

# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

March 6, 2020

Oscar Perez-Ovilla, Ph. D. Federal Regulatory Affairs Manager Bayer US LLC CropScience Division 5000 CentreGreen Way, Suite 400 Cary, NC 27513

Subject: Label Amendment – Multiple revisions – include NY state restriction, spray drift

language, removal of ornamental use and minor edits

Product Name: 13ESP715 3.3 SC EPA Registration Number: 432-1543

Application Date: 11/08/2018 Decision Number: 546300

Dear Dr. Perez-Ovilla:

The amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, is acceptable. This approval does not affect any conditions that were previously imposed on this registration. You continue to be subject to existing conditions on your registration and any deadlines connected with them.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

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Your release for shipment of the product constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6. If you have any questions, please contact Aswathy Balan by phone at 703-347-0510, or via email at <a href="mailto:balan.aswathy@epa.gov">balan.aswathy@epa.gov</a>.

Shaja B. Joyner, Product Manager 20

Fungicide-Herbicide Branch Registration Division 7505P

# ACCEPTED 03/06/2020 Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 432-1543

FLUOPYRAM	GROUP	7	FUNGICIDE
		-	

# 13ESP715 3.3 SC

ABN: Indemnify; Encite

Intended for use by commercial applicators.

For use on turf on golf courses, sod farms, sport fields, residential, institutional, municipal, commercial, and other turfgrass areas.

Editorial Note - Marketing claim positioned here

[Image Placeholder]
[Belonolaimus longicaudatus Image]
[Anguina pacificae Image]
Editorial Note – [Bracketed Text] is optional language

ACTIVE INGREDIENT:

TOTAL: 100.00%

Contains 3.34 lbs fluopyram per gallon

\*(CAS Number 658066-35-4)

EPA Reg. No. 432-1543 EPA Est.\_\_

**Suspension Concentrate** 

# CAUTION

See [Back][Side] Panel for First Aid Instructions and [Leaflet][Booklet] for Complete Precautionary Statements and Directions for Use. (Note to reviewer: Location of additional precautionary statements, directions for use will vary between those listed, depending on container type/size.)

For <u>MEDICAL</u> and <u>TRANSPORTATION</u> Emergencies <u>ONLY</u> Call 24 Hours A Day 1-800-334-7577 For <u>PRODUCT USE</u> Information Call 1-800-331-2867

**Net Contents:** 

#### PRODUCED FOR



Bayer Environmental Science A Division of Bayer CropScience LP 5000 CentreGreen Way, Suite 400 Cary, NC 27513

FIRST AID			
If swallowed:	Call a poison control center or doctor immediately for treatment advice.		
	Do not induce vomiting unless told to do so by a poison control center or doctor.		
	Have person sip a glass of water if able to swallow.		
	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.		
In case of emergency call toll free the Bayer CropScience Emergency Response Telephone No. 1-800-334-7577.  Have a product container or label with you when calling a poison control center or doctor, or going for treatment.			

NOTE TO PHYSICIAN: Treat Symptomatically.

# PRECAUTIONARY STATEMENTS

# HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION

Harmful if swallowed or absorbed through skin. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

# PERSONAL PROTECTIVE EQUIPMENT (PPE)

# Applicators and other handlers must wear:

- long-sleeved shirt
- long pants
- · shoes plus socks
- chemical-resistant (such as nitrile or butyl) gloves

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

#### **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:**

- remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- remove PPE immediately after handling this product and wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

# **ENVIRONMENTAL HAZARDS**

For terrestrial uses: 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 when disposing of equipment wash water or rinsate.

#### **Surface Water Label Advisories**

This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having high potential for reaching surface water via runoff for several months or more after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of FLUOPYRAM.

#### **Ground Water Advisory**

This chemical has properties and characteristics associated with chemicals detected in ground water. This chemical may leach into groundwater if used in areas where soils are permeable, particularly where the water table is shallow.

#### **Runoff Management**

Runoff of this product will be reduced by avoiding applications when rainfall or irrigation is expected to occur within 48 hours. Sound erosion control practices will reduce this product's potential to reach aquatic sediment via runoff.

# 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 over long-sleeved shirt and long pants
- socks and shoes
- chemical-resistant gloves made of any of any waterproof material such as natural rubber > 14 mils.

# NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses 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.

# PRODUCT INFORMATION

13ESP715 3.3 SC is a nematicide and protects against damage caused by [certain] plant parasitic nematodes.

