

WORKS MYLONE 99G
 SOIL FUMIGANT NC
 EPA Reg. No. 2393-
 Center Panel

MYLONE 99G SOIL FUMIGANT NC
 EASY TO USE
 For pre-planting control of
 Most Weeds, Nematodes and Soil Fungi
 Tobacco Seed Beds
 Forest Tree Seed Beds
 Ornamental Propagating Beds

ACCEPTED
 SEP 5 1984
 Under the Federal Insecticide,
 Fungicide, and Rodenticide Act
 registered, for the Pesticide
 and under 2393-46

Easy application - no special equipment. No plastic cover needed on beds.
 This material controls most weeds, nematodes and soil-borne diseases.
 Permits better stand of healthier plants.

ACTIVE INGREDIENT:

Tetrahydro-3,5-dimethyl-2H-1,3,5-		
thiadiazine-2-thione	99%
INERT INGREDIENTS:	1%
	TOTAL	100%

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EPA Est. No.

KEEP OUT OF REACH OF CHILDREN
 WARNING

STATEMENT OF PRACTICAL TREATMENT

- If swallowed: Call a Physician or Poison Control Center. Induce vomiting by giving two glasses of warm water and touching back of throat. Repeat until vomit is clear. Do not induce vomiting or give anything by mouth to an unconscious person.
- If in eyes: Immediately flush eyes with large amounts of water and get medical attention.
- If skin: Immediately flush affected areas with large amounts of soap and water. Obtain medical attention for irritation. Remove contaminated clothing and launder before re-use.
- If inhaled: Assist respiration as needed. Obtain medical attention for irritation.

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PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS
WARNING

Keep out of reach of children. May be harmful if swallowed. Prolonged exposure may cause irritation of skin, eyes, and mucous membranes. Do not breathe dust. Avoid contact with skin, eyes and clothing. Wash hands thoroughly after contact. Wear rubber gloves when handling product. Rubber shoes must be worn while spreading the product. Do not drink alcoholic beverages before, during or after working with the product. The gases released during the degradation of this product in the soil are irritating to the eyes, skin and mucous membranes. Wear protective equipment when entering treated greenhouses. Avoid inhalation of vapors.

ENVIRONMENTAL HAZARDS

This product is toxic to fish. Do not apply directly to water or wetlands.

NOTICE OF WARRANTY

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and/or handling of this material when such use and/or handling is contrary to label instructions.

IMPORTANT NOTES TO USER

Read entire label carefully before use.

Avoid use when the soil temperature is extremely high (over 90°F two inches deep). Pest control will be impaired under such conditions.

Hopkins Mylone 99G is toxic to all growing plants. Do not apply within three to four feet of growing plants or closer than the drip line of trees and large shrubs. If slopes are treated with Hopkins Mylone 99G take precautions to prevent the chemical from washing downward to growing plants.

Vapors from soil treated with Hopkins Mylone 99G in greenhouses and cold frames may injure growing plants.

Data are not complete on use in propagating beds composed of materials other than soil or soil and peat mixtures.

Clean equipment thoroughly with detergent and water after use with this or with other pesticides, before using for other purposes.

Fumigation may sometimes slow down the rate of nitrification (the conversion to nitrates from ammonia by bacterial action). Certain ammonia-sensitive plants, therefore, may exhibit growth inhibition when planted in fumigated soils containing high amounts of ammonia nitrogen. To lessen this hazard, at least $\frac{1}{2}$ and preferably all of the nitrogen fertilizer added immediately before or soon after fumigation should be in the form of nitrate nitrogen. This hazard may also be reduced by delaying planting until several months after fumigation, such as fall fumigation before a spring planted crop. If a nitrate form of nitrogen such as sodium or calcium nitrate is not readily available, ammonium nitrate used sparingly will supply the nitrogen needed without risk. Phosphorus, potassium and other plant nutrients should be used according to soil needs.

DIRECTIONS FOR USE

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

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1. Preparation: a. The area should be in seedbed condition with a fine tilth, free of clods. Do not apply to dry or improperly tilled soil. Repeated cultivation prior to treatment will improve control of perennial weeds. Ditching around site will prevent weed seeds, nematodes and fungi from washing into the treated area and contaminating it.
- b. For optimal effect the soil to be fumigated must have sufficient moisture for good plant growth (at least 50% field capacity) for 5 to 14 days (depending on temperature) before the treatment. The weed seeds in such an optimally moist soil become ready to germinate and in this condition are most reliably killed. Heavy soils may need to be irrigated twice to achieve the necessary soil moistness.

