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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

JUN 28 1993

Kemira Biotech
 c/o E.R. Butts International, Inc.
 555 Clinton Avenue
 P.O. Box 3337
 Bridgeport, CT 06605-0337

Dear Dr. Butts:

Subject: Mycostop
 EPA Reg. Nos. 64137-1, -2, -3, and -4
 Your Submissions of May 28 and June 2, 1993

The amendments referred to above, submitted in connection with registration under FIFRA are acceptable. The revised confidential statement of formula has been entered into the file for the products and a stamped copy of each label is enclosed for your records.

Note that this acceptance of your label does not relieve you of your obligation to comply with the Worker Protection Standard (WPS). If any of your products are covered by the WPS, you are required to submit, and receive the Agency's approval by April 21, 1994, of a revised label reflecting the required label statements of 40 CFR 156, published in the FEDERAL REGISTER on August 21, 1992 (57 FR 38102). Further guidance will be issued. According to 40 CFR 156, subpart K, specifically section 156.200(c)(3): "No product to which this subpart applies shall be distributed or sold without amended labeling by any registrant after April 21, 1994."

Sincerely yours,



Clarence O. Lewis, III
 Acting Product Manager (21)
 Fungicide-Herbicide Branch
 Registration Division (H-7505C)

Enclosure

		CONCURRENCES					
SYMBOL	H7505C:C. Grable:cg:6/28/93						
SURNAME	Grable, C. Lewis						
DATE	6/28/93 6/28/93						

MYCOSTOP®
BIOFUNGICIDE FOR VEGETABLE CROPS
GROWN IN GREENHOUSE OR FIELD

ACTIVE INGREDIENTS: Dried spores and mycelium of ray fungus (*Streptomyces griseoviridis* Strain K61)*.....30%
INERT INGREDIENTS.....70%
TOTAL 100%

*10⁸ cfu (colony forming units) per 1g of product

KEEP OUT OF REACH OF CHILDREN

CAUTION

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Avoid breathing dust or spray mist. Avoid contact with skin and eyes. Use a dust/mist filter respirator (MSHA/NIOSH approval prefix TC-21C) when handling the product.

STATEMENT OF PRACTICAL TREATMENT

In case of contact, immediately flush eyes or skin with plenty of water. Get medical attention if irritation persists.

EMERGENCY INFORMATION

For spill, leak, fire, exposure, or accident call CHEMTREC 1-800-424-9300.

ENVIRONMENTAL HAZARDS

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water by disposal of equipment wash waters.

Use Before (Date)

Net Contents: _____

ACCEPTED
with COMMENTS
in EPA Letter Dated:

JUN 28 1993

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

64137-2

Kemira Biotech
Porkkalankatu 3
P.O. Box 330
00101 Helsinki, Finland

E.P.A. Registration No. 64137-2
E.P.A. Establishment No. 64137-FI-001
Made in Finland
KB3-V

DIRECTIONS FOR USE

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

MYCOSTOP is used for the control of seed rot, root and stem rot, and wilt diseases of vegetables caused by *Fusarium*, damping-off, and root rot caused by *Alternaria brassicola* on cole crops (Crucifers), and *Phomopsis* stem and foot rot in greenhouse grown cucumbers. MYCOSTOP has also shown suppression of *Botrytis* Gray Mold and *Pythium* and *Phytophthora* root rots in the greenhouse.

SEED TREATMENT APPLICATION

MYCOSTOP can be applied as a seed treatment at a dose rate of 0.03-0.13 oz./lb. (2-8 g/kg) of seed. Do not treat melon seeds with MYCOSTOP.

MYCOSTOP can be mixed with seed in a planter box. As a planter box treatment, fill box half full of seed, add half the required amount of MYCOSTOP and mix thoroughly with a stick or paddle. Add remainder of seed and MYCOSTOP and mix thoroughly.

To mix in a small container such as a jar, add the required amount of MYCOSTOP, shake until the seeds become coated with powder, then pour into planter box.

Treated seed should be sown without delay, but at least within a week if kept cool and dry.

The following crops are recommended for seed treatment with MYCOSTOP:

<u>USING 0.13 OZ./LB. (8 G./KG) SEED</u>	<u>USING 0.08 OZ./LB. (5 G./KG) SEED</u>	<u>USING 0.03 OZ./LB. (2 G./KG) SEED</u>
Brassica species (cole crops)	dill	lettuce
herbs	leguminous plants	
leeks	parsley	
onions	root crops	
	spinach	
	tomatoes	

SOIL SPRAY AND DRENCH APPLICATIONS

Vegetable crops for which soil spray and drench applications of MYCOSTOP are recommended include:

broccoli	dill	pepper, sweet
broccoli, Raab	gherkin	pimento
broccoli, Chinese	kale	pumpkin
Brussels sprouts	kohlrabi	radish
cabbage	lettuce	rutabaga
cabbage, Chinese	melons	spinach
carrot	onion	squash, summer
cauliflower	parsley	squash, winter
celery	pepper, bell	tomato
collards	pepper, chili	
cucumber	pepper, cooking	

MIXING INSTRUCTIONS

To make a suspension of MYCOSTOP, mix in a small volume of water such as 0.25-1.0 gallon and let stand for about 30 minutes. Agitate as needed to get product to evenly disperse before diluting to final volume. Do not tank mix MYCOSTOP with any pesticides or with concentrated fertilizers.

