### **PLEASE NOTE**

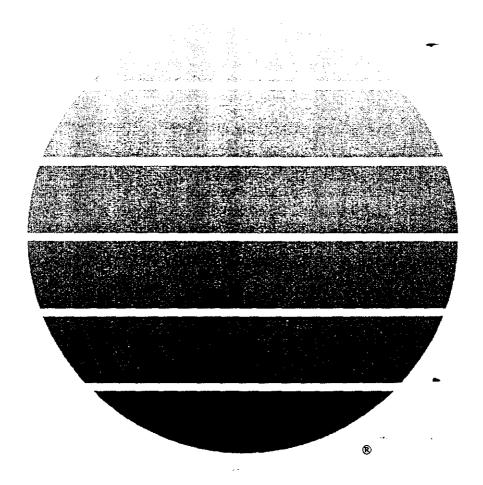
This image contains more than one label approved for this product on this date.



# **Shadeout**<sup>TM</sup>

herbicide

# **DRAFT LABEL**



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

#### **DUPONT SHADEOUT™ HIGHLIGHTS**

Postemergence weed control in processing tomatoes.

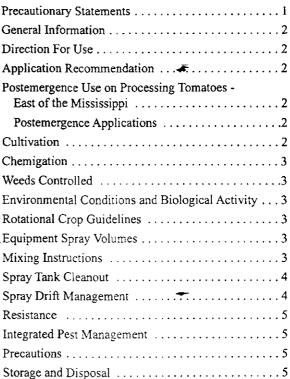
For postemergence applications, apply SHADEOUT<sup>TM</sup> at 2.0 oz. product per acre to young, actively growing weeds after the crop has reached the 2 leaf stage. Usually, small weeds (less than 1" in height or diameter) are most easily controlled.

To activate SHADEOUT<sup>TM</sup> 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 SHADEOUT<sup>TM</sup> 2" to 3" deep into the soil profile.

Consult label text for complete instructions. Always read and follow label DIRECTIONS FOR USE.

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# **Shadeout**<sup>TM</sup>

#### herbicide

DRY FLOWABLE

FOR POST-EMERGENCE WEED CONTROL IN PROCESSING TOMATOES IN STATES EAST OF THE MISSISSIPPI

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

### ACCEPTED

JUN 19 2000

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

# KEEP OUT OF REACH OF CHILDREN CAUTION

## STATEMENT OF PRACTICAL TREATMENT

In case of contact with eyes, immediately flush with plenty of water.

If on skin, wash with plenty of soap and water. Get medical attention if irritation persists.

For medical emergencies involving this product, call toll free 1-800-441-3637.

# 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

Applicators and other handlers must wear:

Long-sleeve shirt and long pants.

Waterproof gloves.

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 SHADEOUT<sup>TM</sup> herbicide is for selective control of certain broadleaf weeds in field grown tomatoes (direct seeded and transplant). SHADEOUT<sup>TM</sup> is noncorrosive to equipment, nonflammable, and nonvolatile. SHADEOUT<sup>TM</sup> is rainfast in 4 hours.

#### **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.

Waterproof gloves.

Shoes plus socks.

#### APPLICATION RECOMMENDATION

Do not apply SHADEOUT<sup>TM</sup> within 45 days of tomato harvest. Do not apply SHADEOUT<sup>TM</sup> by air.

Do not apply using Air Assisted (Air Blast) field crop sprayers.

The total application of SHADEOUT<sup>TM</sup> should not exceed 4.0 ... oz. product per acre per year.

## POSTEMERGENCE USE ON PROCESSING TOMATOES - EAST OF THE MISSISSIPPI

#### POSTEMERGENCE APPLICATIONS

For postemergence applications, apply SHADEOUT<sup>TM</sup> at 2.0 oz. product per acre to young, actively growing weeds after the crop has reached the 2 leaf stage. Optimum performance is obtained when weeds are small (less than 1" in height or diameter)

Use a nonionic surfactant of 80% a.i. or higher with all applications. 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 SHADEOUT<sup>TM</sup>. Symptoms usually disappear within 5 to 15 days.

For best results with SHADEOUT<sup>TM</sup> 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 SHADEOUT<sup>TM</sup> in the soil and help provide control of subsequent flushes of annual weeds.

Postemergence applications of SHADEOUT<sup>TM</sup> should be made after the tomatoes 2nd true leaf has emerged. Applications made prior to the 2nd leaf stage may result in temporary chlorosis (lime green color) and stunting.

If plastic mulch is used in the tomato row, make applications to the row middles not covered by the plastic. Adjust equipment to keep the application off the plastic, and use proportionally less spray mixture based on the soil area actually sprayed.

#### BAND APPLICATIONS

SHADEOUT<sup>TM</sup> can be applied postemergence as a banded application. Use proportionally less spray mixture based on the soil area actually sprayed. See Postemergence Applications sections for additional details on the use of SHADEOUT<sup>TM</sup>.

#### **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 SHADEOUT<sup>TM</sup>.

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



#### **CHEMIGATION**

Do not apply this product through any type of irrigation system.