Weed seeds or seeds bearing nematodes must be mechanically hoed or plowed into the soil 1 to 2 weeks before fumigation so that the emerging weeds and nematodes are subject to fumigation.

c. If root-knot nematodes must be controlled, application should be delayed until the root-knot infested root residues have begun to rot. This is at least 2 to 3 weeks after the crop has been harvested and the remaining plant refuse tilled into the soil.

d. Farmyard manure, peat and other organic fertilizers, burnt lime or lime nitrogen should not be applied just before, along with, or just after this product. (See also important notes to user).

e. The conversion of the active ingredient into the gaseous phase depends primarily on soil temperature and soil moisture. The soil temperature must be above 43°F (6°C) and remain at least this high during the entire fumigation period. The best conditions prevail at soil temperatures of 54°-64°F (12-18°C) e.g. in late summer and autumn. Do not apply if temperature exceeds 103°F. If the soil temperature falls below 43°F (6°C), the gas may sink into deeper soil layers when there is danger of frost, which can cause crop injury later if the soil is not aerated deeply enough. If the soil temperature is too high, the gases escape too rapidly from the soil and cannot develop their full activity.

f. After incorporation the soil has to be kept uniformly moist for 5-7 days. As soon as possible after incorporation, the soil should be sealed to retain the concentration of gases in the soil. This can be achieved by:

- compacting the soil surface after incorporation with a roller attached behind the incorporating implement.
- moistening (3/16-3/8 in.) the surface after incorporation so that a crust forms. Surface compaction and sealing with water can be combined if conditions warrant. When the soil is above 59°F (15°C) too rapid an escape of the gases is impeded by sealing with water and/or light rolling. By doing this the effectiveness of the product is increased. Repeat the water seal as necessary.
- lightly moistening the soil on the 3rd and 4th days after the treatment in case the weather dries out the soil surface, in order to avoid surface cracks.
- In difficult situations, for example heavy soils with high pest pressures or where potential for extensive sheet or rill erosion exists, best results may be obtained by tarping the treated areas.

2. Method of Application: Apply this product evenly over the soil. This can be done either by shaker or scoop (use rubber gloves and boots); or on larger outdoor areas with a drop type fertilizer spreader, a Candy or similar applicator (See Spreader Calibration Charts below), or implement combinations (e.g. tool carriers with precision fertilizer spreaders and p.t.o. - driven rotary tillers). Do not store product in open spreader overnight. Immediately after spreading, incorporate the granules into the soil as uniformly as possible to the desired depth - best done with a rotary hoe or disks. Following this all the soil surface should be covered with a layer of soil.

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SPREADER CALIBRATION CHART

Gandy Turf Tender (42 inch manual drop spreader)

GAUGE SETTINGS	SPEED IN MILES PER HOUR								RATE IN POUNDS PER BROADCAST ACRE	
	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5		6.0
27	333									
28	361									
29	388									
30	416	332								
31	470	376	313							
32		419	350							
33		463	386	331						
34			422	362						
35			460	393	344					
36				424	371					
37				455	398					
38					425	330				
39						354				
40						378	340			
41						402	362			
42						426	384	349		
43							411	373	342	
44							437	398	364	
45								422	387	
46								446	409	
47									431	1M

Gandy 10S Series (Tractor drawn drop spreader - 6 inch spacing between holes)

GAUGE SETTINGS	SPEED IN MILES PER HOUR					RATE IN POUNDS PER BROADCAST ACRE
	2	3	4	5	6	
41	348.5					
42	368.0					
43	387.6					
44	407.1					
45	426.7					
50		349.4				
51		364.1				
52		378.7				
53		393.3				
54		408.0				
55		422.7				
56		437.3				
57			339.0			
58			350.0			
59			361.0			
60			371.9	297.5		
65			441.9	353.5		
70				409.5	341.2	
75				480.2	400.7	
80					459.2	
						1M

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Gandy 10T Series (Tractor drawn drop spreaders - 4 inch spacing between holes)

GAUGE SETTINGS	SPEED IN MILES PER HOUR										RATE IN POUNDS PER BROADCAST ACRE
	2	3	4	5	6	7	8	9	10		
35	345.6										
36	364.2										
37	382.8										
38	401.4										
39	420.0										
40	438.5										
41	464.6										
42											
43		344.5									
44		361.9									
45		379.2									
46		396.6									
47		414.0									
48		431.4									
49											
50			349.4								
51			364.1								
52			378.7								
53			393.3								
54			408.0								
55			422.7								
56			437.3	349.9							
57				361.6							
58				373.3							
59				385.1							
60				396.7	330.6						
65				471.3	392.8	336.6					
70					455.0	390.0	341.2	303.0			
75						457.4	400.2	355.7	320.2		
80							459.2	408.1	367.3		

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3. Cultivation Before Planting: Before seeding, planting, or transplanting, all the gaseous residues must be gone from the soil. For this reason, the soil surface is to be thoroughly loosened with disk, power rotary tiller or hand implement, but no earlier than 5-7 days after the application. If the soil temperature rises above 65°F (18°C), a waiting period of 2 to 3 days after loosening the soil is usually sufficient time for the gases to escape from the soil. Cooler conditions indicate a longer waiting period. (See REPLANTING.) The soil must not be loosened to the original depth of incorporation as unfumigated soil might be transported from lower layers to the top. A slight new infestation can spread very quickly in decontaminated soil and jeopardize the success of the treatment.