TRANSPLANT DIP

MYCOSTOP can be applied by dipping roots of transplants in a suspension shortly before planting. A suspension of 0.01 [(0.18 oz./13 gal)(5 g/50 liters)] to 0.1% [(0.18 oz./1.3 gal)(5 g/5 liters)] is recommended. Use the highest rate for high disease pressure.

BAND OR IN-FURROW APPLICATION

Apply 0.5-1.0 lb. MYCOSTOP/treated acre (0.5-1.0 MYCOSTOP kg/treated hectare) shortly before or at the time of planting in 25-50 gals. of water. A 7-inch band is recommended for banded applications. Lightly incorporate into the top 2-3 inches of soil. An in-furrow application of MYCOSTOP can also be made at the same rates. Spray all the soil that surrounds and covers the seed.

DRENCH OR SOIL SPRAY

MYCOSTOP can be applied by spraying or drenching a suspension on the soil or growing medium using 0.01-0.1% suspension. Follow with one-quarter to one-half inch of water on the same day.

- **Soil Spray** - Prepare a 0.1% [(0.18 oz./1.3 gal.)(5 g per 5 liters)(5 g per 1.3 gal.)] concentrate suspension and apply 2-4 gal. in an injector, proportioner, or sprayer to 800 ft² of raised surface area (e.g. raised beds, containers, bags, pots). Follow with irrigation to improve penetration of the organism into the root zone. Repeat every 2-6 weeks as needed for disease control. Use the higher rate and more frequent application for high disease pressure.
- **Drench** - Prepare a 0.01% [(0.18 oz./13 gal.)(5 g per 50 liters)(5 g per 13 gal.)] dilute suspension and apply 20-40 gal. to 800 ft² of raised surface area (e.g. raised beds, containers, bags, pots). This suspension may be fed through an injector, proportioner, or sprayer for better distribution. Follow with irrigation to saturate the soil or potting mix. Repeat every 2-6 weeks as needed for disease control. Use the higher rate and more frequent application for high disease pressure.

SIDE-DRESS APPLICATION

Apply 0.5-1.0 lb. MYCOSTOP/treated acre (0.5-1.0 MYCOSTOP kg/ha) in 25-100 gals. of water as a side dress application to the plant bed. Direct spray to base of plant and root zone. Repeat treatment every 2-4 weeks or as needed.

BOTRYTIS SUPPRESSION ON LETTUCE (GREENHOUSE)

A MYCOSTOP spray of 0.01-0.1% suspension to the foliage every 2-4 weeks will help suppress *Botrytis* infection. Direct spray to bottom of leaves and wet foliage to point of run off.

INTEGRATED DISEASE CONTROL PROGRAMS

MYCOSTOP can be used in integrated disease control programs. However, it should not be tank mixed with any pesticide. MYCOSTOP can be used the same day, if registered and if not prohibited, with benomyl, thiophanate methyl, metalaxyl, vinclozolin, fenoxystrobin, and propamocarb hydrochloride. Pesticides not compatible with MYCOSTOP have a 4-day interval between applications.

DRIP IRRIGATION - CHEMIGATION

Refer to supplemental labeling entitled "Supplemental Chemigation Labeling for MYCOSTOP Drip Irrigation" for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

STORAGE AND DISPOSAL

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

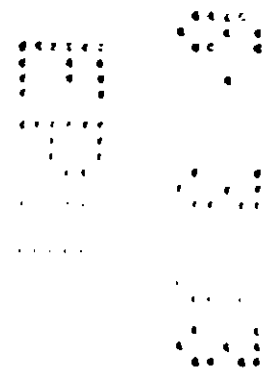
STORAGE: MYCOSTOP consists of living microbes, which is packed in moisture and air proof unit packages. Store in a cool (below 8°C, 46°F), dry place. Use all contents in packet the same day. Do not store opened packets since product will lose its activity.

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

CONTAINER DISPOSAL: 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.

NOTICE TO USER

Seller makes no warranty, express or implied, of 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.



Supplemental Chemigation Labeling for MYCOSTOP[®] Drip Irrigation in Vegetable and Ornamental Crops

(For MYCOSTOP EPA Registrations 64137- 2 and 64137-4)

GENERAL

Apply MYCOSTOP only through drip irrigation system(s). Do not apply MYCOSTOP through any other type of irrigation system.

A pesticide supply tank is recommended. Continuous agitation of MYCOSTOP in the supply tank is required. Begin application of MYCOSTOP during the beginning of irrigation.

- On an area basis, use MYCOSTOP at 0.3-0.5 oz./800 ft² (1.0-2.0 g/10 m²). On an individual plant basis, use MYCOSTOP at 0.03-0.17 oz. (1.0-5.0 g) per 200 plants.
- Use higher rate and more frequent application for large plants and pots, and for high disease pressure.
- Apply in sufficient amount of water to move into root zone. Repeat every 2-6 weeks as needed for disease control.

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

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

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

SPECIAL INSTRUCTIONS FOR USE OF PUBLIC WATER SOURCES

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 from 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.

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 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.

SPECIAL INSTRUCTIONS FOR DRIP IRRIGATION (CHEMIGATION) SYSTEMS

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 control 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.

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Revision - KB1-VOD