#### FOR USE ON:

• Turf on golf courses, sod farms, sport fields, residential, institutional, municipal, commercial, and other turfgrass areas.

#### PRODUCT USE RESTRICTIONS

- Do not apply more than the maximum annual rate for each specific use from any combination of products containing FLUOPYRAM.
- Do not apply via aerial application.
- Do not apply this product through any type of irrigation system.
- Not for sale, distribution, or use in Nassau and Suffolk counties, New York except as permitted under FIFRA 24(c), Special Local Need registration.

#### SPRAY DRIFT MANAGEMENT

#### **Ground Applications**

- Apply with the nozzle height recommended by the manufacturer, but no more than 3 feet above the ground or crop canopy.
- For all applications, applicators are required to use a medium to ultra coarse spray droplet size (ASABE S572.1).
- Do not apply when wind speeds exceed 10 miles per hour at the application site.
- Do not apply during temperature inversions.

# SPRAY DRIFT ADVISORIES

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT.

BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

#### IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

#### **Controlling Droplet Size - Ground Boom**

- Volume Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure Use the lowest spray pressure for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle Use a spray nozzle that is designed for the intended application. Consider using nozzles
  designed to reduce drift.

#### **BOOM HEIGHT - Ground Boom**

Use the lowest boom height that is compatible with the spray nozzles that will provide uniform coverage. For ground equipment, the boom should remain level with the crop and have minimal bounce.

#### SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

#### **TEMPERATURE AND HUMIDITY**

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

#### **TEMPERATURE INVERSIONS**

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or 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. Avoid applications during temperature inversions.

#### WIND

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS. Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

# COMPATIBILITY TESTING AND TANK MIX PARTNERS Compatibility

13ESP715 3.3 SC is physically and biologically compatible with many registered pesticides, fertilizers, and micronutrients. However, it is known that many components, including pesticides, fertilizers, micronutrients, and spray adjuvants, may be present in a tank mix combination and cause potential for adverse chemical reactions. It is impossible to determine physical, biological, and plant compatibility for all scenarios that may be encountered; therefore, users must determine the chemical, physical, biological, and plant compatibility of such mixes prior to making applications on a broad scale.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

## **Order of Mixing**

13ESP715 3.3 SC may be used with other pesticides, fertilizers, and micronutrients. The proper mixing procedure for 13ESP715 3.3 SC alone, or in tank mix combinations with other pesticides is:

- 1. fill the spray tank 1/4 to 1/3 full with clean water
- 2. while recirculating, and with the agitator running, add any products in PVA bags (See Note). Allow time for thorough mixing
- 3. continue to fill spray tank with water until 1/2 full
- 4. add any wettable powder (WP), water dispersible granule (WG/WDG) products, or "flowable" (FL/SC) type products
- 5. allow enough time for thorough mixing of each product added to tank
- 6. add required amount of 13ESP715 3.3 SC, and
- 7. if applicable, add any remaining tank mix components: emulsifiable concentrates (EC), fertilizers, and micronutrients
- 8. fill spray tank to desired level and maintain constant agitation to ensure uniformity of spray mixture.

**RESTRICTION**: Do not use PVA packets in a tank mix with products that contain boron or release free chlorine. The resultant reaction of PVA and boron or free chlorine is a plastic that is not soluble in water or solvents.

#### **APPLICATION INFORMATION**

Applications using sufficient water volume to provide thorough and uniform coverage generally provide the most effective nematode control. Do not make applications when conditions favor drift beyond the target application area. Avoid spraying when windy, high temperature, drought, low relative humidity, or temperature inversion conditions exist.

#### **Ground Application**

For ground application equipment, apply:

- 2 to 5 gallons of solution per 1000 sq. ft. for protection against nematodes
- 50 to 100 gallons of solution per acre for protection against nematodes

#### **IRRIGATION AND WATERING**

When using 13ESP715 3.3 SC for optimum control irrigate within 24 hours of application to depth of the root zone to be protected.

