FIELD AND VEGETABLE CROPS

General Information

GENERAL INFORMATION

Telone EC soil fumigant is a liquid fumigant for preplant treatment of cropland soil that can be used as part of a management program involving rotation, resistant varieties, and other cultural practices designed to alleviate nematode and disease pressure.

Telone EC may be applied as a preplant soil treatment to control the following types of plant parasitic nematodes: burrowing, citrus, cyst (golden, sugarbeet, soybean, carrot and wheat), dagger, lance, pin, needle, reniform, ring, root knot, root lesion, spiral, sting and stubby root.

Telone EC can also be used to suppress Fusarium wilt of cotton.

Telone EC may be applied through buried drip (drip lines buried at least 6 inches below soil surface) irrigation equipment without a secured tarp seal or surface and/or buried drip irrigation equipment with a secured tarp seal. In the state of California, the use of a tarp seal is mandatory for all applications of the product.

Before fumigation, soil sampling for the type and number of pests present is recommended. In fields where pre-treatment soil samples indicate the presence of high population levels of nematodes, a successful fumigation cannot be expected to eradicate entire populations. Therefore, posttreatment sampling is recommended to determine the need for additional pest management practices.

Consult State Agricultural Experiment Station or Extension Service specialists for information on other practices such as post-harvest destruction of crop residues, weed control or other cultural practices, and use of nematode resistant crop varieties that may aid in reducing crop losses from soil borne pests.

General Use Precautions
Soil fumigation using Telone EC should be conducted only according to directions and conditions of use described in the label.

Not for use in greenhouses or other enclosed areas.

Do not formulate and/or tank mix the product into other end-use agricultural products.

Soil must be in good seed bed condition, free of clods and undecomposed plant material.

Recontamination prevention: Telone EC will control pests that are present in the soil treatment zone at time of fumigation. It will not control pests that are introduced into soil after fumigation. To avoid reinfestation of treated soil, do not use irrigation water, transplants, or equipment that could carry soil borne pests from infested land. Avoid contamination from moving infested soil onto treated beds through cultivation, movement of soil from below the treated zone, dumping contaminated tare soil in treated fields and soil contamination from equipment or crop remains.

Clean equipment carefully before entering treated fields.

Do not use containers, pumps or other transfer equipment made of aluminum, magnesium or their alloys, as under certain conditions Telone EC may be severely corrosive to such metals.

Fertility Interactions: Fumigation may temporarily raise the level of ammonia nitrogen and soluble salts in the soil. This is most likely to occur when high rates of fertilizer and fumigant are applied to soils that are either cold, wet, acidic, or high in organic matter. To avoid crop injury, fertilize when possible as indicated by soil tests made after fumigation. To avoid ammonia injury or nitrate starvation (or both) to crops grown on high organic soils, do not use fertilizers containing ammonium salts. Use only fertilizers containing nitrates until after the crop is well established and the soil temperature is above 65°F.

Do not apply within 100 feet of any well used for potable water. Do not apply the product within 100 feet from the edge of karst topographical features. Karst topography is identified from landscape features that result from the dissolving activity of water in carbonate rock formations (limestone, dolomite and marble). Surface features that are associated with karst topography include sinkholes,
caverns, springs, and sinking or disappearing streams. In North Dakota, South Dakota, Wisconsin, Minnesota, New York, Maine, New Hampshire, Vermont, Massachusetts, Utah, and Montana: Where groundwater aquifers exist at a depth of 50 feet or less from the surface, do not apply the product where soils are Hydrologic Group A.

Use Restrictions for Certain Florida Counties: For application of the product in Brevard, Charlotte, Citrus, Collier, DeSoto, Glades, Hardee, Hendry, Hernando, Highlands, Hillsborough, Indian River, Lake, Lee, Manatee, Martin, Monroe, Okeechobee, Orange, Osceola, Palm Beach, Pasco, Pinellas, Polk, Sarasota, Seminole, St. Lucie, Sumter, and Volusia counties, applicators must have in their possession FIFRA Section 24(c) Special Local Need (SLN) FL-010008 and comply with stated requirements. Use of Telone EC is prohibited in Broward and Dade counties.

