Department of Agriculture
STATE OF HAWAII

LICENSED

PERIOD 2015-2017 LIC. NO.
8187.12

Department of Agriculture
STATE OF HAWAII

LICENSED

PERIOD 2012-2014 LIC. NO.

DiTera® DF

BIOLOGICAL NEMATICIDE

DRY FLOWABLE

ACTIVE INGREDIENT[1]:

Myrothecium verrucaria strain AARC-0255 fermentation solids and solubles	90% w/w
OTHER INGREDIENTS	10% w/w
TOTAL	100% w/w

[1] "Non-viable"/"killed" microbial composition

POTENCY: 91,600 RKU
(Root-knot Units) per gram of product.

Potency units should not be used to adjust use rates.

KEEP OUT OF REACH OF CHILDREN

CAUTION

See succeeding panel for First Aid, additional Precautionary Statements, Directions for Use and Storage/Disposal Statements.

EPA Reg. No. 73049-67
EPA Est. No. 33762-IA-001

Net Contents: 10 Pounds

Registrant:

VALENT BIOSCIENCES® CORPORATION
870 Technology Way
Libertyville, IL 60048 U.S.A.
800-6-VALENT (682-5368)

List: 60278-04-01
04-6823/R6

Lot No.:

FIRST AID	
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 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.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For medical emergencies, you may also call toll-free 1-800-892-0099 for treatment information.	

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS & DOMESTIC ANIMALS
CAUTION

Causes moderate eye irritation. Avoid contact with eyes, skin, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

Mixers/loaders and applicators must wear a dust/mist filtering face piece respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

Personal Protective Equipment
Applicators and other handlers must wear:
- Long-sleeved shirt and long pants.
- Waterproof gloves.
- Shoes plus socks.

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

User Safety Recommendations
Users should:
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- 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
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 by cleaning of equipment or disposal of equipment washwaters.

This pesticide is toxic to fish and aquatic invertebrates.

DIRECTIONS FOR USE
It is a violation 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 State or Tribal Agency responsible for pesticide regulations.

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 intervals. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours.

Exception: If the product is soil injected or soil incorporated, the Worker Protection Standard under certain circumstances allows workers to enter the treated area if there will be no contact with anything that has been treated.

PPE required for early entry to treated areas (that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water) is:
- Coveralls.
- Waterproof gloves.
- Shoes plus socks.

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 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.

Keep unprotected persons out of treated areas until soil surface has dried.

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

Pesticide Storage: Keep containers tightly closed when not in use. Store in a cool, dry place. Avoid extreme temperatures.

Pesticide Disposal: Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility. Do not contaminate water when disposing of equipment washwaters.

Container Handling: Non refillable container. Do not reuse or refill this container. Completely empty bag into applicable equipment. Then offer for recycling if available or 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.

GENERAL INFORMATION
DiTera DF suppresses the following plant nematodes parasitizing food, fiber and ornamental crops: *Meloidogyne* spp. (root-knot nematodes), *Heterodera* and *Globodera* spp. (cyst nematodes), *Pratylenchus* spp. (lesion nematodes), *Tylenchulus semipenetrans* (citrus nematode), *Trichodorus* spp. (stubby-root nematodes), *Longidorus* spp. (needle nematodes), *Paratylenchus* spp. (pin nematodes), *Rotylenchulus* spp. (reniform nematodes), *Xiphinema* spp. (dagger nematodes), *Belonolaimus* spp. (sting nematodes), *Criconemoides* spp., *Criconemella* spp. and related genera (ring nematodes), *Tylenchorhynchus* spp. (stunt nematodes), *Hoplolaimus* spp. (lance nematodes), *Rotylenchus* spp., *Helicotylenchus* spp. (spiral nematodes), *Radopholus* spp. (burrowing nematodes) and other plant parasitic nematodes.

