352-556 6-06-2003 1/22

*Please read instructions on reverse before completing form.* Form Approved. OMB No. 2070-0060. Approval expires 05-31-98

United States
Environmental Protection Agency
Washington, DC 20460

☐ Registration
☐ Amendment
☒ Other

OPP Identifier Number

## Application for Pesticide - Section I

| 1. Company/Product Number | 2. EPA Product Manager | 3. Proposed Classification |
|---|---|---|
| DuPont / 352-556 | J. A. Tompkins | ☒ None ☐ Restricted |
| **4. Company/Product (Name)** | **PM#** | |
| DuPont / DuPont Matrix® Herbicide | 25 | |

**5. Name and Address of Applicant** *(Include ZIP Code)*
E. I. du Pont de Nemours & Company (DuPont Crop Protection)
Stine-Haskell Research Center
P.O. Box 30, Newark, DE 19714-0030
Attn: Richard J. Ambrose S300/423
☐ *Check if this is a new address*

**6. Expedited Review.** In accordance with FIFRA Section 3(c)(3)(b)(i), my product is similar or identical in composition and labeling to:
EPA Reg. No. _____
Product Name _____

## Section - II

☐ Amendment - Explain below.
☐ Resubmission in response to Agency letter dated _____
☒ Notification - Explain below.
☐ Final printed labels in response to Agency letter dated _____
☐ "Me Too" Application.
☐ Other - Explain below.

NOTIFICATION
JUN 0 6 2003

**Explanation:** Use additional page(s) if necessary. (For section I and Section II.)

*1. Under Aerial Application (label page 3), add the verbiage "In California use a minimum of 10 GPA." after the statement "Use nozzle types and arrangements that will provide optimum spray distribution and maximum coverage at a minimum of 5 GPA. " 2. Under Postemergence (Partial Control) weeds list (label page 5), add a footnote for "Volunteer Alfalfa" that reads "Except in California". Note: A recent e-mail communication from Jim Tompkins, PM for this product, confirmed that these changes could be made via Notification to the Section 3 labeling of DuPont Matrix® Herbicide (e-mail attached).

## Section - III

**1. Material This Product Will Be Packaged In:**

| Child-Resistant Packaging | Unit Packaging | Water Soluble Packaging | 2. Type of Container |
|---|---|---|---|
| ☐ Yes* ☐ No | ☐ Yes ☐ No | ☐ Yes ☐ No | ☐ Metal ☐ Plastic ☐ Glass ☐ Paper ☐ Other (Specify) _____ |
| * *Certification must be submitted* | If "Yes" Unit Packaging wgt. / No. per container | If "Yes" Package wgt. / No. per container | |

| 3. Location of Net Contents Information | 4. Size(s) Retail Container | 5. Location of Label Directions |
|---|---|---|
| ☐ Label ☐ Container | | ☐ On Label ☐ On Labeling accompanying product |

**6. Manner in Which Label is Affixed to Product** ☐ Lithograph ☐ Paper glued ☐ Stenciled ☐ Other _____

## Section - IV

**1. Contact Point** *(Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)*

| Name | Title | Telephone No. (Include Area Code) |
|---|---|---|
| Richard J. Ambrose | Registration Coordinator | (302) 366-5451 |

**Certification**

I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

**6. Date Application Received** (Stamped)

| 2. Signature | 3. Title |
|---|---|
| Richard J. Ambrose | Registration Coordinator |
| **4. Typed Name** | **5. Date** |
| Richard J. Ambrose | 5/29/2003 |

EPA Form 8570-1 (Rev. 8-94) Previous editions are obsolete. White - EPA File Copy (original) Yellow - Applicant Copy

