

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DEC 17 1991

Gerald R. Haddock  
Westbridge Agricultural Products  
2776 Loker Avenue  
Carlsbad, CA 92008

Dear Mr. Haddock:

Subject: Soil TRIGRR  
EPA Reg. No. 51517-3  
Re: Label Amendments  
Your submission dated January 16, 1991

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable subject to the comment listed below. Please submit five of your final printed labeling incorporating these changes before releasing your product for shipment. A stamped copy is enclosed for your records.

1. Please update your "Wetlands" statement to read "Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark."

Sincerely,

*Cynthia Giles-Parker*

Cynthia Giles-Parker  
Product Manager (22)  
Fungicide-Herbicide Branch  
Registration Division (H7505C)

enclosure

CONCURRENCES

SYMBOL	H7505C						
SURNAME	CPLE						
DATE	12/11/91						

**NEMESIS™**

**NEMATODE SUPPRESSANT**

**ACTIVE INGREDIENTS:**

Cytokinin (as kinetin) 0.004%\*

**INERT INGREDIENTS:** 99.996%

\*based on biological activity

EPA REG. NO. 51517-3

EPA EST. NO. 51517-CA-001

**KEEP OUT OF REACH OF CHILDREN**

**CAUTION**

**SHAKE WELL BEFORE USING**

**NET VOLUME:** 1 U.S. Gallon

**NET WEIGHT:** 8.49 lbs

**LOT NO:**

**WESTBRIDGE AGRICULTURAL PRODUCTS**

2776 Loker Avenue West

Carlsbad, CA 92008

**PRECAUTIONARY STATEMENTS**

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

Harmful if absorbed through skin. Avoid contact with skin, eyes and clothing. Wash thoroughly with soap and water after handling.

**ENVIRONMENTAL HAZARDS**

Do not apply directly to water or wetlands. Do not contaminate water when disposing of equipment washwaters.

**DIRECTIONS FOR USE**

Refer to supplemental labeling entitled "NEMESIS Application Guide" for use directions. Do not apply this product unless the supplemental labeling is followed.

**GENERAL INFORMATION**

NEMESIS is a nematode suppressant which interferes with the infection of plant roots by parasitic nematodes. By increasing the resistance of plants to nematode infection, NEMESIS reduces nematode populations in both roots and soil and decreases crop damage. As a result, NEMESIS aids in the growth and development of roots leading to earlier emergence, increased stands, increased vegetative growth, increased resistance to environmental stress and increased yields.

ACCEPTED  
with COMMENTS  
In EPA Letter Dated

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

51517-3

#### COMPATIBILITY

NEMESIS can be tank mixed with herbicides, insecticides, fungicides, nematicides and liquid fertilizers or impregnated on dry fertilizers. See "NEMESIS Application Guide" for mixing instructions and compatibility test recommendations.

#### CHEMIGATION

Refer to supplemental labeling entitled "NEMESIS Application Guide" 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

##### Storage

NEMESIS should be stored in a cool place, out of reach of direct sunlight.

##### Disposal

Do not contaminate water, food or feed by storage or disposal. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Triple rinse (or equivalent) plastic containers. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by the state and local authorities, by burning. If burned, stay out of smoke.

#### NOTICE OF WARRANTY

Westbridge Agricultural Products warrants that the product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with the directions under normal conditions of use. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials or the manner of use or application, all of which are beyond the control of Westbridge. In no case shall Westbridge be liable for consequential, special or indirect damages resulting from the use or handling of this product. Westbridge makes no warranties of merchantability or fitness for a particular purpose nor any other express or implied warranty except as stated above.

**NEMESIS™**  
**APPLICATION GUIDE**

ACCEPTED  
with COMMENTS  
In EPA Letter Dated:

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

51517-3

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**NEMESIS™**

**NEMATODE SUPPRESSANT**

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

**SHAKE WELL BEFORE USING**

**ACTIVE INGREDIENTS:**

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**ENVIRONMENTAL HAZARDS**

Do not apply directly to water or wetlands. Do not contaminate water when disposing of equipment washwaters.

