

51036-362

5/8/2002

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**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

WASHINGTON, D.C. 20460

OFFICE OF  
PREVENTION, PESTICIDES  
AND TOXIC SUBSTANCES

Mr. Morris Gaskins  
Micro Flo Company, Inc.  
P.O. Box 772099  
Memphis, TN 38117-2099

**MAY 8 2002**

Subject: Iprodione 2FL Turf  
EPA Registration Number 51036-362  
Submission dated April 8, 2002

Dear Mr. Gaskins:

The revised product labeling referred to above, submitted in connection with the registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is acceptable provided you make the labeling change indicated below before you release the product for shipment bearing the amended labeling:

- 1) Revise the statements on pages 2 (three instances) in the "Personal Protective Equipment" section and on page 4 in the "Agricultural Use Requirements" sections from: "Chemical resistant gloves such as barrier laminate, nitrile rubber (>14 mils), neoprene rubber (>14 mils), or vitron (>14 mils)" to "Chemical resistant gloves made of a waterproof material such as barrier laminate, nitrile rubber (>14 mils), neoprene rubber (>14 mils), or vitron (>14 mils)"
- 2) Revise the word "windward" in the section "Swath Adjustment" (page 14) to read "downwind".

Submit one copy of the final printed label before releasing the product for shipment. A

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stamped copy of the label is enclosed for your records. If you have questions, please contact me at (703) 308-6742 or electronically at [meneilly.dennis@epa.gov](mailto:meneilly.dennis@epa.gov).

Sincerely,

A handwritten signature in cursive script, appearing to read "Mary L. Waller".

Mary L. Waller  
Product Manager 21  
Fungicide Branch  
Registration Division (7505C)

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## IPRODIONE 2FL TURF

A Fungicide For The Prevention And Control Of Certain Diseases Of Turfgrass and Ornamentals

### ACTIVE INGREDIENT:

Iprodione: 3-(3,5-dichlorophenyl)-N-(1-methylethyl)-  
2,4-dioxo-1-imidazolidinecarboxamide)\*..... 23.3%  
INERT INGREDIENTS:..... 76.7%  
TOTAL:..... 100.0%

\*Equivalent to 2 pounds Iprodione per gallon.

KEEP OUT OF REACH OF CHILDREN

CAUTION

FIRST AID

### IF SWALLOWED:

- Call a 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.

### 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.
- Call a poison control center or doctor for treatment advice.

### IF INHALED:

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

EPA Reg. No. 51036-362

EPA Est. No. 51036-GA-001

NET CONTENTS:

Manufactured By:  
MICRO FLO COMPANY LLC  
P.O. BOX 772099  
MEMPHIS, TN 38117

**ACCEPTED**  
**with COMMENTS**  
**In EPA Letter Dated**  
**MAY 8 2002**

**Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
as amended, for the pesticide  
registered under EPA Reg. No.  
51036-362**

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## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION. Avoid contact with skin, eyes, or clothing. Harmful if swallowed or inhaled. In case of contact, immediately flush eyes or skin with plenty of water. Get medical attention if irritation persists. Avoid breathing spray mist.

#### EMERGENCY NUMBERS:

- Transportation or spill, call CHEMTREC 800-424-9300.
- Human health, call Poison Control Center at 800-900-4044.
- Animal health, call ASPCA at 800-345-4735.

#### PERSONAL PROTECTIVE EQUIPMENT

Mixers, loaders, others exposed to the concentrate, cleaners/repairers of equipment, and applicators applying as a dip treatment must wear:

1. Long-sleeved shirt and long pants
2. Chemical-resistant gloves such as barrier laminate, nitrile rubber (>14 mils), neoprene rubber (>14 mils), or viton (>14 mils)
3. Chemical-resistant apron, and
4. Chemical-resistant footwear plus socks.

Applicators using hand held equipment must wear

1. Coveralls over long-sleeve shirt and long pants,
2. Chemical-resistant gloves such as barrier laminate, nitrile rubber (>14 mils), neoprene rubber (>14 mils), or viton (>14 mils)
3. Chemical-resistant footwear plus socks,
4. Chemical-resistant headgear for overhead exposures, and
5. A dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC21C), or a NIOSH approved respirator with any R, P or HE filter.

Applicators using aircraft or mechanical ground equipment (groundboom, airblast, etc.), and flaggers for aerial applications must wear

1. Long-sleeve shirt and long pants, and
2. Shoes plus socks

Applicators using truck-mounted equipment with a handgun at the end of the hose (i.e., for commercial turfgrass and ornamental applications) and all other handlers not specified above must wear

1. Long-sleeve shirt and long pants,
2. Chemical-resistant gloves such as barrier laminate, nitrile rubber (>14 mils), neoprene rubber (>14 mils), or viton (>14 mils), and
3. 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.