Application Directions

Buffer Zone: An application of Telone EC shall not be made within 100 feet of an occupied structure, such as a school, hospital, business or residence. No person shall be present at this structure at any time during the seven consecutive day period following application. This buffer zone does not apply to use on soils that will not experience an additional 1,3-D treatment for at least three years, for example, on soils to be planted with perennial crops.

Drip Application: Apply Telone EC as a preplant application through buried drip (drip lines buried at least 6 inches below soil surface) irrigation equipment without a secured tarp seal or surface and/or buried drip irrigation systems with a tarped seal. In the state of California, a secured tarp seal is required for all applications. For optimum control when using a tarp, the tarp seal must remain in place for a minimum of 14 days.

Planting Interval: Leave the soil undisturbed and unplanted for at least 14 days after applying Telone EC. A longer undisturbed interval is required under cold or wet soil conditions.

After fumigation, to prevent phytotoxicity, allow the fumigant to dissipate completely before planting the crop. Under optimum soil conditions for dissipation, 1 week for each 10 gallons per acre is recommended with a minimum interval of 14 days following application. Dissipation is usually complete when Telone EC can no
longer be detected at the application depth. Seed or transplants to be grown may be used as a bioassay to determine if Telone EC is present in the soil at concentrations sufficient to cause plant injury. Do not plant if the odor of Telone EC is detected.

Frequency/Timing of Application: Apply any time of the year when soil temperatures are between 40°F and 80°F at the depth of application.

Preharvest Interval: Not applicable.

Compatible Materials: The following materials are recommended for use in drip systems where applications of Telone EC are to be made:

- Copper, stainless steel, stainless steel braided hose, steel, brass, Kynar, Kalrez, Chemraz, Santoprene, Hasteloy, Monel, polypropylene, polyethylene, nylon, Te on, rigid PVC and viton (F/G best).

- Rigid PVC should not be exposed to undiluted Telone EC or more than 1500 ppm of Telone EC in the diluted form.

The following materials are not recommended for use with Telone EC and/or drip systems where Telone EC is to be applied:

- Do not use containers, pumps, drip tube or other transfer or drip equipment made of aluminum, magnesium, zinc (including galvanized), cadmium, tin and alloys, or vinyl under certain conditions Telone EC may be severely corrosive to such metals.

- Buna-N, neoprene and fiberglass have the potential to disintegrate and should not be used in a system where Telone EC is to be applied.

Drip Irrigation Design:

- A drip irrigation specialist should be consulted on the design of a drip system to insure irrigation and fumigant application uniformity.
- A drip irrigation specialist should be consulted in the selection of a proper drip tape based upon the water needs of the crop to be grown with the understanding that the tape will also be used for drip fumigation. Selection of the proper emitter spacing, flow rate, and number of tapes per bed is important in obtaining a quality drip fumigant application.

- Drip emitters should be spaced 12 to 24 inches apart on the drip lines.

- It is important to note that drip tape installed on top of the soil surface has the potential to kink, twist and snake when water is introduced. This could result in tape damage and a lack of irrigation and fumigation uniformity.

- Planting must occur within the treated area.

Drip Fumigation Procedures:

Step 1, Pre-Irrigation:

- To obtain more uniform water movement, insure quality fumigant distribution and to test for leaks, a pre-irrigation prior to the planned drip fumigation application is recommended.

- During pre-irrigation, use sufficient water to increase soil moisture throughout the treatment zone to near or at field capacity. This should occur over a 7- to 10-day period prior to application in order to stimulate nematode hatch and activity.

- Allow the soil moisture to return to below field capacity before making the drip fumigant application.

- The pre-irrigation may enhance coverage in very sandy soils, very dry soils, or in soil with deep buried tape (5 inches in depth or greater).

Step 2, Drip Fumigant Application:

- Apply appropriate rate (see Table 1) of Telone EC in enough water so that soil moisture throughout the treatment zone, including near the soil surface, is again at or near field capacity.
- The concentration of Telone EC must be between 500 and 1500 ppm in the drip irrigation lines.

- Do not exceed a concentration of 1500 ppm of Telone EC.

- Water flow and chemical flow rates must be known in order to calculate the correct ppm.

- Telone EC must be metered into the water supply and pass through a mixing device (centrifugal pump or static mixer) to assure proper agitation before it is distributed into the drip irrigation line system.