# TURF USE DIRECTIONS

13ESP715 3.3 SC is a systemic nematicide, which may be used in a seasonal program for the control and prevention of nematode damage to common turfgrasses. 13ESP715 3.3 SC can be used on turfgrasses for the control or suppression of soil inhabiting parasitic nematodes such as Sting (*Belonolaimus longicaudatus*), Stem-gall (*Anguina pacificae*), Ring (*Mesocriconema* spp.), Spiral (*Helicotylenchus* spp.), Lance (*Hoplolaimus galeatus*) Root-lesion (*Pratylenchus* spp.), Awl (*Dolichodorus* spp.), Cyst (*Punctodera heterodera*), Dagger (*Xiphinema* spp.), Needle (*Longidorus* spp.), Pin (*Paratylenchus* spp.), Root-knot (*Meloidogyne* spp.), Sheath (*Hemicycliophora* spp.), Sheathoid (*Hemicriconemoides* spp.), Stubby-root (*Paratrichodorus* and *Trichodorus* spp.), Stunt (*Tylenchorhynchus* spp.).

Apply as a foliar spray, using 2 to 5 gallons of water per 1,000 sq. ft. Apply with a properly calibrated sprayer.

# **TURF USE RESTRICTIONS**

- Do not apply more than 17.1 fl oz of 13ESP715 3.3 SC (0.446 lbs. a.i.) per acre per year.
- For residential turf, do not exceed a rate of 0.355 fl oz per 1,000 sq. ft. (15.5 fl. oz. equivalent to 0.404 lbs. a.i. per acre per year.)

#### APPLICATIONS FOR TURF NEMATODE CONTROL

#### **Turf Tolerance**

Use 13ESP715 3.3 SC in accordance with the prescribed label instructions on:

- Cool-season turfgrasses: Bentgrass, Bluegrass, Fescues, Ryegrass, including mixtures thereof
- Warm-season turfgrasses: Bermudagrass, St. Augustinegrass, Seashore paspalum, Kikuyugrass, and Zoysiagrass.

# Turf nematode control use directions

Target Pest	Application Rate (fl oz Product /1000 ft²)	Interval between Application (days)	Application Instructions
Plant parasitic nematodes including: Sting, Stem-gall, Ring, Spiral, Lance, Root-lesion, Awl, Cyst, Dagger, Needle, Pin, Root-knot, Sheath, Sheathoid, Stubby-root, Stunt	0.195 - 0.39	Minimum 14	Irrigate to depth of root zone.  For Anguina pacificae, irrigate only after the spray has completely dried.  Begin applications preventively when conditions are favorable for nematode activity  Reapply as needed, using higher rates and shorter intervals when nematode pressure is high, but do not exceed maximum specified rates.

## PRODUCT QUANTITY (FL OZ) by SPRAY VOLUME and TANK CAPACITY

13ESP715 3.3 SC at 0.195 fl oz per 1,000 ft²

Spray Volume (Gal per 1,000 ft²)  Spray Tank Capacity	2 Gal	3 Gal	4 Gal	5 Gal
25 Gal	2.438	1.625	1.219	0.975
	fl oz	fl oz	fl oz	fl oz
50 Gal	4.876	3.250	2.438	1.950
	fl oz	fl oz	fl oz	fl oz
100 Gal	9.752	6.500	4.876	3.900
	fl oz	fl oz	fl oz	fl oz
200 Gal	19.504	13.000	9.752	7.800
	fl oz	fl oz	fl oz	fl oz

13ESP715 3.3 SC at 0.39 fl oz per 1,000 ft²

Spray Volume (Gal per 1,000 ft²)  Spray Tank Capacity	2 Gal	3 Gal	4 Gal	5 Gal
25 Gal	4.88	3.25	2.44	1.95
	fl oz	fl oz	fl oz	fl oz
50 Gal	9.75	6.50	4.88	3.90
	fl oz	fl oz	fl oz	fl oz
100 Gal	19.50	13.00	9.75	7.80
	fl oz	fl oz	fl oz	fl oz
200 Gal	39.00	26.00	19.50	15.60
	fl oz	fl oz	fl oz	fl oz

#### **CURATIVE SPOT TREATMENTS**

Curative spot treatments are prescribed for controlling nematodes over smaller areas where outbreaks are severe or expected to become severe. To make a curative spot treatment, apply the highest prescribed dose of 13ESP715 3.3 SC and repeat up to 4 times at the specified intervals. For curative spot treatments, treat no more than 10,000 sq. ft. per acre per year.

#### STORAGE AND DISPOSAL

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

#### PESTICIDE STORAGE

Store in original container and keep tightly closed when not in use. Store in a cool, dry place. Avoid cross-contamination with other pesticides.