# WEEDS CONTROLLED POSTEMERGENCE CONTROL (Weeds Not to Exceed 1" in Height)

#### Broadleaves

Pigweed, Redroot (Amaranthus retroflexus)
Pigweed, Smooth (Amaranthus hybridus)

## ENVIRONMENTAL CONDITIONS AND BIOLOGICAL ACTIVITY

SHADEOUT<sup>TM</sup> is absorbed through the roots and foliage of plants, rapidly inhibiting the growth of susceptible weeds.

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.

SHADEOUT<sup>TM</sup> 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 SHADEOUT<sup>TM</sup> may be less effective on weeds stressed from adverse environmental conditions (such as extreme temperatures or moisture), abnormal soil conditions (saturated or water-logged soils) or cultural practices. In addition, weeds hardened-off by drought stress are less susceptible to SHADEOUT<sup>TM</sup>.

#### **ROTATIONAL CROP GUIDELINES**

Planting prior to the interval shown may result in crop injury when using SHADEOUT<sup>TM</sup>. 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 tomato growing season. For tank mixtures, follow the most restrictive rotational crop guideline.

The rotational crops listed may be planted at the indicated intervals providing the fields are plowed or deep disked prior to planting the rotational crop.

#### SHADEOUT™ ROTATIONAL CROP GUIDELINE

Rotation Crop	Interval in Months
Beans, Dry	10
Com, Field	Anytime
Corn, Sweet	10
Cotton	10
Garlic	6
Potatoes	Anytime
Soybeans	10
Tomatoes	Anytime
Wheat, Winter	4
Crops Not Listed	18

#### **EQUIPMENT-SPRAY VOLUMES**

For optimum spray distribution and thorough coverage, apply uniformly by ground with a properly calibrated low pressure (20-40 psi) stabilized boom equipped with either even flat fan, Twinjet, or under leaf banding nozzles. Use 10-40 GPA with ground spray equipment.

Continuous agitation in the spray tank is required to keep the material in suspension. Avoid overlapping, and shut off spray booms while starting, turning, slowing, or stopping, or injury to the crop may result.

Do not use equipment and/or spray volumes that will cause spray to drift onto nontarget sites. Do not make applications during weather conditions which cause spray to drift onto nontarget sites.

For band applications, use proportionally less spray mixture based on the soil area actually sprayed.

#### MIXING INSTRUCTIONS

- 1. Fill the tank 1/4 to 1/3 full of water.
- 2. While agitating, add the required amount of DuPont SHADEOUT™.
- Continue agitation until the SHADEOUT<sup>TM</sup> is fully dispersed, at least 5 minutes.
- 4. Once the SHADEOUT™ is fully dispersed, maintain agitation and continue filling tank with water. SHADEOUT™ 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.
- If the mixture is not continuously agitated, settling will occur. If settling occurs, thoroughly re-agitate before using.
- Apply SHADEOUT<sup>TM</sup> spray mixture within 48 hours of mixing to avoid product degradation.
- 8. If SHADEOUT<sup>TM</sup> and a tank mix partner are to be applied in multiple loads, pre-slurry the SHADEOUT<sup>TM</sup> in clean water prior to adding to the tank. This will prevent the tank mix partner from interfering with the dissolution of the SHADEOUT<sup>TM</sup>.

For optimum stability of SHADEOUT<sup>TM</sup> in the spray tank, the pH should be pH 7.

#### SPRAYER TANK CLEANOUT

To avoid subsequent injury to desirable crops, clean all mixing and spray equipment immediately following applications of SHADEOUT<sup>TM</sup> as follows:

- Drain tank; thoroughly rinse spray tank, 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 3% ammonia) 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. Again flush the hoses, boom and nozzles with the cleaning solution and then drain the tank.
- Remove the nozzles and screens and clean separately in a bucket containing cleaning agent and water.
- 4. Repeat step 2.
- 5. Rinse the tank, boom, and hoses with clean water.
- The rinsate may be disposed of on-site or at an approved disposal facility.
- \* Equivalent amount of an alternate strength ammonia solution or a DuPont-approved cleaner (see bulletin "A GUIDE TO APPLICATION EQUIPMENT CLEANOUT") can be used in the cleanout procedure. Carefully read and follow the individual cleaner instructions.

#### NOTES:

- 1. This procedure should be used for all injection nurse tanks used in chemigation with SHADEOUT<sup>TM</sup>.
- In addition to this cleanout procedure, all pre-cleanout guidelines on subsequently applied products should be followed as per the individual labels.
- 3. Where routine spraying practices include shared equipment frequently being switched between applications of SHADEOUT<sup>TM</sup> and applications to other crops during the same spray season, it is recommended a sprayer or nurse tank be dedicated to SHADEOUT<sup>TM</sup> 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 lowdrift nozzles.

#### **BOOM HEIGHT**

Setting the boom at the lowest labeled height (if specified) that provides uniform coverage 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 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 with the same mode of action are used repeatedly over several years to control the same weed species in the same field, naturally-occurring resistant weed biotypes may survive a correctly applied herbicide treatment, propagate, and become dominant in that field. These resistant weed biotypes may not be adequately controlled. Cultural practices such as tillage, preventing weed escapes from going to seed, and using herbicides with different modes of action within and between crop seasons can aid in delaying the proliferation and possible dominance of herbicide resistant weed biotypes.