*Sevise*

## DIRECTIONS FOR USE

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

### General Information

NEMESIS is a nematode suppressant which interferes with the infection of plant roots by parasitic nematodes. By increasing the resistance of plants to nematode infection, NEMESIS reduces nematode populations in both roots and soil and decreases crop damage. As a result, NEMESIS aids in the growth and development of roots leading to earlier emergence, increased stands, increased vegetative growth, increased resistance to environmental stress and increased yields.

NEMESIS can be used in combination with other chemicals, including nematicides, and in programs with Foliar TRIGGRR\*, Liquid Seed TRIGGRR\*, Dry Seed TRIGGRR\* and

M.S.E. Soil and M.S.E. Foliar fertilizers.

**Recommended Crops**

NEMESIS is recommended for use on:

**FIELD CROPS**

Alfalfa, Corn (includes Popcorn), Cotton, Lupine, Peanuts, Rice, Sorghum (Milo), Soybeans, Sugar Beets, Triticale, Wheat.

**FRUITS**

Apples, Bananas, Grapes, Oranges, Peaches, Plantains, Strawberries.

**VEGETABLES**

Asparagus, Beans (also includes Black-eyed Peas, Catjang, Chick Peas, Cowpeas, Crowder Peas, Garbanzo Beans, Southern Peas), Broccoli, Brussels Sprouts, Cabbage, Carrots, Cauliflower, Celery, Corn (Sweet), Cucumber, Eggplant, Florence Fennel\* (Anise, Fenchio), Garlic, Leeks, Lettuce, Melons, Okra, Onions, Parsley, Peas (includes Pigeon Peas), Peppers, Potatoes, Pumpkins, Radishes,



Shallots, Spinach, Squash, Sweet  
Potatoes, Tomatoes, Yams.

\*Fresh leaves and stalks only

**NON-FOOD CROPS**

Jojoba, Ornamentals, Trees, Turf.

**Mixing Instructions**

NEMESIS is water soluble and suitable for use in conventional liquid application systems. Shake NEMESIS thoroughly and dilute in sufficient water to assure adequate and even coverage. Alkaline dilution water (pH greater than 7) should be adjusted to pH 6 prior to the addition of NEMESIS, using WB 50™ or other suitable acidifiers. Agitate the tank mixture during application and use within 12 hours after dilution.

**Compatibility**

NEMESIS can be tank mixed with herbicides, insecticides, fungicides, nematicides and fertilizers. NEMESIS can also be impregnated on granular fertilizers.

For use in tank mixes, NEMESIS should be added last to the spray tank containing the other fully diluted chemicals.

Test the compatibility of the intended tank mixture before use. Add the proportionate amounts of each diluted ingredient to a jar. Cover, shake and let stand 15 minutes. Formation of precipitates that do not readily redisperse indicates an incompatible mixture.

The following procedures may be helpful in the event of incompatibility:

Predilute NEMESIS in 5 gallons of water before adding to the spray tank.

Increase the amount of water per acre to be applied.

Add a buffer/compatibility agent to the spray tank.

For use with fertilizers containing a high phosphorus analysis, add one gallon of water to the spray tank for each three gallons of fertilizer, and add a buffer/compatibility agent, prior to adding NEMESIS.

#### **Application Rates and Timings**

The degree of nematode suppression following treatment with Nemesis may vary with different nematode and plant types and under different environmental conditions. Where a range of application rates of Nemesis is indicated below, use lower rates under conditions associated with greater degrees of suppression and higher rates under conditions associated with lesser degrees of suppression. (See also "Chemigation", below.)

#### **Nursery and container use:**

Apply NEMESIS to container-grown plants at the rate of 1 pint per 100 gallons of water as a soil drench. Water containers thoroughly, but not to the point of excessive runoff. Repeat applications at intervals of 1-4 weeks, depending upon the degree of infestation.

**Transplant use:** Apply NEMESIS in transplant water at the rate of 1 pint per 100 gallons of water.

**Field use:** NEMESIS may be applied using the following methods:

#### **PREPLANT INCORPORATED:**

Broadcast NEMESIS over the field surface, or band NEMESIS over the seed bed, and incorporate to a depth of 2-6 inches prior to planting. Use a

broadcast rate of 80 fluid oz/A, reducing the rate proportionally for banded applications. Apply NEMESIS the day of planting for best results.