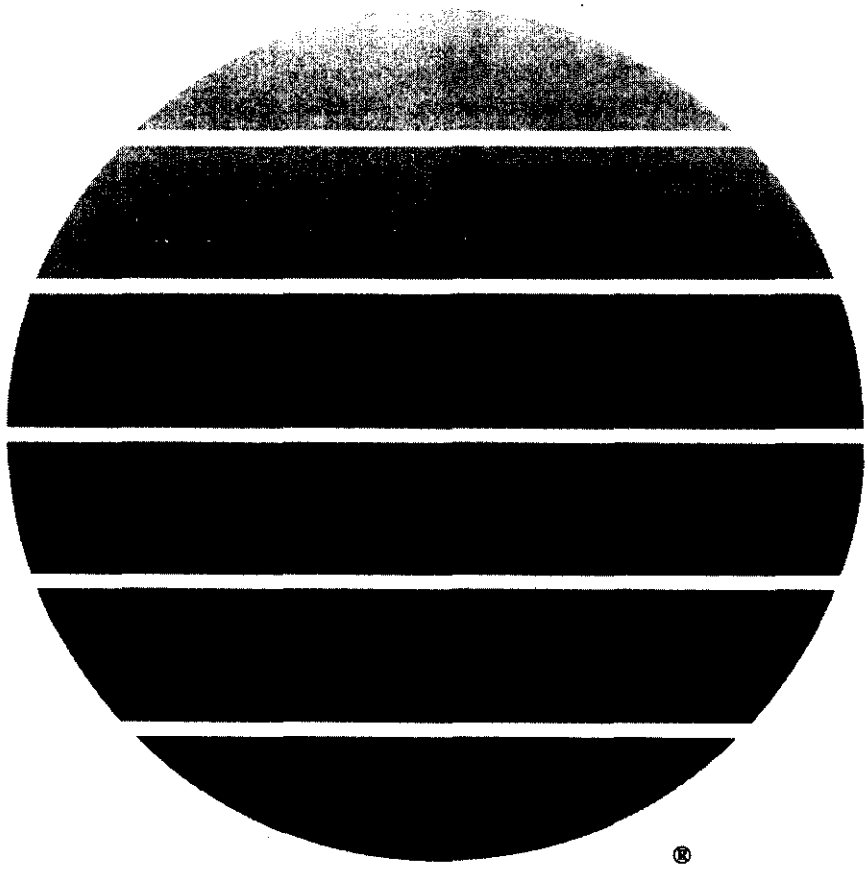
2/22

H - 64064

DUPONT Current Approved Label

# Matrix®

**herbicide**



*"..... A Growing Partnership With Nature"*

NOTIFICATION

JUN 0 6 2003

3/22

## DUPONT MATRIX® HIGHLITES

- For preemergence and postemergence weed control in 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.
- 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.
- Postemergence - For postemergence applications, apply MATRIX® at 1 to 1 1/2 oz per acre to young, actively growing weeds after crop emergence.
- Use in tank mixtures with other registered herbicides for broader spectrum weed control (see TANK MIXTURES).
- 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).
- Application by ground, air or chemigation.
- Do not apply MATRIX® within 60 days of potato harvest and do not exceed 2.5 oz MATRIX® per acre during the same growing season.
- Consult label text for complete instructions. Always read and follow label DIRECTIONS FOR USE.

## TABLE OF CONTENTS

4/22

DUPONT®

# Matrix®

## herbicide

**DRY FLOWABLE**

***For Weed Control In Potatoes***

| *Active Ingredients* | *By Weight* |
|---|---|
| Rimsulfuron N-((4,6-dimethoxypyrimidin-2-yl) aminocarbonyl)-3-(ethylsulfonyl)-2-pyridinesulfonamide | 25.0% |
| *Inert Ingredients* | 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 eye irritation. Harmful if absorbed through skin. Avoid contact with skin, eyes, or clothing. Avoid breathing dust or spray mist.

**PERSONAL PROTECTIVE EQUIPMENT**

Some materials that are chemical resistant to this product are listed below. If you want more options follow the instructions for Category A on the EPA chemical resistance 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) ≥14 mls.
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.

## GENERAL INFORMATION

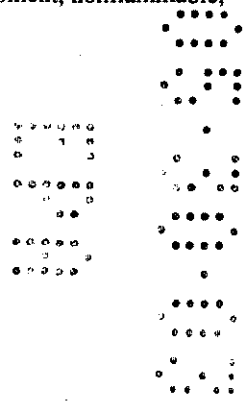
DuPont MATRIX® Herbicide is a dry flowable formulation that selectively controls certain broadleaf weeds and grasses in potatoes.

MATRIX® is recommended for use in all states.

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.



5/22

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.

## SEQUENTIAL APPLICATIONS

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. The combined rate of the applications cannot exceed 2.5 oz MATRIX® per acre.

