

SEP 16 1968  
UNDER THE FEDERAL INSECTICIDE  
FUNGICIDE AND RODENTICIDE ACT  
FOR ECONOMIC POISON REGISTRATION  
ED UNDER NO. 550-72 SUBJECT  
TO ATTACHED COMMENTS.

NET CONTENTS

GUARDSMAN

VIDDEN D\* SOIL FUMIGANT

FOR CONTROLLING MANY SUBTERRANEAN PLANT PARASITIC NEMATODES IN CORP LANDS

\*VIDDEN® TRADEMARK OF THE DOW CHEMICAL COMPANY

Active Ingredients . . . . . 100%

1,3-dichloropropene, 1,2-dichloropropane, and related  
chlorinated hydrocarbons

U.S.D.A. Registration No. 550-72

Use VIDDEN D only as a preplant treatment to control NEMATODES such as meadow (lesion), root knot, citrus, burrowing, ring, spiral, sting, pin, stubby root, stylet, dagger and cyst formers (golden and sugar beet), also wireworms, garden centipedes (symphylans) in land to be planted to vegetables such as beans, beets, carrots, celery, cole crops (cauliflower, cabbage, etc.) corn, cucurbits (cucumbers, melons, etc.), lettuce, onions, parsnips, peas, peppers, spinach, sweet potatoes, white potatoes, tomatoes, turnips; and field crops such as cotton, peanuts, sugar beets and tobacco; and other high value crops such as floral crops, pineapple, strawberries, citrus and deciduous orchard planting sites, ornamentals and forest nursery crops. For best results with annual crops, treat soil each year. Do not use on extremely heavy clay soil.

DANGER! KEEP OUT OF REACH OF CHILDREN

HARZARDOUS VAPOR AND LIQUID - COMBUSTIBLE LIQUID

Causes Burns of Skin or Eyes. May be fatal if swallowed, inhaled, or absorbed through the skin.

Keep away from Heat and Open Flame. Keep Container Closed. Do not Breathe Vapor. Do not take internally. Use only with adequate ventilation. Do Not get on skin, in eyes, on clothing.

In case of contact, immediately remove contaminated clothing or shoes and wash skin with soap and plenty of water; for eyes, flush with flowing water for at least 15 minutes and get medical attention. Do not wear contaminated clothing or shoes until entirely free of chemical odor.

In case of spillage indoors, have available a self-contained breathing apparatus or a mask or respirator of a type passed by the U.S. Department of Agriculture for chlorinated C<sub>3</sub> hydrocarbons.

In inhaled, remove to fresh air. Use artificial respiration if breathing has stopped. Get immediate medical attention. Keep patient absolutely quiet.

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REAR PANEL

**USE PRECAUTIONS:** To avoid reinfestation of treated soil do not use transplants, tools, or crop remains that could carry soil-borne pests from infested land. Clean rig carefully before using.

Since VIDDEN D soil fumigant is corrosive under certain conditions, flush all applicators with fuel oil or kerosene immediately after use. **DO NOT USE WATER.** Do not use containers or handling equipment made of aluminum, magnesium or their alloys, as under certain conditions VIDDEN D soil fumigant may be severely corrosive to such metals.

Store VIDDEN D soil fumigant in tightly closed containers in a cool place away from dwellings. In outside storage, store drums on their sides to avoid accumulation of rain water. Common protective equipment, such as rubber gloves and boots, etc., may be penetrated readily by this material. Polyethylene provides a good barrier. For field operations cover shoes and hands with polyethylene bags.

Do not store near seeds, plants, fertilizers or other pesticide chemicals.

Do not contaminate feed and foodstuffs.

This product is toxic to wildlife. Keep out of lakes, streams or ponds. Apply this product only as specified on the label.

**DIRECTIONS FOR APPLICATION AND PLANTING**

**WHEN TO TREAT:** Treatments can be made either in spring or fall whenever soil conditions are suitable. In northern states, late summer or early fall treatment (before October 15) is recommended for land to be planted to early spring crops, when plants are to be set out, such as celery, tomatoes, strawberries, nursery and orchard stock. Early treatment permits planting a fall cover crop. Treat muck soils only in the early fall and plant in the spring.

**SOIL PREPARATION:** For best fumigant penetration and soil sealing, plant remains should be worked into the soil long enough before treatment so that roots are well rotted. The soil should be in good seedbed condition, with the temperature between 40° and 80° F. at the depth of injection and with enough moisture for good seed germination. Deep tillage, 12 to 18 inches, often improves results. Treat loams and clay loams when fairly dry (water content, one-half of field capacity).