At temperatures below 50°F (10°C) fumigation should not be terminated by tillage for 2-4 weeks.

4. Prevention of Plant Injury: Prior to application in greenhouses, nursery boxes, etc., all plants and living plant materials have to be removed. Leaks through which gases could penetrate into adjacent rooms or greenhouses filled with plants have to be sealed. Various ornamentals (e.g. Ficus sp., Hydrangea macrophylla, Asparagus plumosus) are very sensitive to even traces of gaseous products emitted during treatment. Prior to turning off the radiators in the greenhouse at the beginning of winter, the germination test has to be done to make sure all gases have escaped (see replanting). Failure to do so may delay spring planting and/or cause plant loss.

Application in the field during periods of possible frost has to be avoided. Do not apply when wind may cause granules to drift from target area.

GENERAL INFORMATION

WEEDS CONTROLLED: When properly applied, Hopkins Mylone 99G will eliminate many weeds such as crabgrass, henbit, pigweed, foxtail, purslane, mustard, witchweed and many other plants and weed seeds.

NEMATODES CONTROLLED: Hopkins Mylone 99G will control root-knot, stubby root, reniform, ~~and free-living~~ (i.e. Meloidogyne sp., Pratylenchus sp., Hoplolaimus sp., Tylenchorrhynchus sp., Rotylenchulus sp., Paratylenchus sp., Xiphinema sp., Tylenchus sp.) and other nematodes.

DISEASES CONTROLLED: Hopkins Mylone 99G will control root rots, damping-off and wilt diseases caused by Aphanomyces sp., Fusarium sp., Phytophthora cactorum, Pythium sp., Rhizoctonia sp., Thielaviopsis basicola, Verticillium albo-atrum, and soil-borne Stromatinia gladioli and corm rot of gladiolus caused by Fusarium sp.

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PEST/RATE TABLE

The application rates given in the table are for the incorporation depth of 8 inches. When the infestation extends to greater depths, an additional 5-6½ ounces/ 100 sq. ft. of this product are needed per 4 inches soil depth.

NEEDS, NEMATODES AND DISEASES	APPLICATION RATES		
	ounces/100 sq. ft. for 8 inch incorporation depth	pounds/acre for 8 inch incorporation depth	pounds ounces/cubic yard substrate
To Control Soil Borne Pathogens*1	9 3/8 - 13	255-350	4 1/8 - 5 5
To Control germinating weed seeds *2	13	350	5 1/2 5
To Control free living <i>ectoparasitic</i> root nematodes *3			
in light soils	5 1/2 - 9 3/4	222-265	3 2/5 - 4 4
in heavy soils	9 3/4 - 13	265-350	4 3/5 - 5 5
For the reduction of infestations <i>ectoparasitic</i> of germinating weed seeds and free living nematodes	6 1/2	175	2 1/2 1 1/2 2 1/2
To Control root-knot nematodes *3			
in light soil	11 1/4 - 13	306-350	4 1/2 2/5 - 5 5
in heavy soil	13 - 16 1/3	350-450	5 2/5 - 6 6
For the reduction of the infestation of stem nematodes and cyst nematodes *4	11 1/4 - 19 2/3	306-535	4 1/2 - 8

- *1 Soils which are infected with the fungi Verticillium albo-atrum and Fusarium oxysporium must be treated to a depth of 12 inches (19 2/3 ozs/100 sq. ft.)
- *2 If the primary goal is the elimination of annual weeds, 8 ozs/100 sq. ft. should be incorporated into the top 4-6 inches. The treatment is often more successful if the incorporation is followed by a moistening of the soil. See Side Panel 2.
- *3 For lighter soils that are heavily infested with nematodes, use the application rates recommended for heavy soils.
- *4 Mechanical incorporation of plant parts into the soil to aid in their disintegration will improve the degree of reduction.