## 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®.

## WEEDS CONTROLLED

### *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, Birdsrape | (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, Hairy | (Solanum sarrachoides) |
| Ragweed, Common | (Ambrosia artemisiifolia) |
| Velvetleaf | (Abutilon theothrasti) |

### *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 dichotomiflorum) |
| Quackgrass* | (Agropyron repens) |
| Wheat, Volunteer | (Triticum aestivum) |

6/22

DuPont 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®.

## *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.

## MATRIX® ROTATIONAL CROP GUIDELINES

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

| Rotation Crop | Interval (months) |
|---|---|
| Barley, Spring | 9* |
| Beans, Dry | 10 |
| Beans, Succulent | 10 |
| Corn, Field | Anytime |
| Corn, Popcorn | 10 |
| Corn, Sweet | 10 |
| Cover Crops (erosion control) | 4 |
| Oats, Spring | 9 |
| Potatoes | Anytime |
| Sunflowers | 10 |
| Soybeans | 4 |
| Tomatoes | 1 |
| 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.

## 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 section.

### *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*

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

7/22

5. Where routine spraying practices include shared equipment frequently being switched between applications of DuPont 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.

### *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.

### *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.

## RESISTANCE

Biotypes of certain weeds listed on this label are resistant to MATRIX® and other herbicides with the same mode of action*, even at exaggerated application rates. Biotypes are naturally occurring individuals of a species that are identical in appearance but have slightly different genetic compositions; the mode of action of an herbicide is the chemical interaction that interrupts a biological process

8/22

necessary for plant growth and development.
If weed control is unsatisfactory, it may be necessary to retreat problem areas using a product with a different mode of action, such as postemergence broadleaf and/or grass herbicides.
If resistant weed biotypes such as kochia are suspected or known to be present use a tank-mix partner with DuPont MATRIX® to help control these biotypes, or use a planned herbicide rotation program where other residual broadleaf herbicides having different modes of action are used.
To better manage weed resistance when using MATRIX® use a combination of tillage and tank-mix partners, or sequential herbicide applications that have a different mode of action than MATRIX®, to control escaped weeds. Do not let weed escapes go to seed
Consult your agricultural dealer, consultant, applicator, and/or appropriate state agricultural extension service representative for specific alternative herbicide recommendations available in your area.
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.

* Naturally occurring weed biotypes that are resistant to Amber Herbicide, DuPont ALLY ® Herbicide, DuPont GLEAN ® F C Herbicide, DuPont EXPRESS ® Herbicide, DuPont HARMONY ® EXTRA Herbicide, or DuPont FINESSE ® Herbicide will also be resistant to MATRIX®.

## PRECAUTIONS

- Potato 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 result in reduced weed control.
- Preemergence and Postemergence use on rill irrigated potatoes (furrow or gravity) may not provide adequate weed control in the absence of rainfall.
- Do not apply to sweet potatoes or yams.
- 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.
- Do not use MATRIX® on potatoes grown for seed, except as directed on supplemental labeling.
- 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.

## STORAGE AND DISPOSAL

**STORAGE:** Store product in original container only. Do not contaminate water, other pesticides, fertilizer, food, or feed in storage.

**PESTICIDE 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:** Triple rinse (or equivalent) the container. Then offer for recycling or reconditioning, or puncture and dispose of 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.

"Bravo", "Dual" , "Eptam" and "Gramoxone" are registered trademarks of Syngenta Crop Protection Inc.

"Prowl" is a registered trademark of BASF Corp.

"Lorox DF" and "Manzate" are registered trademarks of Griffin LLC

"Roundup" is a registered trademark of Monsanto

"Sencor" is a registered trademark of Bayer Crop Protection

**SL - 774 050201 04-25-01**

## 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.

DuPont does not agree to be an insurer of these risks. 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.

DUPONT MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR OF MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

IN NO EVENT SHALL DUPONT OR SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT. BUYER'S OR USER'S BARGAINED-FOR EXPECTATION IS CROP PROTECTION. THE EXCLUSIVE REMEDY OF THE USER OR BUYER AND THE EXCLUSIVE LIABILITY OF DUPONT OR SELLER, FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY OR CONTRACT, NEGLIGENCE, TORT OR STRICT LIABILITY), WHETHER FROM FAILURE TO PERFORM OR INJURY TO CROPS OR OTHER PLANTS, AND RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT, OR AT THE ELECTION OF DUPONT OR SELLER, THE REPLACEMENT OF THE PRODUCT.

