

# **TURF GROUP A: GOLF COURSE FAIRWAYS - PYTHIUM ROOT DYSFUNCTION**

## General Information

### PRODUCT INFORMATION

Fluoxastrobin, (Group 11 fungicide); one of the active ingredients in DISARM C FUNGICIDE is a broad-spectrum fungicide for the control of certain diseases in turf. DISARM C FUNGICIDE works by interfering with respiration in plant-pathogenic fungi, and is a potent inhibitor of spore germination and mycelial growth.

Chlorothalonil, (Group M5 fungicide), the other active ingredient in DISARM C FUNGICIDE, is a multi-site inhibitor of fungal pathogens and no known resistance to this ingredient has developed in over 40 years of use.

### RESISTANCE MANAGEMENT

The combination of fluoxastrobin with chlorothalonil provides a built in resistance management tool that is commonly accepted as a valid resistance management strategy for many fungal pathogens.

### APPLICATION GUIDELINES

#### Broadcast Ground Sprayers

Thorough coverage is necessary to provide good disease control. Applications using sufficient water volume to provide thorough and uniform coverage provide the most effective disease control, 43-174 gallons per acre (1-4 gal per 1,000 sq ft recommended).

Equip sprayers with nozzles that provide accurate and uniform application. Be certain that nozzles are the same size and uniformly spaced across the boom. Calibrate the sprayer before use. Use a pump with the capacity to: (1) maintain a minimum of 35 psi at nozzles, and (2) provide sufficient agitation in the tank to keep the mixture in suspension (this requires recirculation of 10% of the tank volume per minute). Use jet agitators or a liquid sparge tube for vigorous agitation. Use screens to protect the pump and to prevent nozzles from clogging. Screens placed on the suction side of the pump should be 16-mesh or coarser. Do not place

a screen in the recirculation line. Use 50-mesh screens at the nozzles. Check nozzle manufacturer's recommendations. For information on spray equipment and calibration, consult sprayer manufacturer's and/or state recommendations. For specific local directions and spray schedules, consult the current state agricultural experiment station recommendations.

#### DIRECTIONS FOR USE THROUGH SPRINKLER IRRIGATION SYSTEMS

Apply this product only through overhead sprinkler irrigation systems including center pivot, microjet, wheel lines, lateral move, side roll, or overhead solid set irrigation systems. Do not apply this product through any other type of irrigation system. Reduced effectiveness in turf can result from non-uniform distribution of the treated irrigation water.

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

#### 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 DISARM C FUNGICIDE in a mix tank. Fill tank with 1/2 the desired amount of water. Start mechanical or hydraulic agitation. Add the required amount of DISARM C FUNGICIDE and then the remaining volume of water. Then set sprinkler to deliver no more than 0.4 inch of water per acre. Start sprinkler and uniformly inject the suspension of DISARM C FUNGICIDE into the irrigation water line to deliver the desired rate per acre. The suspension of DISARM C FUNGICIDE 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 DISARM C FUNGICIDE has been completed, further field irrigation over the treated area should be avoided for 24 hours to prevent washing the chemical off the turf.

## CHEMIGATION SYSTEMS CONNECTED TO PUBLIC WATER SYSTEMS

1. 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. 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, back flow 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 flow 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.
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.

## SPECIAL PRECAUTIONS FOR CHEMIGATION THROUGH SPRINKLER IRRIGATION SYSTEMS

1. Maintain continuous agitation in mix tank during mixing and application to assure a uniform suspension.
2. Greater accuracy in calibration and distribution will be achieved by injecting a larger volume of a more dilute solution per unit time.
3. 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.
4. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
5. 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 shutdown.
6. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
7. 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.
8. 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.
9. Do not apply when wind speed favors drift beyond the area intended for treatment. If you are unsure of wind conditions, contact your local extension agent.
10. Do not apply when system connections or fittings leak, when nozzles do not provide uniform distribution or when lines containing the product must be dismantled and drained. Reduced effectiveness may result from non-uniform distribution of treated water.
11. 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, or under supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.
12. Do not connect an irrigation system used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water

systems are in place.

## SPRAY DRIFT

## SENSITIVE AREAS

This pesticide must 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.