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CROP	USE RECOMMENDATIONS CONTROL	(ALSO SEE APPLICATION RATES) COMMENTS
TOBACCO SEED BEDS	Diseases, nematodes, weed seeds and grasses	Apply 13 ozs Hopkins Mylone 99G per 100 sq. ft. (1 rod by 6 ft.) of tobacco seed bed. (See METHOD OF APPLICATION). Drench immediately with 15 gals. water. No plastic cover is required, although it can be used in following usual cultural practices. Like most soil fumigants, Hopkins Mylone 99G must be applied ahead of planting and allowed time to dissipate so that it will not injure the crop. Fall applications should be made when soil is warm. See REPLANTING, below, for time of seeding. If Spring treatment is considered, see REPLANTING, below, for time of seeding. Ensure that all gases have dissipated from the soil before seeding. For annual weed control only see rate table.
ORNAMENTAL SEED BEDS AND FIELDS, FOREST TREE SEED BEDS	Diseases, nematodes, weed seeds and grasses	See PEST/RATE TABLE and METHOD OF APPLICATION. Uniformly apply recommended amount of Hopkins Mylone 99G. Drench immediately with 15-20 gals. water/100 sq. ft. See REPLANTING for timing of application. Fall soil treatments are recommended if early spring planting is necessary.
POTTING SOIL	Diseases, nematodes, weed seeds and grasses	Spread moist soil on a solid surface, if possible on polyethylene sheet. Each soil layer should be 8-10 inches deep. The required amount (1 1/2 1 3/4 ozs. per sq. yd.) of this product is spread on each soil layer and thoroughly incorporated with a rotary tiller. Soil preparation setups have proved suitable for larger soil quantities. The treated soil can be heaped up to 1 yd. high. Covering this soil heap with a plastic sheet is suggested. Any suitable alternative for mixing this product with the potting soil is acceptable. See REPLANTING. <i>* Soil prep. sets up for soil prep. setups</i>
LAWN AND TURF SEED BEDS	Diseases, nematodes, weed seeds and grasses	Apply 8-10 ozs. of Hopkins Mylone 99G per 100 sq. ft. of prepared soil surface. Apply 15 gals. water per 100 sq. ft. immediately after application. Apply water only as fast as it can be absorbed without runoff. This water will act as a seal to hold gases in the soil. After 5 to 7 days rake the beds lightly, not deeper than 2 inches. Do this at least 5 days before seeding to release trapped gases.

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CROP	USE RECOMMENDATIONS CONTROL	(ALSO SEE APPLICATION RATES) COMMENTS
LAWN AND TURF RENOVATION	Diseases, weed seeds, and grasses	Apply as for seed beds (above) to kill all grasses and weeds in lawn and turf areas without disturbing the soil. The dead grass will then act as a mulch for the newly planted grass seedlings. After 5 to 7 days the treated area should be raked and a nitrate form of plant food applied. Reseeding can be done 7-10 days after these operations.

REPLANTING

Replanting of treated areas is only possible after a certain period of time. This span between treatment and replanting depends on the temperature, moisture, and structure of the soil. The following table is a guideline for some of the waiting periods and applies to light soils with medium moisture:

REPLANTING: TABLE OF SOIL TEMPERATURE/WAITING PERIOD

Soil temperature at 4 inch depth	Recommended waiting period between treatment and replanting
Above 94°F (20°C)	10 days
Above 65°F (18°C)	10 - 12 days
59°F - 65°F (15°C - 18°C)	12 - 18 days
54°F - 59°F (12°C - 15°C)	15 - 20 days
47°F - 54°F (8°C - 12°C)	22 - 27 days
43°F - 47°F (6°C - 8°C)	above 30 days

This product must not be used at soil temperatures below 43°F. (6°C)

Aerate soil with disk, power rotary tiller or hand implement above the depth of original incorporation before planting. At higher soil temperature level (i.e. above 65°F) aeration can commence no earlier than 5-7 days. At lower soil temperature after 12 days. Do not plant any crop until all fumigant odors have dissipated from the soil and can no longer be detected. As an added precaution (at a minimum of 5 days after treatment, or five days before the waiting period ends) plant a few radish seeds which should germinate in about 5 days. Also plant a few seeds in an untreated area for comparison. If plants from treated area are normal, it is safe to plant.

Fall soil treatment is recommended if early spring planting is necessary.

The waiting period can be shortened by repeated hoeing, digging or other tillage of the soil.

The waiting period is longer when this product is used on soils high in organic matter.

Tree cuttings can be planted on nursery soils in the spring following a fall application of this product, as long as the germination test does not show delayed germination.

DO NOT APPLY TO GROWING CROPS. SOIL TREATMENT ONLY. BEST DOCUMENT AVAILABLE

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STORAGE AND DISPOSAL

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

Storage: Store Hopkins Mylone 99G Soil Fumigant NC in a dry, cool place below 95°F; it will decompose at higher temperatures. Material reacts nonviolently with moisture, releasing fumigant vapors. Keep container tightly sealed when not in use. Do not reuse empty container. Keep this product and its vapors away from desirable plants, seeds, fertilizers, insecticides and other agricultural chemicals as plant injury or loss may result from contamination.

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 OF WARRANTY

Manufacturer and Seller make no warranty of merchantability, fitness for any purpose, or otherwise, express or implied, concerning this product or its use, which extend beyond the statements on this label.



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