Discard clothing or other materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

#### ENGINEERING CONTROLS

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

#### USER SAFETY RECOMMENDATIONS

Users should:

1. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
2. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
3. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

#### ENVIRONMENTAL HAZARDS

This chemical can contaminate surface water through aerial and ground spray applications. Under some conditions, it may also have a high potential for runoff into surface water after application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas overlaying extremely shallow ground water, areas with infield canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas overlaying tile drainage systems that drain to surface water.

This pesticide is toxic to 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 or runoff may be hazardous to invertebrates in neighboring areas. Do not contaminate water when disposing of equipment washwater or rinsate.

#### DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read entire label before using this product.

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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 of 12 hours for ornamental uses. The restricted entry interval for all other WPS uses is 24 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:

1. Coveralls
2. Chemical-resistant gloves such as barrier laminate, nitrile rubber (>14 mils), neoprene rubber (>14 mils), or viton (>14 mils)
3. Shoes plus socks

#### NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to turf uses (golf courses, landscape and institutional areas) of this product that are NOT within the scope of the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

Do not enter or allow others to enter the treated area until sprays have dried.

#### STORAGE AND DISPOSAL

STORAGE: Do not contaminate water, food, or feed by storage or disposal.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

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CONTAINER DISPOSAL: Triple rinse (or equivalent). Then puncture and dispose of in a sanitary landfill or by other procedures approved by State and local authorities.

General Use: In order to assure maximum crop tolerance and disease control, follow recommendations on this label and all the precautions and limitations of the package label.

#### GENERAL PRECAUTIONS AND RESTRICTIONS

Use of this product at residential sites is prohibited.

Except for use on golf courses, if applying this product adjacent to a water body such as a lake, reservoir, river, permanent stream, marsh or natural pond, estuary, or commercial fish pond, there must be at least a 25-foot vegetative buffer strip between the water body and the point of application.

For golf courses only, do not apply to turf cut higher than 1" on golf courses where water bodies are present.

Do not apply this product when wind direction is toward aquatic areas.

#### TURF

(Golf Courses, Sod Farms And Institutional Areas)

Do not prepare more spray solution than can be used within 12 hours to minimize potential active ingredient degradation.

Initiate application when presence of disease is detected or if weather conditions are favorable for disease development.

DISEASE	APPLICATION SITE	APPLICATION RATE (fl. ozs./1000 FT <sup>2</sup> )	SPRAY INTERVAL (days)
Dollar Spot ( <i>Lanzia</i> spp. and <i>Moellerodiscus</i> spp.)	Golf course greens and tee boxes	3 - 4	14 - 21
Brown Patch ( <i>Rhizoctonia solanii</i> )	Golf course fairways and other turf Areas	2 - 4	14 - 28
Leaf Spot such as <i>Helminthosporium</i> Leaf Spot caused by ( <i>Drechslera</i> spp.)			
COMMENTS: Continue applications until disease pressure has reached acceptable level. Rates may be reduced to 2 fluid ounces to control Dollar Spot on fairways.			
Large Patch * ( <i>Rhizoctonia solanii</i> )	All turf areas (except residential lawns)	4	14 - 21

DISEASE	APPLICATION SITE	APPLICATION RATE (fl. ozs./1000 FT <sup>2</sup> )	SPRAY INTERVAL (days)
COMMENTS: Initial application should be made in the Fall when conditions become favorable for disease development. Repeat applications in the Spring if disease pressure remains.			
Fusarium Blight ( <i>Fusarium</i> spp.)  Necrotic Ring Spot* ( <i>Leptosphaeria</i> <i>korrae</i> )	All turf areas (except residential lawns)	8	28
COMMENTS: Apply prior to disease development as a preventative measure when weather conditions favor disease development.			
Fusarium Patch ( <i>Microdochium</i> <i>nivalis</i> )  (Pacific Northwest Only - West of the Cascade Mountains]	All turf areas (except residential lawns)	4 - 8	14 - 21
COMMENTS: Continue applications until disease pressure has reached acceptable level			
Gray Snow Mold ( <i>Typhula</i> spp.)  Pink Snow Mold ( <i>Fusarium nivale</i> )	All turf areas (except residential lawns)	4 - 8	Make initial application prior to first snow cover.
COMMENTS: A follow up application may be applied during a mid-winter thaw.			
Corticium Red Thread ( <i>Laetisaria</i> <i>fuciformis</i> )	All turf areas (except residential lawns)	4	14
COMMENTS: Make preventative applications until conditions no longer favor disease development.			