## USE DIRECTIONS FOR TURF

DISARM C FUNGICIDE provides control of many important diseases in turf including but not limited to species of Bentgrass, Kentucky Bluegrass, Annual Bluegrass, Fescue, Ryegrass, Bermudagrass, St. Augustinegrass and Zoysiagrass. DISARM C FUNGICIDE should be used in conjunction with cultural practices that promote healthy, vigorous turf. These practices include nutrient management, thatch management, water management and judicious use of other pesticides.

For use in the establishment of turfgrass from seed or in overseeding of dormant turfgrass:

DISARM C FUNGICIDE may be used for control of certain turfgrass diseases associated with turfgrass establishment from seed. DISARM C FUNGICIDE may also be used during overseeding of dormant turfgrass and to established overseeded stands of turf.

DISARM C FUNGICIDE may be safely applied before or after seeding or at seedling germination and emergence to ryegrass, bentgrass, bluegrass, fescue, and other turfgrasses. Optimum application timing for control of seedling diseases is just prior to, during or just after seeding.

Rate Ranges and Spray Volumes: Use the shorter specified application interval and/or the higher specified rate when prolonged favorable disease conditions exist. For ground application equipment, 43-174 gal/A (1-4 gal/1, 000 sq ft) is

recommended.

## GENERAL PRECAUTIONS AND RESTRICTIONS

Use of this product on home lawns is prohibited.

Agricultural Use Sites Only: This product must not be applied within 150 feet (for aerial applications) or 25 feet (for ground applications) of marine/estuarine water bodies unless there is an untreated buffer area of that width between the area to be treated and the water body.

Do not use on home lawns and turf sites associated with apartment buildings, day-care centers, playgrounds, playfields, recreational park athletic fields, athletic fields located on or next to schools (i.e., elementary, middle and high schools), campgrounds, churches, and theme parks.

Do not combine DISARM C FUNGICIDE in the spray tank with pesticides, surfactants or fertilizers, unless prior use has shown the combination physically compatible, effective and noninjurious under your conditions of use. Do not combine DISARM C FUNGICIDE with DiPel or Latron B-1956 as phytotoxicity may result from the combination when applied to some species.

The required amount of DISARM C FUNGICIDE must be added slowly into the spray tank during filling.

### Limitations, Restrictions, and Exceptions

#### Turf Group A Restrictions

- Because DISARM C FUNGICIDE contains the active ingredient chlorothalonil, the following restrictions apply to the use of DISARM C FUNGICIDE.
- The minimum application interval for rates up to 14.6 pt/A (5.4 fl oz/1,000 sq ft) of DISARM C FUNGICIDE is 7 days.
- The minimum application interval for rates greater than 14.6 pt/A (5.4 fl oz/1,000 sq ft) of DISARM C FUNGICIDE is 14 days.

For Golf Course Fairways:

- The maximum single application rate is 14.6 pt/A (5.4 fl oz/1,000 sq ft) of DISARM C FUNGICIDE. (7.3 lb ai/A)
- DO NOT apply more than 52.0 pt/A (19.1 fl oz/1,000 sq ft) of DISARM C FUNGICIDE per growing season. (26 lb ai/A)

Apply DISARM C FUNGICIDE in 43.5–174 gallons of water per acre. Begin applications when conditions favor disease development and repeat applications as long as these conditions persist. Under severe disease conditions use the highest rate and shortest interval corresponding with the application schedule selected from the table below.

For control of foliar diseases DO NOT mow or water after treatment until spray deposited on turfgrass is thoroughly dry. For control root diseases water in with enough water to move the fungicide into the thatch/root zone.

Sod farm turf treated with DISARM C FUNGICIDE less than seven days prior to harvest must be mechanically cut, rolled and harvested.

#### Application Instructions

- Apply when conditions are favorable for disease development (when daily soil temperatures are between 50°F and 75°F).

Application Interval (days): 14-28

#### General Turf Restrictions and Other Information

1. See RESISTANCE MANAGEMENT section when using DISARM C FUNGICIDE for control of these diseases.
2. Use of this product on home lawns is prohibited.

#### Method

[Broadcast/Foliar Ground](#)

#### Rates

[field\\_rates 0](#)

[field\\_rates 1](#)

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#### Restricted Entry Interval

12 hours

Timings

When conditions are favorable for disease development (when daily soil temperatures are between 50°F and 75°F.