**IN SEED FURROW:**

Apply NEMESIS at planting at the rate of 1-2 fluid oz/1000 feet of row. Band or dribble and incorporate NEMESIS into the seed furrow or knife in below and to the side of the seeds in combination with starter fertilizer.

**SIDE-DRESS**

Knife NEMESIS into the soil near the root zone at the rate of 1-2 fluid oz/1000 feet of row after crops have emerged.

**SURFACE APPLIED/IRRIGATED:**

Spray NEMESIS on the soil surface and water in to the root zone in established crops, or to the depth of the seed in newly planted crops. Use a broadcast-equivalent rate of 80 fluid oz/A for single applications and 40 fluid oz/A for multiple applications. (Adjust the rates in proportion to the percent of the total land surface covered

by the spray.) For best results irrigate immediately following the NEMESIS application. Applications may be repeated at 2-8 week intervals, depending upon the degree of infestation.

**IN IRRIGATION WATER:**

NEMESIS may be applied through sprinkler, flood (basin), furrow, border and drip irrigation systems. For drip irrigation of row crops, apply NEMESIS at the rate of 1-2 fluid oz/1000 feet of row. For all other irrigation methods, apply NEMESIS at the rates indicated under "Surface applied/irrigated", above, adjusting the rate in proportion to the percent of the total land surface covered, or saturated, by the irrigation. Applications may be repeated at 2-8 week intervals, depending upon the degree of infestation. (See also "Chemigation", below.)

**IN TRANSPLANT WATER:**

See "Transplant use", above.

**Chemigation**

Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel)

roll, traveler, big gun, solid set, or hand move; flood (basin); furrow; border; or drip (trickle) irrigation systems. 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 nonuniform distribution of treated water.

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

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.

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.

Do not apply when wind speed favors drift beyond the area intended for treatment.

The pesticide supply tank should be agitated throughout the application of NEMESIS.

NEMESIS should be applied at the end of the water application.

For mixing instructions see "Mixing Instructions" and "Compatibility", above.

NEMESIS should be applied in sufficient water to penetrate into the root zone without excessive leaching into deeper soil.

**Sprinkler Chemigation:** 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.

Do not apply when wind speed favors drift beyond the area intended for treatment.

The pesticide supply tank should be agitated throughout the application of NEMESIS.

NEMESIS should be applied at the end of the water application.

For mixing instructions see "Mixing Instructions" and "Compatibility", above.

NEMESIS should be applied in sufficient water to penetrate into the root zone without excessive leaching into deeper soil.

**Flood (basin), furrow and border chemigation:** 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 the water flow stops.

Systems utilizing a pressurized water and pesticide injection system must meet the following requirements.

1. 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.

2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

3. 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.

4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

5. 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.

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.

A pesticide supply tank should be used for applying NEMESIS.

For mixing instructions see "Mixing instructions" and "Compatibility", above.

The pesticide supply tank should be agitated throughout the application of NEMESIS.

NEMESIS should be applied at the end of the water application.

NEMESIS should be applied in sufficient water to penetrate into

the root zone without excessive leaching into deeper soil.

**Drip (trickle) chemigation:** 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 automati-

cally 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.

A pesticide supply tank should be used for applying NEMESIS.

For mixing instructions see "Mixing instructions" and "Compatibility", above.



The pesticide supply tank should be agitated throughout the application of NEMESIS.

NEMESIS should be applied at the end of the water application.

NEMESIS should be applied in sufficient water to penetrate into the root zone without excessive leaching into deeper soil.

#### **STORAGE AND DISPOSAL**

##### **Storage**

NEMESIS should be stored in a cool place, out of reach of direct sunlight.

##### **Disposal**

Do not contaminate water, food or feed by storage or disposal. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Triple rinse (or equivalent) plastic containers. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill,

or by incineration, or, if allowed by the state and local authorities, by burning. If burned, stay out of smoke.

**NOTICE OF WARRANTY**

Westbridge Agricultural Products warrants that the product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with the directions under normal conditions of use. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials or the manner of use or application, all of which are beyond the control of Westbridge. In no case shall Westbridge be liable for consequential, special or indirect damages resulting from the use or handling of this product. Westbridge makes no warranties of merchantability or fitness for a particular purpose nor any other express or implied warranty except as stated above.