**APPLICATION:** For over-all application, either chisel (with chisels set 12 inches apart) or plow-sole equipment may be used. For row application, use one chisel per row, or two chisels spaced 12 inches apart. Where 2 or more chisels are used per row apply at the same rate per chisel as for over-all. Where only 1 chisel is used per row adjust the fumigant flow to distribute about 1-1/3 times as much per chisel as over-all. As the distance between rows is increased the amount of fumigant required per acre will

decrease, and the amount required will increase when the distance between rows is decreased. Mark the treated strips by bedding or listing or by tractor wheel marks, and plant in the middle of the treated areas. Always inject the fumigant at least 6 to 8 inches below the final soil surface. In western irrigated cotton area, use 2 chisels per row, set 12 inches apart, and plant in the middle of the treated strip. See manufacturer's representative for detailed information on application and calibration of equipment.

**SEALING:** Immediately after application, compact the soil. After chisel application, use a float, roller, cultipacker or similar sealing device. After plow-sole application, disk the land, then compact it by floating or rolling. Sealing after row application can be accomplished by the tractor wheel, by listing, or by bedding so that the fumigant will be 12 to 14 inches below the top of the bed. When fumigating listed rows, seal in the fumigant with ring rollers or press scalers.

**EXPOSURE PERIOD:** After application and compacting, leave the soil undisturbed for at least 7 to 14 days. Wet soil retards diffusion of the fumigant, thus requiring a longer exposure period.

**AERATION AND PREPARATION OF SOIL BEFORE PLANTING:** At the end of the exposure period, aerate the soil by plowing or deep cultivation. This is especially desirable in northern areas after fall application in muck soils. If heavy rains accompanied by low temperatures occur during the exposure period, working the soil several times is essential for thorough aeration. Aeration is usually complete when the odor of the fumigant is no longer evident. Shallow rooted crops can usually be planted about one week after the end of the exposure period or when aeration is complete. For deep-rooted trees and shrubs, the aeration period should be 3 to 6 months. Plant as late as possible in the spring on fumigated muck soils.

DOSAGE RECOMMENDATIONS

Crop	Type of Treatment	Soil Type	Gallons Per Acre <sup>1</sup>	Linear Feet Per Pint Per Chisel	Linear Feet Per Pint per Chisel	
					Two or more chisels per row	One chisel per row
Shallow Rooted Plants	Row (42")	Mineral	7 1/2 to 10	208 to 155		141 to 104
Field Crops		Muck or Peat	15 to 20	104 to 78		69 to 26
Floral Crops						
Grasses and Turf	Over-all	Mineral	15 to 25 <sup>2</sup>	363 to 212		--
Small Fruits	for Broadcast					
Vegetables		Muck or Peat	40 <sup>1</sup> to 60	135 to 91		--
Ornamentals						
Strawberries	Over-all	Mineral	40 to 60	136 to 91		--
Sugar Beets	Row (42")		9	173		117
Root-Knot Nematode	Over-all	Sandy, or	20 to 25	273 to 218		--
Sugar Beet Nematode	Row (42")	Sandy Loam	15	104		69
	Over-all		20 to 30	273 to 182		--
Pineapple <sup>4</sup>	Row	Mineral	40 to 60	136 to 91		91 to 61
Citrus—Florida <sup>5</sup>	Over-all	Sandy	60	91		--
Nursery and Field	Over-all	Gallons Per Acre to Penetrate Various Depths				
Citrus Fruit Trees	Soil Type	3 ft.	4 ft.	5 ft.	6 ft.	
Deciduous Fruit Trees	Sand	25	35	45	55	
Forest Trees	Sandy Loam	45	50	60	80	
Grapes	Silt Loam	70	85	105	125	
Nut Trees						
Ornamentals—deep rooted	Clay Loam	90	115	140	170	

1. Use the higher rates in heavier soil.
2. For cyst-forming nematodes increase dosage to 30 gallons (182 linear feet per pint per chisel).
3. For muck soils containing less than 30% organic matter use 30 gallons per acre.
4. For Hawaiian pineapple, application may be made at time of, or just before planting.
5. For burrowing nematode in citrus, inject on 18-inch centers 12 inches deep. Keep free of plants susceptible to burrowing nematodes for 2 years before replanting to citrus.

NOTE: To control symphylans (garden centipedes) use only over-all at 30 or more gallons per acre, and apply during late summer or early fall when the soil is warm. To control wireworms use dosages recommended for nematodes in over-all or broadcast treatments.

CAUTION: Note carefully. Fumigation may temporarily raise the level of ammonia nitrogen and soluble salts in the soil. This is most likely to occur when heavy rates of fertilizer and fumigant are applied to soils that are either cold, wet, acid or high in organic matter. To avoid injury to plant roots, fertilize as indicated by soil tests made after fumigation. To avoid ammonia injury or nitrate starvation, or both, to crops, avoid using fertilizers containing ammonium salts and use only fertilizers containing nitrates, until after the crop is well established and the soil temperature is above 65°F. Certain crops including cotton, sugar cane, and pineapple are tolerant to ammonia and the above rule does not apply to them. Liming highly acid soils before fumigation stimulates nitrification and reduces the possibility of ammonia toxicity.

Repacked by

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