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**

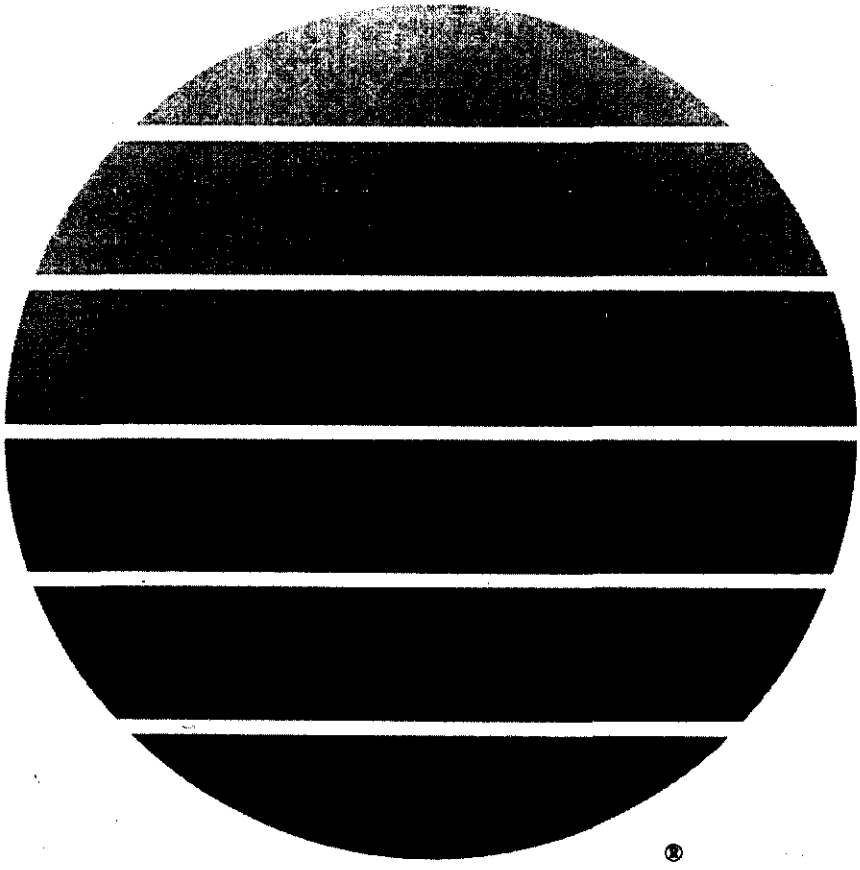
**Internet address: www.dupont.com/ag/us**

H- 10/22

DUPONT®

# Matrix®

**herbicide**



*"..... A Growing Partnership With Nature"*

NOTIFICATION

JUN 0 6 2003

11/22

## DUPONT MATRIX® HIGHLITES

- For preemergence and postemergence weed control in 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.
- 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.
- Postemergence - For postemergence applications, apply MATRIX® at 1 to 1 1/2 oz per acre to young, actively growing weeds after crop emergence.
- Use in tank mixtures with other registered herbicides for broader spectrum weed control (see TANK MIXTURES).
- 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).
- Application by ground, air or chemigation.
- Do not apply MATRIX® within 60 days of potato harvest and do not exceed 2.5 oz MATRIX® per acre during the same growing season.
- Consult label text for complete instructions. Always read and follow label DIRECTIONS FOR USE.

## TABLE OF CONTENTS

12/22

DUPONT®

# Matrix®

## herbicide

**DRY FLOWABLE**

***For Weed Control In Potatoes***

| *Active Ingredients* | *By Weight* |
|---|---|
| Rimsulfuron | |
| N-((4,6-dimethoxypyrimidin-2-yl) aminocarbonyl)-3-(ethylsulfonyl)-2-pyridinesulfonamide | 25.0% |
| *Inert Ingredients* | 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 eye irritation. Harmful if absorbed through skin. Avoid contact with skin, eyes, or clothing. Avoid breathing dust or spray mist.