Apply the recommended rates in the tables in 0.5 to 10 gallons of water per 1000 FT<sup>2</sup>

Applications of IPRODIONE 2FL must not exceed a maximum of 35 fluid oz. product/1000 ft.<sup>2</sup> a year.

Applications of IPRODIONE 2FL must be limited to no more than six a year.

Application of higher rates and shorter intervals are appropriate for all diseases when conditions are severe. Applications of lower rates and longer intervals are suggested for times when disease pressure is light to moderate.

Areas treated with IPRODIONE 2FL should not be mowed or irrigated until foliage has fully dried. A 24-hour period following application before mowing or irrigating is ideal.



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Iprodione 2FL should not to be combined with any type of sticker, extender or wetting agents. Do not allow livestock or poultry to graze on treated areas or feed on clippings from these areas.

\*Not registered for use in California.

#### ORNAMENTALS

FIELD, LANDSCAPE AND GREENHOUSE ORNAMENTALS AND CONIFER NURSERIES\*

\* Conifer Nurseries not registered for use in California.

NOT FOR RESIDENTIAL USE. RECOMMENDED FOR USE BY COMMERCIAL NURSERY AND LANDSCAPE PERSONNEL.

Due to the wide variety of ornamental plants, it is not possible to determine the potential phytotoxicity for Iprodione 2FL on every species. Users should apply a label rate on a small number of plants prior to large scale use to evaluate tolerance.

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# ORNAMENTALS

ORNAMENTAL VARIETY		DISEASE
Ageratum	Holly	Aerial Web Blight ( <i>Rhizoctonia sp.</i> )
Ajuga	Hoya	Alternaria Leaf Blight ( <i>Alternaria euphorbiae</i> )
Almond (ornamental)	Hydrangea	Alternaria Leaf Spot ( <i>Alternaria panax</i> , <i>Alternaria tenuissima</i> )
Alyssum	Impatiens*	Botrytis Blight ( <i>Botrytis Sp.</i> )
Andromeda	Iris	Fusarium Leaf Spot ( <i>Fusarium moniliforme</i> )
Aphelandra	Juniper	Helminthosporium Leaf Spot ( <i>Helminthosporium sp.</i> )
Artemisia	Kalanchoe	Rhizoctonia stem and root rot ( <i>Rhizoctonia sp.</i> )
Aster	Lillies	
Azalea	Lipstick vine	
Boxwood	( <i>Aeschynanthus</i> )	
Cactus	Marigold	
Calendula	Monarda (Bee Balm)	
Carnation	Pachysandra	
Cherry (ornamental)	Palm	
Chrysanthemum	Pansy	
Cineraria	Teach (ornamental)	
Cistena Plum	Peperomia	
Coleus	Periwinkle	
Columbine	Philodendron	
Coral Bells ( <i>Heuchera</i> )	Phlox	
Crape Myrtle	Pilea	
Crassula	Pine	
Croton	Pitosporum	
Cyclamen	Plum (ornamental)	
Daffodils	Poinsettia	
Dahlia	Poppy	
Delphinium	Pothos*	
Deutzia	Primrose	
Dianthus	Privet	
Dieffenbachia	Protea	
Dizygotheca	Pyracantha	
Dogwood	Rhododendron	
Dracena	Rose	
English Ivy	Rose Tree of China	
Episcia	Salvia	
Euonymous	Schefflera	
Ficus	Snapdragon	
Forsythia	Statice	
Gazania	Tree Ivy	
Geranium	Tulip	
Gladiolus	Viburnum	
Gloxinia	Violet	
Gypsophila	Zinnia	
Hawthorn		
Iris		Ink Spot ( <i>Drechslera iridis</i> )
Tulip		Tulip Fire ( <i>Botrytis tulipae</i> )
Zinnia		Alternaria Leaf Blight ( <i>Alternaria zinniae</i> )
Chrysanthemum		Ray Blight ( <i>Ascochyta chrysanthami</i> )
Gladiolus		Fusarium Corm rot ( <i>Fusarium</i> )

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	<i>oxysporum</i> )
Daffodils	Daffodil Leaf Scorch ( <i>Stagnospora curtissi</i> )
Cistena Plum Plum (ornamental)	Blossom Blight ( <i>Monilinia fructicola</i> )
Rose	Botrytis Storage Rot ( <i>Botrytis</i> Sp.)
Azalea Rhododendron	Cylindrocladium Blight and Wilt* ( <i>Cylindrocladium scoparium</i> )

\*NOTE: Do not use IPRODIONE 2FL Fungicide as a soil drench on Impatiens, and Pathos. Do not use IPRODIONE 2FL Fungicide on Spathiphyllum.