INSTRUCTIONS
Apply DiTera DF to the soil as a pre-plant, at planting or post-plant soil treatment on annual and perennial crops (refer to commodities listed in Table 1) alone, or mixed with water and the mixed suspension applied through drip or border irrigation systems. Best results will be obtained from Pre-plant applications close to the actual planting times. The optimal application time must be determined based on the cultural practices and the nematode population dynamics. For perennial crops, apply DiTera DF just prior to a root flush to protect young roots. Multiple applications may be required for crops with multiple root flushes. DiTera DF must be applied to and incorporated into the soil. Incorporation may be accomplished by mechanical equipment, irrigation or rainfall. For soil applications made at planting, the action of some planters may provide sufficient incorporation. When using planters which do not provide adequate incorporation of DiTera DF into the soil, equipment designed for incorporation may be used behind the planter.

Due to the nature of the active ingredient and the distribution of nematodes in agricultural soils, in-row or band application may be suitable for adequate nematode suppression. If banding or side-dressing, the corresponding rates need to be calculated based on the actual surface area of soil to be treated (Refer to conversion Table 2 for band applications). Use higher rates and/or multiple applications in coarse (light) soils with less than 1% organic matter. Maximum benefits may not be realized in agricultural fields containing non-decomposed plant materials, including infected roots from a previous crop, or in fields with very high nematode infestations.

Apply DiTera DF as a soil applied dry granule, applied using ground equipment, or using listed irrigation systems (refer to Chemigation Use Directions) with quantities of water sufficient to provide coverage of the root zone of the plants. The amount of water needed per acre will depend on the plant species, biology of the nematode species to be controlled, growth stage of crop, weather, soil moisture conditions, level of nematode infestation, etc. Do not allow treated water to move off site. Do not apply by mist sprayer or aerial spray equipment.

COMPATIBILITY
The DiTera DF application directions refer to the use of the product alone. Data concerning the compatibility of DiTera DF with other soil applied agricultural products are not available. Valent does not assume responsibility for unexpected, adverse results due to the tank mixing or simultaneous applications of DiTera DF with other agricultural products including fertilizers.

CHEMIGATION USE DIRECTIONS
Apply this product only through the following types of irrigation systems: furrow; border; or low pressure drip irrigation (including drip/trickle, drip tape, strip tubing). 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 local state extension service specialists, equipment manufacturers or other experts.

Do not connect 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.

CHEMIGATION SYSTEMS CONNECTED TO PUBLIC WATER SYSTEMS
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.

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.

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 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.

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.

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.

FURROW, BORDER AND DRIP IRRIGATION
Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop structure or weir box to decrease potential for water source contamination from backflow if water flow stops.

Systems utilizing chemigation, a pressurized water and pesticide injection system or drip/trickle chemigation, must meet the following requirements.

- 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 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.
- 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 fitted with a system interlock.

MIXING AND APPLICATION INSTRUCTIONS

To ensure complete mixing of DiTera DF, use application equipment having an agitation system.

A thoroughly mixed DiTera DF suspension can be applied through irrigation systems described under Chemigation Use Directions, so as to treat the soil around the crop root-zone. Use the material immediately after mixing in order to avoid settling. DiTera DF must be applied as a dedicated irrigation between normal irrigations or at the end of a scheduled irrigation. To minimize excessive dilution or leaching of product from root zone, DiTera DF must be applied in the highest concentration over the shortest time span possible.

Pre-mix product in a mix tank having both mechanical and by-pass agitation. Fill tank with 1/2 to 3/4 of the determined amount of water. Start mechanical and hydraulic systems to provide maximum agitation. Add an agricultural wetting agent prior to adding DiTera DF. Add 1/3 to 1/2 of DiTera DF and allow mixing until thoroughly suspended. Add the remaining product slowly while bringing water to the determined volume. Continue agitation. If a concentration greater than 1 lb. DiTera DF per 2 gallons of water is to be used, the material should be added in smaller increments with sufficient agitation following each addition. To avoid excessive leaching of product beyond the root zone, flush irrigation lines for the minimum time period at the end of the application. Do not mix more DiTera DF than can be used in a 24-hour period. Rinse and flush chemigation equipment thoroughly following each use. Use a strainer no finer than 50 mesh in conventional chemigation systems.

