352-604

6-24-2005-

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# **DuPont<sup>™</sup> Tanos<sup>®</sup>**

fungicide



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



## JUN 2 4 2005 Under the Federal Insecticide, Pundicide and Recenticide Ac

ACCEPTED

Fungleide, and Rodentioide Act, as amended, for the pesticide registered under BPA Reg. No. 372-604-

## fungicide

## **Dry Flowable**

Active Ingredients	By Weight
Famoxadone	25%
Cymoxanil	25%
Inert Ingredients	50%
TOTAL.	100%

EPA Reg. No. 352-604

## KEEP OUT OF REACH OF CHILDREN CAUTION PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION! Harmful if swallowed. Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling. Harmful if inhaled. Avoid breathing (dust, vapor or spray mist). Remove contaminated clothing and wash clothing before reuse.

## FIRST AID

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

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

IF 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. IF SWALLOWED: Call poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person. Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-441-3637 for emergency medical treatment information.

## 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 an EPA chemical resistance category selection chart.

## Applicators and other handlers must wear: Long-sleeved shirt and long pants.

Chemical Resistant Gloves Category A (such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber), all  $\geq 14$  mils.

Shoes plus socks.

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

## ENGINEERING CONTROL STATEMENTS

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

## USER SAFETY RECOMMENDATIONS

USERS SHOULD: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

## ENVIRONMENTAL HAZARDS

This product is toxic to fish and invertebrates. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water when disposing of equipment wash waters or rinsate. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.

## Surface Water Advisory

This product may contaminate water through drift of spray in wind. This product has a potential for runoff for several months or more after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. A 25-foot buffer strip is required between areas to which this product is applied and permanent surface water features including lakes; rivers; streams, marshes, and ponds; springs; estuaries and commercial fish farm ponds to reduce the potential for contamination of water from rainfall-runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours. Sound erosion control practices will reduce this product's contribution to surface water contamination.



## **DIRECTIONS FOR USE**

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

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency 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 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

Coveralls.

Chemical Resistant Gloves Category A (such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber), all ≥14 mils.

Shoes plus socks.

DuPont<sup>™</sup> TANOS<sup>®</sup> fungicide should be used only in accordance with recommendations on this label or in separate published DuPont recommendations or supplemental labels.

DuPont will not be responsible for losses or damages resulting from use of this product in any manner not specifically recommended by DuPont. User assumes all risks associated with such non-recommended use.

Do not formulate this product into other end-use products without written permission from DuPont.

## **GENERAL INFORMATION**

TANOS® is a broad-spectrum protectant fungicide, recommended for control of many important plant diseases. It has curative and locally systemic activities against downy mildew and late blight diseases.

TANOS® must be applied in a regularly scheduled protective spray program in rotation with other fungicides. See directions below for specific crop/disease recommendations.

TANOS® can be applied with ground, air or chemigation equipment, except as otherwise directed, using sufficient water to obtain thorough coverage of plants. Use only in commercial or farm plantings. Not for use in home plantings or if a commercial crop is turned into U-Pick, Pick-Your-Own or similar operation. Rainfastness: TANOS® rapidly penetrates into plant tissues and is rainfast within 1 hour after application.

## 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 disease forecasting models reach locally determined action levels. Consult your state cooperative extension service, professional consultants or other qualified authorities to determine the appropriate management, cultural practice and treatment threshold levels for the specific crop, geography and diseases.

## RESISTANCE MANAGEMENT

Repeated use of products for control of specific plant pathogens may lead to selection of resistant strains of fungi and result in a reduction of disease control. Famoxadone, one of the active ingredients in TANOS®, is one of EPA's Target Site of Action Group 11 fungicides, which also includes all strobilurins and fenamidone. A disease management program that includes rotation between TANOS® and other non-Group 11 fungicides is essential to reduce the risk of fungicide resistance development. Tank-mixing TANOS® with a protectant (contact) fungicide that has a different mode of action is required. This ensures optimum performance and further reduces the potential for resistance development. For guidance on the particular crop and disease control situation, consult your state extension specialist or official state recommendations.