**PERSONAL PROTECTIVE EQUIPMENT**

Some materials that are chemical resistant to this product are listed below. If you want more options follow the instructions for Category A on the EPA chemical resistance 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) ≥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.

## GENERAL INFORMATION

DuPont MATRIX® Herbicide is a dry flowable formulation that selectively controls certain broadleaf weeds and grasses in potatoes.

MATRIX® is recommended for use in all states.

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.

**NOTIFICATION**

JUN 0 6 2003

13/22

# 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 Category A (such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber) ≥14 mls.
Shoes plus socks.

## APPLICATION INFORMATION

- For use only on potatoes; do not use on any other crop unless specified on other DuPont labeling.
- Do not apply DuPont MATRIX® within 60 days of potato harvest.
- Do not exceed 2.5 oz MATRIX® per acre during the same growing season.

## APPLICATION METHODS

### *PREEMERGENCE 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 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 activation of MATRIX®.

### *Tank Mixtures - Preemergence Applications*

MATRIX® may be tank mixed with other suitable registered herbicides such as , "Eptam", "Prowl", "Lorox DF", "Dual", "Roundup" and "Gramoxone". MATRIX® may also be used in three-way tank mix combinations with the above herbicides.

Read and follow all manufacturer's label recommendations for the companion herbicide. 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 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.

***MATRIX® plus "Eptam"***

Apply a tank mix of MATRIX® at 1 to 1-1/2 oz per acre and "Eptam" 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" vary by region, follow the recommendations for your region. It is recommended to incorporate a tank mix of "Eptam" + 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" and MATRIX® in a split application.

***MATRIX® plus "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 "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.

14/22

*DuPont MATRIX® plus "Dual"*

Apply a tank mix combination of MATRIX® at 1 to 1-1/2 oz per acre and "Dual" at 1-1/2 to 3 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 the "Dual" label for your area.

## POSTEMERGENCE APPLICATIONS

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 Specific Weed Problem section 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.

**Adjuvants:**

Applications of MATRIX® when applied by itself and postemergence to the weeds must include an adjuvant. Use either a nonionic surfactant (NIS) containing at least 80% active ingredient or crop oil concentrate (COC) or a methylated seed oil (MSO) with ground applications.

Use the NIS surfactant 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.

Use the petroleum (COC) or methylated seed (MSO) based crop oil concentrate at 1% v/v (1 gal/100 gal spray solution).

Additional information on adjuvant selection may be found in the bulletin Approved Adjuvants for Use with DuPont Row Crop and Cereal Herbicides.

**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 - Postemergence Applications

*MATRIX® plus FOLIAR FUNGICIDES*

MATRIX® may be tank mixed with other suitable registered fungicides (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*

Apply a tank mix combination of MATRIX® at 1 to 1-1/2 oz per acre and Metribuzin (DuPont LEXONE®/"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"*

Apply a tank mix combination of MATRIX® at 1 to 1-1/2 oz per acre and "Eptam" at label rates, before potatoes exceed 4-6" height, for better control of such weeds as hairy nightshade and crabgrass. Use a nonionic surfactant at 0.125% v/v (1 pt/100 gal of water).

Read and follow both product labels for your area.

## 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

MATRIX® can be applied using center pivot, lateral move, solid set, or hand move irrigation systems. 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").

15/22

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.

## SEQUENTIAL APPLICATIONS

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. The combined rate of the applications cannot exceed 2.5 oz MATRIX® per acre.

## 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®.

## WEEDS CONTROLLED

### *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, Birdsrape | (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, Hairy | (Solanum sarrachoides) |
| Ragweed, Common | (Ambrosia artemisiifolia) |
| Velvetleaf | (Abutilon theothrasti) |

### *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 dichotomiflorum) |
| Quackgrass* | (Agropyron repens) |
| Wheat, Volunteer | (Triticum aestivum) |

16/22

***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, Prostrate | (Amaranthus bliotoides) |
| Pigweed, Redroot | (Amaranthus retroflexus) |
| Pigweed, Smooth | (Amaranthus hybridus) |
| Shepherd's purse | (Capsella bursa-pastoris) |
| Wild Radish | (Raphanus raphanistrum) |