TABLE 1: DITERA DF CROP GROUPS	NEMATODE	BROADCAST APPLICATION RATE
BERRIES such as grape, Kiwifruit, blackberry*; raspberry*; blueberry*; strawberry*; cranberry* CITRUS FRUITS such as sweet orange, lemon, grapefruit CUCURBIT VEGETABLES such as cucumber*; melon*; squash* FLOWERING, BEDDING PLANTS, ORNAMENTALS such as fern and hosta FRUITING VEGETABLES such as eggplant*; pepper*; tomato* HERBS AND SPICES such as basil*; black pepper*; chive*; celery*; dill* LEAFY VEGETABLES AND COLE CROPS such as celery, head & leaf lettuce, spinach, broccoli, cabbage LEGUME VEGETABLES such as bean*; pea*; soybean*; peanut* POME FRUITS such as apple, pear ROOT AND TUBER VEGETABLES such as carrot*; potato*; radish*; ginseng*; sugar beet* STONE FRUITS such as peach, plum TREE NUTS such as almond, pecan, walnut MISCELLANEOUS: pineapple, asparagus*; avocado*; banana*; cacao bean*; coconut*; coffee*; cotton*; date*; fig*; globe artichoke*; hops*; mango*; mushroom*; okra*; papaya*; pawpaw*; persimmon*; plantain*; sugarcane*; tobacco*; turf*; water chestnut*	Burrowing Citrus Cyst Dagger Lance Lesion Needle Pin Reniform Ring Spiral Root-knot Sting Stubby-root Stunt and other plant parasitic nematodes	0.31 lbs/1000 sq ft (5 oz/1000 sq ft 142 gm/1000 sq ft) to 2.4 lbs/1000 sq ft (38.4 oz/1000 sq ft 1.09 kgm/1000 sq ft) (See Table 2 for rates for 1000 linear feet of row of various bandwidths)

(continued)

(continued)

***This product is Not Registered for Use on This Crop in California.**

NOTE: For application rates based on linear feet of banded application, one package will treat from 32,000 feet of 12 inch wide row at the low use rate, to 1000 feet of 48 inch wide row at the high use rate.

At the maximum label 'Broadcast Rate' one package of this product will treat 1/10 acre.

At the minimum label 'Broadcast Rate' one package will treat 3/4 acre. See Table 2 for various bandwidth rates per 1000 linear feet.

TABLE 2: DITERA DF - APPLICATION RATE

Row Band Width (Inches)	Pounds of DiTera DF per 1,000 Linear Feet of Row (Row band-width in inches – to the left)			
	0.31 lbs/ 1000 sq ft	0.6 lbs/ 1000 sq ft	1.2 lbs/ 1000 sq ft	2.4 lbs/ 1000 sq ft
12	0.31	0.60	1.2	2.4
18	0.47	0.91	1.8	3.6
24	0.63	1.20	2.4	4.8
30	0.79	1.51	3.0	6.0
36	0.94	1.82	3.6	7.2
48	1.26	2.40	4.8	9.6
60	1.58	3.00	6.0	—

NOTICE TO USER

To the fullest extent permitted by law, the seller makes no warranty, express or implied, of the merchantability, fitness or otherwise concerning the use of this product other than as indicated on the label. User assumes all risks of use, storage or handling not in strict accordance with accompanying directions.

DiTera® DF

BIOLOGICAL NEMATICIDE

DRY FLOWABLE

ACTIVE INGREDIENT[1]:

Myrothecium verrucaria strain AARC-0255 fermentation solids and solubles . . . . . 90% w/w

OTHER INGREDIENTS . . . . . 10% w/w

TOTAL. . . . . 100% w/w

[1] "Non-viable"/"killed" microbial composition

POTENCY: 91,600 RKU (Root-knot Units) per gram of product.

Potency units should not be used to adjust use rates.

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(01) 0 06 53204 18597 6

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