## APPLICATION INFORMATION PESTICIDE HANDLING

- Calibrate sprayers only with clean water away from the well site.
- · Make scheduled checks of spray equipment.
- Ensure accurate measurement of pesticides by all operation employees.
- Mix only enough product for the job at hand.
- · Avoid overfilling of spray tank.
- Do not discharge excess material on the soil at a single spot in the field/grove or mixing/loading station.
- Dilute and agitate excess solution and apply at labeled rates/uses.
- Avoid storage of pesticides near well sites.
- When triple rinsing the pesticide container, be sure to add the rinsate to the spray mix.

#### **MIXING INSTRUCTIONS**

- 1. Fill the tank 1/4 to 1/3 full of water.
- 2. While agitating, add the required amount of TANOS®.
- 3. Continue agitation until the TANOS® is fully dispersed, at least 5 minutes.

- 4. Once the DuPont<sup>TM</sup> TANOS<sup>®</sup> is fully dispersed, maintain agitation and continue filling tank with water. TANOS<sup>®</sup> must be thoroughly mixed with water before adding any other materials.
- 5. As the tank is filling, add tank mix partner(s), and any desired adjuvants following the sequence listed in the TANK MIXTURES COMPATIBILITY section of this label. See tank mix partners labels for recommended adjuvants.
- 6. If the mixture is not continuously agitated, settling will occur. If settling occurs, thoroughly re-agitate before using.
- 7. Apply TANOS® spray mixture within 12 hours of mixing to avoid product degradation. If the pH of the spray solution is above 7, either add a buffering agent to lower the pH to below 7 or apply spray solution immediately.
- 8. If TANOS® and a tank-mix partner(s) are to be applied in multiple loads, pre-slurry the TANOS® in clean water prior to adding to the tank. This will prevent the tank-mix partner(s) from interfering with the dissolution of TANOS®.

## TANK MIXTURES/COMPATIBILITY

TANOS® is compatible with many commonly used fungicides, liquid fertilizers, herbicides, insecticides, adjuvants, and biological control products.

TANOS® must be applied in a tank-mix with fungicides that have a different mode-of-action (non-Group 11 fungicides), which ensures optimal disease control. Refer to tank-mix partner label(s) for information on fungal diseases controlled, application information and conditions, and use restrictions. Unless specified on this label or a TANOS® supplemental label, follow the label guidelines that are most restrictive.

The physical compatibility of TANOS® with tank-mix partner(s) must be evaluated before use. To determine the physical compatibility, the recommended proportions of products must be added into a suitable container of water in the following sequence:

- 1. TANOS® and other water dispersible granules
- 2. Wettable powders
- 3. Liquid flowables
- 4. Emulsifiable concentrates
- 5. Adjuvants

Mix thoroughly and allow to stand for at least 20 minutes. If the combination remains mixed or can be re-mixed readily, it is considered physically compatible.

The crop safety of all potential tank-mixes, including additives and other pesticides, on all crops has not been tested. Before applying any tank-mixture not specifically recommended on this label or other DuPont supplemental labeling, the safety to the target crop must be confirmed. To test for crop safety, apply the combination to a small area of the target crop in accordance with the label instructions to ensure that a phytotoxic response will not occur.

## **CROP ROTATION RESTRICTIONS**

The following rotational intervals must be observed when using TANOS® fungicide:

Сгор	Rotational Interval in Days
Cucurbits, Head Lettuce,	Anytime
Peppers, Potatoes and Tomat	oes
All other crops	30