### *Postemergence (Partial Control)*

***Grasses***

| | |
|---|---|
| Johnsongrass, Seedling | (Sorghum halepense) |
| Millet, Wild Prosso | (Panicum miliaceum) |
| Stinkgrass | (Eragrostis cilianensis) |
| Wild Oat | (Avena fatua) |
| Yellow Nutsedge | (Cyperus esculentus) |

***Broadleaves***

| | |
|---|---|
| Canada thistle* | (Cirsium arvense) |
| Cocklebur | (Xanthium spp.) |
| Lambsquarters, Common | (Chenopodium album) |
| Morningglory, Ivyleaf | (Ipomoea hederacea) |
| Nightshade, Hairy | (Solanum sarrachoides) |
| Purslane, Common | (Portulaca oleracea) |
| Ragweed, Common | (Ambrosia artemisiifolia) |
| Smartweed, Pennsylvania | (Polygonum pensylvanicum) |
| Velvetleaf | (Abutilon theophrasti) |
| Volunteer Alfalfa** | (Midicago sativa) |

* See Specific Weed Problems

** Except in California

### *SPECIFIC WEED PROBLEMS*

**Quackgrass:** For best results, apply DuPont MATRIX® postemergence at 1 to 1 1/2 oz per acre, 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. Do not exceed 2.5 oz MATRIX® per acre during the same growing season.

**Canada Thistle:** For best results, apply MATRIX® postemergence at 1 to 1 1/2 oz per acre, 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. Do not exceed 2.5 oz MATRIX® per acre during the same growing season.

## 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 nonionic surfactant (if needed). Always add surfactant 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.

### *EQUIPMENT-SPRAY VOLUMES*

To ensure optimum spray distribution and thorough coverage, apply MATRIX® with a properly calibrated, low-pressure (20 to 40 psi) boom sprayer equipped with flat fan 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. With ground application equipment, use enough water to deliver 10 to 40 gal total spray per acre.

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.

## ENVIRONMENTAL CONDITIONS AND BIOLOGICAL ACTIVITY

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.

## 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.

## MATRIX® ROTATIONAL CROP GUIDELINES

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

| Rotation Crop | Interval (months) |
|---|---|
| Barley, Spring | 9* |
| Beans, Dry | 10 |
| Beans, Succulent | 10 |
| Corn, Field | Anytime |
| Corn, Popcorn | 10 |
| Corn, Sweet | 10 |
| Cover Crops (erosion control) | 4 |
| Oats, Spring | 9 |
| Potatoes | Anytime |
| Sunflowers | 10 |
| Soybeans | 4 |
| Tomatoes | 1 |
| 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.

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***

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.



- 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.

Biotypes of certain weeds listed on this label are resistant to MATRIX® and other herbicides with the same mode of action*, even at exaggerated application rates. Biotypes are naturally occurring individuals of a species that are identical in appearance but have slightly different genetic compositions; the mode of action of an herbicide is the chemical interaction that interrupts a biological process

18/22

5. Where routine spraying practices include shared equipment frequently being switched between applications of DuPont 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.

### *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.

### *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.

## RESISTANCE

Biotypes of certain weeds listed on this label are resistant to MATRIX® and other herbicides with the same mode of action*, even at exaggerated application rates. Biotypes are naturally occurring individuals of a species that are identical in appearance but have slightly different genetic compositions; the mode of action of an herbicide is the chemical interaction that interrupts a biological process

necessary for plant growth and development.
If weed control is unsatisfactory, it may be necessary to retreat problem areas using a product with a different mode of action, such as postemergence broadleaf and/or grass herbicides.
If resistant weed biotypes such as kochia are suspected or known to be present use a tank-mix partner with DuPont MATRIX® to help control these biotypes, or use a planned herbicide rotation program where other residual broadleaf herbicides having different modes of action are used.
To better manage weed resistance when using MATRIX® use a combination of tillage and tank-mix partners, or sequential herbicide applications that have a different mode of action than MATRIX®, to control escaped weeds. Do not let weed escapes go to seed
Consult your agricultural dealer, consultant, applicator, and/or appropriate state agricultural extension service representative for specific alternative herbicide recommendations available in your area.
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.

* Naturally occurring weed biotypes that are resistant to Amber Herbicide, DuPont ALLY ® Herbicide, DuPont GLEAN ® F C Herbicide, DuPont EXPRESS ® Herbicide, DuPont HARMONY ® EXTRA Herbicide, or DuPont FINESSE ® Herbicide will also be resistant to MATRIX®.