- Calculating the correct flow rate of Telone EC is important in achieving the correct dose rate to control the targeted pest. Calibration of the chemical flow and water meters is recommended. A chemical flow totalizer and/or scale are recommended to validate the chemical flow.

- Fumigant injections made within 50 feet of the first “T” and/or under conditions of low velocity water flow (less than 2 feet per second) must pass through a mixing device (such as a centrifugal pump or static mixer, coarse filter or fine strainer) to assure proper agitation.

- A separate mixing device is not needed if the chemical injection point is at least 50 feet in front of the first “T” junction point and significant turbulent flow is present to insure mixing.

- For low velocity (laminar) flows, more distance or a mixing device is needed to insure thorough mixing of the fumigant and water before it reaches the site to be treated.

- The minimum turbulent flow that is required for adequate mixing and to prevent damage to PVC pipe is 2 feet per second.

- Do not allow treatment solution to puddle on the soil surface. If ponding, puddling or run-off occurs, then discontinue application immediately and cover with soil to absorb.

Step 3, Post Application:

- After application of Telone EC, continue to irrigate the area with sufficient
untreated water to flush the mixture from the irrigation system.

- Do not allow Telone EC to remain in the irrigation system.

- Make sure that any PVC dead ends or low spots are flushed completely.

- Leave the soil undisturbed for at least 14 days. Then proceed with normal crop management activities.

- Do not plant if Telone EC is detected.

Special Use Precautions for Chemigation Application Equipment

- Apply the product only through surface and buried tape drip irrigation systems. Do not apply the product through any other type of irrigation system.

- Crop injury or lack of effectiveness can result from non-uniform distribution of treated water.

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

- Do not connect 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.

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

- The system must contain a functional check valve, vacuum relief valve and low pressure drain or approved back flow prevention valve appropriately located on the irrigation pipeline to prevent back flow contamination of the water source.

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

- The pesticide injection pipeline must also contain a functional, normally closed, automatic valve located on the intake side of the injection pump and connected to the system interlock to prevent fumigant from being withdrawn from the supply
tank when the irrigation system is either automatically or manually shut down. The valve must be compatible with the fumigant.

- The system must contain a functional inter-lock to automatically shut off the pesticide injection pump if used when the water pressure drops too low for acceptable irrigation uniformity or the water pump motor stops.

- The irrigation line or water pump must include a functional pressure switch that will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

- A hydraulic interlock valve operated by irrigation water pressure may be used in lieu of a functional pressure switch and/or an automatic functional inter-lock.

- Injection systems must use a metering system, such as a positive displacement injection pump or diaphragm pump, or venturi system,

and/or a pressure-safe cylinder containing Telone EC equipped with a metering valve and flow meter. This equipment must be constructed of materials that are compatible with Telone EC and capable of being fitted with a system interlock.

- Telone EC should be injected into the center of the irrigation water stream by using a suitable dip tube. This will prevent damage from undiluted fumigant contacting PVC pipe at the point of injection.

See Supplemental Label for Additional Use Restrictions for Certain Florida Counties.

Limitations, Restrictions, and Exceptions

FIELD AND VEGETABLE CROPS

Dilution rate as applied: 500 to 1500 ppm of Telone EC.

1500 ppm 1,3-D is equivalent to 1 gallon of Telone EC in 740 gallons of water.

Rates given are broadcast equivalent.

Not intended for use on muck or peat soils.

Potatoes: Before fumigation, soil sampling for the type and number of pests present is recommended and can help to determine the need for additional treatment with a contact nematicide. Preharvest tuber sampling for nematodes also is
recommended. If the nematode population is high enough to damage the crop, potatoes can be harvested early. Do not store potatoes with a detectable nematode infestation.

For cyst-forming nematodes, use 18 gallons per acre of bedded row.

For use in a second crop culture or when nematode pressure is a concern, the upper end of the rate range is recommended.

Control of Plant Diseases

Fusarium Wilt of Cotton: The effects of this disease can be suppressed by controlling the root knot nematodes associated with this disease/ nematode complex. Use Telone EC at the rate of 12 gallons per acre.

Method

Broadcast

Rates

field rates 0

Restricted Entry Interval

5 days

Timings

Preplant