5/13

## USE RATES AND APPLICATION INSTRUCTIONS

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Crop	Target Diseases	Use Rate	Remarks
Cucurbits Including: Cantaloupe, Cucumber, Honeydew Melon, Muskmelon,	Alternaria Leaf Blight (Alternaria cucumerina) Anthracnose (Colletotrichum, spp.) Downy Mildew (Psuedoperonospora cubensis)	8 oz/acre/ application	Resistance Management: Do not make more than one application of DuPont™TANOS® before alternating with a fungicide that has a different mode of action, such as mancozeb (e.g. MANZATE® 75DF),
Watermelon, Pumpkin, Summer Squash, Winter Squash, and other Cucurbits	Disease Suppression: Bacterial Fruit Blotch (Acidovorax avena subsp. citrulli) Phytophthora Blight (Phytophthora capsici) Foliar and Fruit Phase ONLY	8 - 10 oz/acre/ application	chlorothalonil, etc. Do not make more than four (4) applications of TANOS® or other Group 11 fungicides (all strobilurins or fenamidone) per cropping cycle. Do not alternate or tank mix with other Group 11 fungicides. Do not
32 oz/acre maximum per cropping cycle 72 oz/acre maximum per 12 month period			<ul> <li>alternate or tank mix with fungicides to which resistance has developed.</li> <li>Application Directions</li> <li>Make preventive applications on a 5- to 7-day schedule. TANOS® applications should begin prior to</li> </ul>
per 12 month period			<ul> <li>disease development, following the resistance management instructions, above.</li> <li>TANOS® must be tank-mixed with a contact fungicide (mancozeb, e.g. MANZATE® 75DF;</li> </ul>
			chlorothalonil; copper, e.g. KOCIDE® 2000, etc.) appropriate for the targeted disease(s). The contact fungicide must have a different mode-
			<ul> <li>of-action from TANOS®.</li> <li>Follow all tank-mix partner label restrictions using at least the minimum labeled rates of each fungicide.</li> <li>For suppression of Phytophthora Blight TANOS® must be tank-mixed with a</li> </ul>
			copper containing fungicide (e.g. KOCIDE® 2000, etc) and maneb or mancozeb containing fungicide (e.g. MANEX® or MANZATE® 75DF, etc). Use higher rate under heavy
			<ul> <li>disease pressure or for more susceptible varieties. A fungicide seed treatment may improve control in some cucurbit species.</li> <li>For suppression of Bacterial Fruit Blotch, TANOS® must be tank-mixed</li> </ul>
	:		<ul> <li>with a copper containing fungicide (e.g. KOCIDE® 2000, etc.)</li> <li>Minimum Application Volume:</li> <li>For ground application, apply a minimum of 20 gallons of spray</li> </ul>
			<ul> <li>volume per acre, increasing the spray</li> <li>volume as plants mature to ensure</li> <li>thorough coverage of foliage, blooms</li> <li>and fruit.</li> <li>For aerial application, apply a</li> </ul>
			minimum of 5 gallons per acre. Do not use TANOS® for the control of Gummy Stem Blight or Powdery Mildew. Minimum Pre-Harvest Interval (PHI) is 3
			days. Reentry interval is 12 hours.

6/12

Сгор	Target Diseases	Use Rate	Remarks
Crop Head Lettucc 24 oz/acre maximum per cropping cycle 72 oz/acre maximum per 12 month period	Target Diseases         Downy Mildew         (Bremia lactucae)	Use Rate 8 oz/acre/ application	Resistance Management: Do not make more than one application of DuPont <sup>TM</sup> TANOS® before alternating with a fungicide that has a different mode of action, such as maneb, (e.g. MANEX®), etc. Do not make more than three (3) applications of TANOS® or other Group 11 fungicides (all strobilurins or fenamidone) per cropping cycle. Do not alternate or tank mix with other Group 11 fungicides. Do not alternate or tank mix with fungicides to which resistance has developed.         Application Directions:       • TANOS® applications should begin prior to disease development,
			<ul> <li>following the resistance management instructions, above.</li> <li>Make preventive applications on a 5- to 7-day schedule. TANOS® must be tank-mixed with an appropriate contact fungicide that has a different mode of action, such as maneb (e.g. MANEX®) or "Aliette".</li> <li>Follow all tank-mix partner label restrictions using at least the minimum</li> </ul>
			<ul> <li>labeled rates of each fungicide.</li> <li>Minimum Application Volume:</li> <li>For ground application, apply a minimum of 20 gallons of spray volume per acre, increasing the spray volume as plants mature to ensure thorough coverage of foliage.</li> <li>For aerial application, apply a minimum of 5 gallons per acre. Minimum Pre-Harvest Interval (PHI) is 3 days. Reentry interval is 12 hours.</li> </ul>