## PRECAUTIONS

- Potato 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 result in reduced weed control.
- Preemergence and Postemergence use on rill irrigated potatoes (furrow or gravity) may not provide adequate weed control in the absence of rainfall.
- Do not apply to sweet potatoes or yams.
- 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.
- Do not use MATRIX® on potatoes grown for seed, except as directed on supplemental labeling.
- 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.

## STORAGE AND DISPOSAL

**STORAGE:** Store product in original container only. Do not contaminate water, other pesticides, fertilizer, food, or feed in storage.

**PESTICIDE 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:** Triple rinse (or equivalent) the container. Then offer for recycling or reconditioning, or puncture and dispose of 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.



**SL - 774-1 052103 04-25-01**

## 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.

DuPont does not agree to be an insurer of these risks. 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.

DUPONT MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR OF MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

IN NO EVENT SHALL DUPONT OR SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT. BUYER'S OR USER'S BARGAINED-FOR EXPECTATION IS CROP PROTECTION. THE EXCLUSIVE REMEDY OF THE USER OR BUYER AND THE EXCLUSIVE LIABILITY OF DUPONT OR SELLER, FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY OR CONTRACT, NEGLIGENCE, TORT OR STRICT LIABILITY), WHETHER FROM FAILURE TO PERFORM OR INJURY TO CROPS OR OTHER PLANTS, AND RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT, OR AT THE ELECTION OF DUPONT OR SELLER, THE REPLACEMENT OF THE PRODUCT.

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**

21/22

DuPont Crop Protection
Stine-Haskell Research Center
P.O. Box 30
Newark, DE 19714-0030

May 29, 2003 ***By Courier***

Document Processing Desk - NOTIF
USEPA Office of Pesticide Programs (7505C)
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

To Whom It May Concern:

***SUBJECT: DuPont Matrix® Herbicide, EPA Reg. No. 352-556***
***NOTIFICATION of Label Change to the Section 3 Labeling***

E.I. duPont de Nemours and Company ("DuPont") received Agency approval to amend the Section 3 labeling for DuPont Matrix® Herbicide (EPA Reg. No. 352-556) registration. This approval for this amendment was granted by the Agency on April 25, 2001 (approved Section 3 labeling attached, SL-774 050201 04-25-01).

To facilitate California registration, DuPont requested guidance from Jim Tompkins (EPA PM for DuPont Matrix® Herbicide). On May 16, 2003 Mr. Tompkins confirmed to DuPont that the following two changes to the Section 3 labeling, can be made via Notifications to the Agency (5/16/2003 email attached).

We are now herein Notifying the Agency of changes to the current EPA approved Section 3 labeling, SL-774 050201 04-25-01.

Specifically:

1. Under Aerial Application (label page 3), change the verbiage from: "Use nozzle types and arrangements that will provide optimum spray distribution and maximum coverage at a minimum of 5 GPA." To "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."
2. Under Postemergence (Partial Control) weeds list (label page 5), add a footnote for "Volunteer Alfalfa" that reads "Except in California". Therefore, the entry in the table would read "Volunteer Alfalfa **" with a second footnote for the table being "** Except in California".

This notification is, we believe, consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Section 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, these products may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

To support this Notification, enclosed are the following:

- A completed "Application for Pesticide - Other", EPA Form 8570-1, OPP Identifier Number 267764
- One (1) copy of the current Section 3 labeling for reference (H-64064 or SL-774 050201 04-25-01)
- One (1) copy of the revised Section 3 labeling with the changes being made via this notification highlighted for quick reference (SL-744-1 052103 04-25-01)
- Five (5) clean copies of revised Section 3 labeling for DuPont Matrix® Herbicide (SL-744-1 052103 04-25-01)
- One (1) copy of Jim Tompkins' 5-16-2003 e-mail communication that the above changes can be made via Notification.

If you have any questions regarding this submission, please contact me at (302) 366-5451. I can also be reached via FAX at (302) 366-6112 or e-mail at richard.j.ambrose@usa.dupont.com. Best regards.

Sincerely,

Richard J. Ambrose
Registration Coordinator

*Enclosures*