#### PESTICIDE DISPOSAL

Pesticides wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be used according to label instructions, contact your State Pesticide or Environmental Control Agency or Hazardous Waste representative at the nearest EPA regional office for guidance in proper disposal methods.

#### **CONTAINER HANDLING**

Rigid Non-refillable Containers that are too large to shake (i.e., with capacities greater than 5 gallons or 50 lbs)

Non-refillable container. Do not reuse or refill this container. Refer to Bottom Discharge IBC or Top Discharge IBC, Drums, Kegs information as follows.

Bottom Discharge IBC (e.g. - Schuetz Caged IBC or Snyder Square Stackable)

Pressure rinsing the container before final disposal is the responsibility of the person disposing of the container. To pressure rinse the container before final disposal, empty the remaining contents from the IBC into application equipment or mix tank. Raise the bottom of the IBC by 1.5 inches on the side which is opposite of the bottom discharge valve to promote more complete product removal. Completely remove the top lid of the IBC. Use water pressurized to at least 40 PSI to rinse all interior portions. Continuously pump or drain rinsate into application equipment or rinsate collection system while pressure rinsing. Continue pressure rinsing for 2 minutes or until rinsate becomes clear. Replace the lid and close bottom valve.

Once container is rinsed, offer for recycling if available or puncture and dispose of in a sanitary landfill or by incineration.

# Top Discharge IBC, Drums, Kegs (e.g.- Snyder 120 Next Gen, Bonar B120, Drums, Kegs)

Triple rinsing the container before final disposal is the responsibility of the person disposing of the container. To triple rinse the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container at least 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Rinse all interior surfaces. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this procedure two more times.

Once container is rinsed, offer for recycling if available or puncture and dispose of in a sanitary landfill or by incineration.

#### Rigid Non-Refillable containers with capacities smaller or equal to 5 gallons

#### **PLASTIC CONTAINERS:**

Non refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying.

#### LIQUID Dilutable formulations:

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration.

# CONDITIONS OF SALE AND LIMITATIONS OF WARRANTY AND LIABILITY

Read the entire Directions for Use, Conditions, Disclaimer of Warranties and Limitations of Liability before using this product. If terms are not acceptable, return the unopened product container at once.

By using this product, user or buyer accepts the following Conditions, Disclaimer of Warranties and Limitations of Liability.

**CONDITIONS**: The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Ineffectiveness, plant injury, other property damage, as well as other unintended consequences may result because of factors beyond the control of Bayer CropScience LP. Those factors include, but are not limited to, weather conditions, presence of other materials or the manner of use or application. All such risks shall be assumed by the user or buyer.

DISCLAIMER OF WARRANTIES: TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BAYER CROPSCIENCE LP MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE, THAT EXTEND BEYOND THE STATEMENTS MADE ON THIS LABEL. No agent of Bayer CropScience LP is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BAYER CROPSCIENCE LP DISCLAIMS ANY LIABILITY WHATSOEVER FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT.

LIMITATIONS OF LIABILITY: TO THE EXTENT CONSISTENT WITH APPLICABLE LAW THE EXCLUSIVE REMEDY OF THE USER OR BUYER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, WHETHER IN CONTRACT, WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE, SHALL NOT EXCEED THE PURCHASE PRICE PAID, OR AT BAYER CROPSCIENCE LP'S ELECTION, THE REPLACEMENT OF PRODUCT.

 $13 ESP715\ 3.3\ SC\ (Pending)\ 11/6/2018,\ 07/03/2019,\ 07/22/2019,\ 08/09/2019,\ 08/26/2019,\ 10/03/2019,\ 10/28/2019,\ 10/30/2019,\ 03/02/2020$ 

[Optional Marketing claims]

[Nematicide]

[For the protection of turfgrass (including sod farms) against damage caused by certain plant pathogenic nematodes.]

[For protection against damage caused by certain plant pathogenic nematodes on turf.]

[Suspension Concentrate]

[Broad spectrum control of nematodes]

#### Technical claims:

[Produces greener and denser turf]

[Reduces dew formation]

[Reduces leaf wetness periods due to dew or irrigation droplet retention]

[Fast recovery from stress periods]

[Fast closure of turf surface after aerification]

[Enhanced root growth in the presence of plant pathogenic nematodes]

[Enhanced leaf color and turf density in the presence of plant pathogenic nematodes]

[Reduces populations of plant pathogenic nematodes]