#### FOLIAR APPLICATION INSTRUCTIONS

Apply 1 to 2 ½ quarts of IPRODIONE 2FL in 100 gallons of water every 7 to 14 days until disease pressure is within acceptable levels. Spray plants to the point of run-off to insure thorough coverage.

Limit individual applications of IPRODIONE 2FL to a maximum of 2.5 quarts product/acre.

Limit total applications of Iprodione 2FL to a maximum of 4 per year.

Limit total applications to no more than 10 quarts of product/acre/year.

Application of IPRODIONE 2FL at higher rates and shorter intervals are appropriate for all diseases when conditions are severe. Applications of lower rates and longer intervals are suggested for times when disease pressure is light to moderate.

#### DRENCH APPLICATION INSTRUCTIONS

To control Rhizoctonia Stem and Root Rot (*Rhizoctonia spp.*), mix 13 fluid ounces in 100 gallons of water. Apply at seeding or transplant time 1 to 2 pints of this dilution per square foot of soil. Repeat application every 14 days as disease pressure warrants.

Limit applications of IPRODIONE 2FL to a maximum of 35 fluid ounces product/1000 ft<sup>2</sup> a year.

Limit individual applications of Iprodione 2FL to a maximum of 6 per year.

Application of IPRODIONE 2FL at higher rates and shorter intervals are appropriate for all diseases when conditions are severe. Applications of lower rates and longer intervals are suggested for times when disease pressure is light to moderate.

NOTE: Do not apply IPRDIONE 2FL *Spathiphyllum*. Do not apply as a drench on *impatiens* and *pathos*.

#### DIP APPLICATION INSTRUCTIONS

Roses ❖ To control Botrytis Storage Rot (*Botrytis sp.*), mix 1 quart of IPRDIONE 2FL in 100 gallons of water and dip bare root for 5 minutes prior to cold storage.

AZALEA AND RHODODENDRON ❖ To control Cylindrocladium Blight and Wilt\* (*Cylindrocladium scoparium*), mix 1 quart of IPRDIONE 2FL in 100 gallons of water and dip cuttings for 5 minutes before planting.

GLADIOLUS ❖ To control Fusarium Corm Rot (*Fusarium oxysporum*), mix 2 quarts of IPRDIONE 2FL in 100 gallons of water and dip corms for 5 minutes prior storage.

\* Not registered for use in California.

#### TANK MIXTURES FOR TURF

To control additional diseases in turf such as Summer Stress Complex/Decline and Pythium Blight, IPRDIONE 2FL may be tank mixed with other fungicides.

Gray Snow Mold control will be enhanced by a tank mixture with a properly labeled chlorothalonil product such as Daconil 2787 Flowable or Daconil WG. Initial application of tank mix should be made prior to first snow cover and followed by another application if a mid-winter thaw occurs.

User should adhere to any applicable restrictions on the tank mix product. If compatibility of tank mix partners is unknown, mixing a small amount of the products in proper ratios in a clear jar is advised prior to mixing a large tank.

Do not exceed a total of 35 fluid oz. IPRDIONE 2FL TURF per 1000 ft<sup>2</sup> per year with a maximum of 6 applications.

#### DIRECTIONS THROUGH SPRINKLER IRRIGATION SYSTEMS

Do not use through sprinkler irrigation systems in California.

Apply this product only through sprinkler irrigation systems including center pivot. Do not apply this product through any other type of irrigation system.

SPRAY PREPARATION: Remove scale, pesticide residues, and other foreign matter from the chemical tank and entire injector system. Flush with clean water.

APPLICATION INSTRUCTIONS: First prepare a suspension of IPRDIONE 2FL TURF in a mix tank. Fill tank with 1/2 to 3/4 the desired

amount of water. Start mechanical or hydraulic agitation. Add the required amount of IPRDIONE 2FL TURF, and then the remaining volume of water. (Suspension concentrations using the appropriate dosage per acre recommended on this label of IPRDIONE 2FL TURF per 1 to 4 gallons of water are recommended). Then set sprinkler to deliver 0.1 to 0.3 inch of water per acre. Start sprinkler and uniformly inject the suspension of IPRDIONE 2FL TURF into the irrigation water line so as to deliver the desired rate per acre. The suspension of IPRDIONE 2FL TURF should be injected with a positive displacement pump into the main line ahead of a right angle turn to insure adequate mixing. If you should have any other questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

NOTE: When treatment with IPRDIONE 2FL TURF has been completed, further field irrigation over the treated area should be avoided for 24 to 48 hours to prevent washing the chemical off the crop.

