIX® herbicide on sprinkler irrigated potatoes. Applications to potatoes must be made prior to July 15th. Deep tillage using a moldboard plow is recommended to insure thorough mixing of the treated soil.

Rotation intervals 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 potato growing season. Injury to the sugarbeets, alfalfa or onion crop may occur if less than 15 inches of sprinkler irrigation is used on the previous potato crop.

See the MATRIX® product label for rotational crop guidelines regarding other crops.

For tank mixtures, follow the most restrictive rotational crop guideline.

**IMPORTANT**

**BEFORE USING MATRIX® 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 this product, which do not appear on the EPA-registered package label. Follow the instructions carefully.

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

"Eptam" is a registered trademark of Syngenta Crop Protection  
"Sencor" is a registered trademark of Bayer Crop Protection

(RE: SL-951 MSL)

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