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Сгор	Target Diseases	Use Rate	Remarks
Peppers (all varieties) 72 oz/acre maximum	Anthracnose (Collectotrichum spp.) Disease Suppression: Bacterial Softrot (Erwinia spp.) Bacterial Spot (Xanthomonas spp.) Phytophthora Blight	8 - 10 oz/acre/ application	Resistance Management: Do not make more than one application of DuPont <sup>™</sup> TANOS <sup>®</sup> before alternating with a fungicide that has a different mode of action, such as maneb (e.g. MANEX <sup>®</sup> ), copper (e.g. KOCIDE <sup>®</sup> 2000), etc. Do not alternate or tank mix with other Group 11 fungicides (all strobilurins
72 oz/acre maximum per cropping cycle 72 oz/acre maximum per 12 month period			
			<ul> <li>volume as plants mature to ensure thorough coverage of foliage, blooms and fruit.</li> <li>For aerial application, apply a minimum of 5 gallons per acre. Minimum Pre-Harvest Interval (PHI) is 3 days. Reentry interval is 12 hours.</li> </ul>

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Crop	Target Diseases	Use Rate	Remarks
Potatoes 48 oz/acre maximum per cropping cycle 72 oz/acre maximum per 12 month period	Brown Spot (Alternaria alternata) Early Blight (Alternaria solani)	6 oz /acre/ application	Resistance Management: Do not make more than one application of DuPont <sup>TM</sup> TANOS® before alternating with a fungicide that has a different mode of action, such as mancozeb (e.g. MANZATE® 75DF), chlorothalonil, etc. Do not make more than six (6) applications of TANOS® or other Group 11 fungicides (all strobilurins or fenamidone) per cropping cycle. Do not alternate or tank mix with other Group 11 fungicides. Do not alternate or tank mix with fungicides to which resistance has developed.
	Late Blight (Phytophthora infestans)	6 - 8 oz/acre/ application	<ul> <li>Application Directions:</li> <li>TANOS® applications should begin prior to disease development, following the resistance management instructions, above.</li> <li>For early blight control, make fungicide applications on a 7- to 10-day interval. Use shorter intervals when disease is present in the area or if weather conditions favor disease development.</li> <li>For preventive late blight control, make fungicide applications on a 7-10 day interval. When weather conditions favor late blight development or late blight is present in the area, use the 8 oz/acre rate of TANOS® and make fungicide applications on a 5- to 7-day interval.</li> <li>TANOS® must be tank-mixed with an appropriate contact fungicide that has a different mode of action, such as mancozeb (e.g. MANZATE® 75DF), chlorothalonil, etc. Follow all tank-mix partner label restrictions using at least the minimum labeled rates of each fungicide.</li> <li>For best results in controlling Brown Spot, TANOS® must be tank-mixed with a mancozeb or maneb containing fungicide (e.g. MANZATE® 75DF) or MANEX®, etc)</li> <li>Application volume instructions:</li> <li>For ground application, apply a minimum of 20 gallons of spray volume per acre, increasing the spray volume as plants mature to ensure thorough coverage of foliage.</li> <li>For aerial application, apply a minimum of 5 gallons per acre.</li> <li>Minimum Pre-Harvest Interval (PHI) is 14 days. Reentry interval is 12 hours.</li> </ul>

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Сгор	Target Diseases	Use Rate	Remarks
Tomatoes	Early Blight (Alternaria solani)	6-8 oz/acre/ application	<b>Resistance Management:</b> Do not make more than one application of DuPont <sup>TM</sup> TANOS® before alternating with a fungicide that has a different mode of action, such as mancozeb (e.g. MANZATE® 75DF), chlorothalonil,
72 oz/acre maximum per cropping cycle			copper (e.g. KOCIDE® 2000), etc. Do not alternate or tank mix with other Group 11 fungicides (all strobilurins or fenamidone). Do not
72 oz/acre maximum per 12 month period			alternate or tank mix with fungicides to which resistance has developed. In a cropping cycle, no more than 50% of the total applications should contain TANOS® or other Group 11 fungicides. Application Directions:
	Anthracnose (Colletotrichum spp.) Late Blight (Phytophthora infestans) Leaf Mold (Cladosporium fulvum) Septoria Leaf Spot (Septoria lycopersici) Target Spot	8 oz/acre/ application	<ul> <li>TANOS® applications should begin prior to disease development, following the resistance management instructions, above.</li> <li>Make preventive applications on a 5- to 7-day schedule.</li> <li>For Early blight control, use the 8 oz/ acre rate of TANOS® when disease is</li> </ul>
	(Corvnespora cassiicola) Disease Suppression: Bacterial Canker (Clavibacter michiganensis) Bacterial Speck (Pseudomonas syringae pv. tomato) Bacterial Spot (Xanthomonas spp.) Buckeye Rot (Phytophthora spp.)	8 oz/acre/ application	<ul> <li>acre rate of TANOS® when disease is present in the area or if weather conditions favor disease development.</li> <li>TANOS® must be tank-mixed with a contact fungicide (mancozeb, e.g. MANZATE® 75DF; chlorothalonil; copper, e.g. KOCIDE® 2000, etc.) appropriate for the targeted disease(s). The contact fungicide must have a different mode-of-action from TANOS®. Follow all tank-mix partner label restrictions using at least the minimum labeled rates of each fungicide.</li> <li>For best results, where targeting both fungal and bacterial diseases, tank mix with a copper-containing fungicide (e.g. KOCIDE® 2000), and mancozeb (e.g. MANZATE® 75DF) or chlorothalonil.</li> <li>For best results, tank-mix TANOS® with a full rate of a copper-containing fungicide (e.g. KOCIDE® 2000) for suppression of bacterial diseases.</li> <li>Minimum Application Volume:</li> <li>For ground application, apply a minimum of 20 gallons of spray volume per acre, increasing the spray volume as plants mature to ensure thorough coverage of foliage, blooms and fruit.</li> <li>For aerial application, apply a minimum of 5 gallons per acre. Minimum Pre-Harvest Interval (PHI) is</li> </ul>