#### GENERAL PRECAUTIONS FOR APPLICATIONS THROUGH SPRINKLER IRRIGATION SYSTEMS

Maintain continuous agitation in mix tank during mixing and application to assure a uniform suspension.

Greater accuracy in calibration and distribution will be achieved by injecting a larger volume of a more dilute solution per unit time.

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. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. The pesticide injection pipeline must always 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 shutdown. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected. Systems must use a metering pump, such as a positive displacement injection pump (e. g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being flitted with a system interlock.

Do not apply when wind speed favors drift, when system connection or fittings leak, when nozzles do not provide uniform

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distribution or when lines containing the product must be dismantled and drained.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop may result from nonuniform distribution of treated water.

Allow sufficient time for pesticide to be flushed through all lines and all nozzles before turning off irrigation water. A person knowledgeable of the chemigation system and responsible for its operation must shut the system down and make necessary adjustments should the need arise.

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

#### SPRAY DRIFT MANAGEMENT

##### **Sensitive Areas:**

This pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitats for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-and-weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

1. The distance of the outer most nozzles on the boom must not exceed  $\frac{3}{4}$  the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

Where states have more stringent regulations, they should be observed. The applicator should be familiar with and take into account the information covered in the Aerial Drift Reduction Advisory Information.

The following section is advisory in nature and does not supersede the mandatory label requirements.

## INFORMATION ON DROPLET SIZE

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. 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).

## CONTROLLING DROPLET SIZE

**Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.

**Pressure** - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.

**Number of Nozzles** - Use the minimum number of nozzles that provide uniform coverage.

**Nozzle Orientation** - Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.

**Nozzle Type** - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produces larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produces the largest droplets and the lowest drift.

## BOOM LENGTH

For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.

## APPLICATION HEIGHT

Applications should not be made at a height greater than 10 feet above the top of the target plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

## SWATH ADJUSTMENT

When applications are made with a crosswind, the swath will be displaced windward. Therefore, on the up and down edges of the field, the applicator should compensate for the displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with the increasing drift potential (higher wind, smaller drops, etc.).

## WIND

Drift potential is lowest between winds speeds of 2 - 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. 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 low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

## TEMPERATURE INVERSIONS

Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures 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.

## LIMITED WARRANTY AND DISCLAIMER

The manufacturer warrants (a) that this product conforms to the chemical description on the label; (b) that this product is reasonably fit for the purposes set forth in the directions for use when it is used in accordance with such directions; and (c) that the directions, warnings and other statements on this label are based upon responsible experts' evaluation of reasonable tests of effectiveness, of toxicity to laboratory animals and to plants, and of residues on food crops and upon reports of field



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experience. Tests have not been made on all varieties or in all states or under all conditions. THE MANUFACTURER NEITHER MAKES NOR INTENDS, NOR DOES IT AUTHORIZE ANY AGENT OR REPRESENTATIVE TO MAKE, ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, AND IT EXPRESSLY EXCLUDES AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

THIS WARRANTY DOES NOT EXTEND TO, AND THE BUYER SHALL BE SOLELY RESPONSIBLE FOR, ANY AND ALL LOSS OR DAMAGE WHICH RESULTS FROM THE USE OF THIS PRODUCT IN ANY MANNER WHICH IS INCONSISTENT WITH THE

LABEL DIRECTIONS, WARNINGS OR CAUTIONS.

BUYER'S EXCLUSIVE REMEDY AND MANUFACTURER'S OR SELLER'S EXCLUSIVE LIABILITY FOR ANY AND ALL CLAIMS, LOSSES, DAMAGES, OR INJURIES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, WHETHER OR NOT BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY IN TORT OR OTHERWISE SHALL BE LIMITED, AT THE MANUFACTURER'S OPTION, TO REPLACEMENT OF OR THE REPAYMENT OF THE PURCHASE PRICE FOR, THE QUANTITY OF PRODUCT WITH RESPECT TO WHICH DAMAGES ARE CLAIMED. IN NO EVENT SHALL MANUFACTURER OR SELLER BE LIABLE FOR SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT.

#### NOTICE TO BUYER

Purchase of this material does not confer any rights under patents governing this product or the use thereof in countries outside of the United States.