#### 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**

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.

Tank mixing DuPont SHADEOUT™ with Organophosphate insecticides may result in crop injury.

Avoid spray drift to any adjacent crops as injury may occur.

If sprinklers are used for frost protection, delay the application of SHADEOUT<sup>TM</sup> until stress from environmental conditions have passed.

Do not apply to tomatoes growing in Greenhouses, Cold Frames, Pot cultures, etc., apply only to tomatoes growing in fields.

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 tomatoes.

#### 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.

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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.

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.

# NEXT

# LABEL

**Products** 

ACCEPTED

JUN 19 2000

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

SUPPLEMENTAL LABELING

MATRIX™ HERBICIDE
AERIAL APPLICATION USE ON
POTATOES IN THE KLAMATH BASIN
OF CALIFORNIA AND OREGON AND IN
THE STATES OF IDAHO AND TEXAS

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

**DuPont Agricultural** 

#### MATRIX™ HERBICIDE

EPA REG. NO. 352-556

#### AERIAL APPLICATION USE ON POTATOES IN THE KLAMATH BASIN OF CALIFORNIA AND OREGON, AND IN THE STATES OF IDAHO AND TEXAS

#### DIRECTION FOR USE

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

DuPont "Matrix" herbicide may be applied by air for weed control in potatoes grown in Modoc and Siskiyou Counties of California and Klamath County of Oregon and in the states of Idaho and Texas in accordance with the restrictions described on this label. Consult the EPA approved "Matrix" label for additional requirements, restrictions and precautions.

#### **CONDITIONS FOR USE**

"Matrix" may be applied by air to potatoes grown on organic soils (greater than 6% organic matter) when certain conditions, such as wet soil and/or excessive vine growth, make it impractical to apply "Matrix" by gound. "Matrix" may also be applied by air in Idaho and Texas to potatoes when conditions dictate such an application.

Only those aerial applicators who have a current year letter of consent from DuPont may apply "Matrix" by air in this geography.

#### **HOW TO USE**

Before using "Matrix" by air, be sure that the aircraft spray tank, and all mixing tanks and delivery system equipment is clean.

Apply "Matrix" at 1 to 1.5 ounces per acre. Add a nonionic surfactant containing at least 80% active—ingredient at the rate of 1 quart per 100 gallons of water. Apply in a minimum of 7 gallons of water per acre in Idaho, Oregon and Texas and a minimum of 10 gallons of water per acre in California, when weeds are small and actively growing. Weeds which are sheltered from spray by potato vines or other larger weeds may not be controlled.

"Matrix" can be tank mixed with other suitable potato herbicides registered for use by air. Consult the EPA registered "Matrix" label for tank mix recommendations. Read and follow all the label instructions and precautions for the other herbicide used in a tank mix with "Matrix".

On organic soils, "Matrix" does not provide adequate soil residual weed control. Weeds that germinate after application may not be controlled.

#### SPRAY DRIFT MANAGEMENT

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

AVOIDING SPRAY DRIFT IS THE RESPONSI-BILITY 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.

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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.

#### 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 atany 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.

#### SPRAYER CLEANUP

Failure to adequately clean spray equipment used to mix and apply "Matrix" before treating another crop can result in crop injury.

CROP INJURY THAT RESULTS FROM INADEQUATELY CLEANED SPRAY EQUIPMENT IS THE RESPONSIBILITY OF THE APPLICATOR. The spray equipment must be cleaned before "MATRIX" is sprayed. Follow the cleanup procedures specified on the labels of the previously applied products. If no directions are provided, follow the six steps outlined in After Spraying "MATRIX".

#### AT THE END OF THE DAY

It is recommended that during periods when multiple loads of "MATRIX" herbicide are applied, 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 flushed. This will prevent the buildup of dried pesticide deposits which can accumulate in the application equipment.

AFTER SPRAYING "MATRIX" AND BEFORE SPRAYING CROPS OTHER THAN POTATOES

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

- 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 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 cleaning agent 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. Do not exceed the maximum labeled use rate. 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-recommended cleaner can be used in the cleanout procedure. Carefully read and follow the individual cleaner instructions. Consult your Ag dealer, applicator, or DuPont representative for a listing of recommended cleaners.

#### Notes:

- 1. CAUTION: Do not use chlorine bleach with ammonia as dangerous gases will form. Do not clean equipment in an enclosed area.
- Steam-cleaning aerial spray tanks is recommended prior to performing the above cleanout procedure to facilitate the removal of any caked deposits.
- When "MATRIX" is tank mixed with other pesticides, all cleanout procedures should be examined and the most rigorous procedure should be followed.
- 4. In addition to this cleanout procedure, all pre-cleanout guide lines 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 drops during the same spray season, it is recommended that a sprayer be dedicated to "MATRIX" to further reduce the chance of crop injury.

IMPORTANT
BEFORE USING MATRIX, 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.

(Replaces H-63817)

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