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## CHEMIGATION

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Apply DuPont<sup>TM</sup> TANOS® only through sprinkler irrigation systems (such as center pivot, lateral move, end tow, side [wheel] roll, traveler, big gun, solid set or hand move irrigation systems). Do not apply this product through any other type of irrigation system.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.

If you have questions about calibration, you should contact State Extension Service Specialists, equipment manufacturers or other experts.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

#### Specific Instructions for Sprinkler Irrigation Systems:

- 1. The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- 2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 3. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 5. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 7. Do not apply when wind speed favors drift beyond the area intended for treatment.
- 8. Good agitation is required in the injection tank.
- 9. In moving systems, apply specified dosage of TANOS® as a continuous injection. In nonmoving systems inject TANOS® for 15 to 30 minutes at end of cycle. Use the least amount of water possible consistent with uniform coverage.

- 10.Mix the amount of TANOS® needed for acreage to be treated into the quantity of water determined during prior calibration. For moving systems inject into the system continuously for one complete revolution of the field. For nonmoving systems inject into system for the time established during calibration.
- 11.Stop injection equipment after treatment is completed and continue to operate irrigation equipment until all TANOS® is flushed from system.

#### Specific Instructions for Public Water Systems:

- 1. Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
- 2. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
- 3. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 4. The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 5. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 7. Do not apply when wind speed favors drift beyond the area intended for treatment.

#### 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 ENVIRON-MENTAL 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 air stream 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 AND HEIGHT**

- Boom Length (aircraft) The boom length should not exceed 3/4 of the wing length, using shorter booms decreases drift potential. For helicopters use a boom length and position that prevents droplets from entering the rotor vortices.
- Boom Height (aircraft) Application more than 10 ft above the canopy increases the potential for spray drift.
- Boom Height (ground) Setting the boom at the lowest height which provides uniform coverage reduces the exposure of droplets to evaporation and wind. 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 variable direction and 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 CONDI-TIONS. Note: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they effect 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.

## SURFACE TEMPERATURE INVERSIONS

Drift potential is high during a surface temperature inversion. Surface inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Surface inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. 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 a surface 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 air stream. 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, is configured properly, and that drift is not occurring.

Note: Air assisted field sprayers can affect product performance by affecting spray coverage and canopy penetration. Consult the application equipment section of this label to determine if use of an air assisted sprayer is recommended.

## SPRAY TANK CLEANOUT

Prior to application, start with clean, well maintained application equipment. Immediately following application, thoroughly clean all spray equipment to reduce the risk of forming hardened deposits which might become difficult to remove.

Drain spray equipment. Thoroughly rinse sprayer and flush hoses, boom and nozzles with clean water.

Clean all other associated application equipment. Take all necessary safety precautions when cleaning equipment. Do not clean near wells, water sources or desirable vegetation. Dispose of waste rinse water in accordance with local regulations.

## STORAGE AND DISPOSAL

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

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

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

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## LIMITATION OF

#### WARRANTY AND LIABILITY

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