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# How to Use Methyl Bromide

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Methyl bromide, a very effective soil fumigant, is recommended for control of grass, most weed seed, nematodes, soil fungi, soil insects and bacteria. It must be applied under a plastic or gas-proof cover. The cost of treatment restricts its use to small areas, such as plant beds, for tomatoes in garden areas, preplanting treatment of sites for ornamentals and other nursery plants, fumigating topsoils and mulching materials for landscape and lawn use and for turf renovation of lawns, golf greens, football fields and other play areas.

Methyl bromide is sold in one-pound metal cans or in larger cylinders for the commercial user. It is a pressurized liquid which quickly changes to a gas when released at temperatures above 60°F.

Methyl bromide is a colorless, odorless gas. Commercial formulations usually contain 2% chloropicrin as a warning agent. **This material is poisonous and should be handled with care. Do not store methyl bromide in the home — always use outside storage. If you are not willing to follow the instructions given on the label, don't use methyl bromide.**

## APPLYING METHYL BROMIDE

Turn the soil to be treated to a depth of about 8 inches. Then pulverize and level the area by using a rake or rotary tiller. Fumigation will not be effective in cloddy, poorly prepared soil since methyl bromide will effectively penetrate only as deep as the soil is properly worked, except in loose soils. If a heavy growth of vegetation is turned under, allow 3 to 4 weeks for decomposition of the roots.

Place bags of straw or other objects such as jugs, bottles or inverted baskets over the area as supports to prevent the cover from lying on the soil (Fig. 1). Use enough supports and distribute them so the airtight cover is held off the ground.

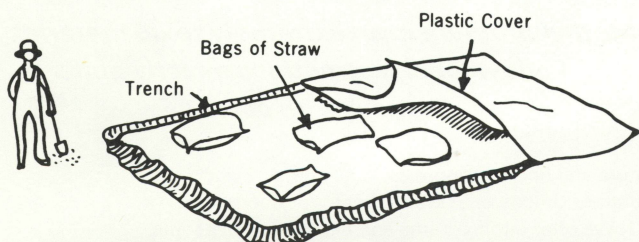


Fig. 1. Space objects to keep the cover off the ground.

The gas does not move into the areas where the cover is lying on the ground.

Make a shallow trench around the outer edge of the area to be treated. This trench is to be used for sealing the edges of the cover.

Place evaporating pans or applicators in position toward the center of the area to be treated, as described under Application Methods 1 and 2. Each 1-pound can will treat 100 square feet under most conditions. Controlling clover, lamsquarter, morning glory seed and certain soil fungi may require 1½ to 2 pounds per 100 square feet.

Cover the area to be treated with an airtight cover (a 6 mil polyethylene cover works well). Check for holes and repair any with masking tape. The cover should extend slightly beyond the edge of the trench. Stretch the cover and seal by replacing soil over the plastic in the trench (Fig. 2).

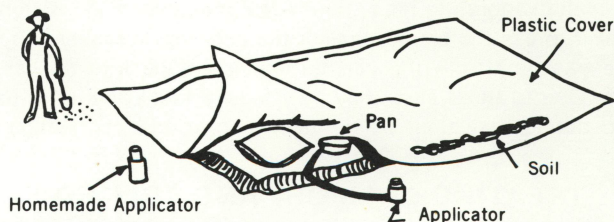


Fig. 2. Place evaporating pans or applicator toward the center of the area beneath the cover.

Release the chemical (see Application Methods) and leave the cover over the area for 48 hours before removing. When removing the cover, be careful to keep untreated soil off the treated area. Rows may be formed or treated soil lightly raked 3 days after the cover is removed. Aeration is especially important if soils are cool or wet. Wait 7 to 10 days after treating before planting.

If the cover is not large enough to treat the entire area with one exposure, one long side may be held in place and then, by simply flipping the cover over, a new area can be treated adjacent to the fumigated area.

*This publication is adapted from a fact sheet written by Ralph E. Motsinger, Extension Plant Pathologist, University of Georgia. Materials and drawings are used by permission of the author.*

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## APPLICATION METHODS

Two different types of applicators can be used for releasing methyl bromide gas beneath the airtight cover. A commercially available or homemade rig without plastic tubing or a commercially available applicator with plastic tubing may be used.

### Method 1: Applicator without tubing

Drive a medium-size nail through the center of a small block of wood so that about one-half inch of the nail sticks out of the block. Place the block of wood in the bottom of an open-top can with the point of the nail up. The open-top can should be slightly larger in diameter and shorter than the can of methyl bromide. Place the can of methyl bromide upside down in the larger open-top can so that the small end rests on the nail (Fig. 3). Then place the can under the cover near the edge. A commercially prepared applicator, which holds 3 cans and works on the same principle, is available.

Stagger the placement of the applicators over the bed to insure uniform distribution of the fumigant.

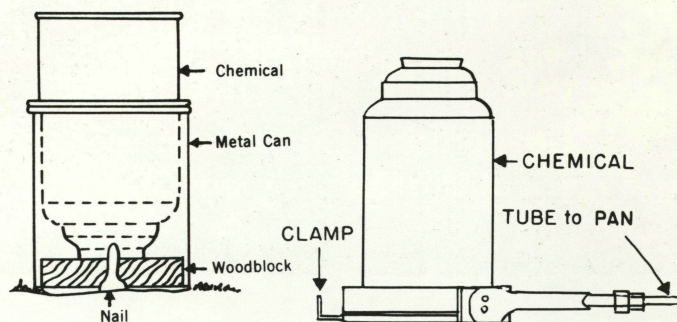
After the cover edges have been sealed tightly by placing soil in the trench, push down against the bottom of the methyl bromide container. This forces the nail into the container, allowing the chemical to escape into the larger can where it evaporates. Be careful to prevent tearing or puncturing the cover. This method is safer than Method 2, since the cover is between you and the methyl bromide at all times.

### Method 2: Applicator with tubing

This type of applicator can be purchased where methyl bromide is sold. It consists of a long tube attached to a circular clamp which has a gasket-seal hole puncher (Fig. 4). Put evaporator jars or pans toward the center of the area to be treated at intervals of about 30 feet. Place the applicator tube in the open end of a jar that is partially buried in the soil under the cover. One tube will lead under the sealed cover to each evaporating jar or pan. After the cover edge is tightly sealed, press the clamp against the can until it makes a hole. The gas runs from the can through the tube into the jar or pan. One to three cans may be released into each jar or pan. The tubing may then be removed or the end can simply be tied.

## TREATING COMPOST AND BULK SOIL

Decomposed compost, manure or potting soils can also be treated. They should have a temperature above 60°F, be loose and have sufficient moisture for good weed seed germination. Pile the materials on cement floors, polyethylene sheets or other nondirt surfaces and level to not more than 18 inches deep before application. Use  $\frac{1}{2}$  to 1 pound per cubic yard for well-rotted compost, manure and top soil. The gas should always be applied at the top of the pile. The polyethylene cover should be supported a few inches above the pile to allow the gas to diffuse. These materials in bulk or in flats or pots can also be treated in a gas-tight vault or drum. Bulk materials should be fumigated in a well-ventilated area or outdoors.



Figs. 3 and 4. The homemade applicator (left) is designed for use under the cover. The commercial applicator (right) has a tube that is placed under the cover.

## SPECIAL INSTRUCTION - FERTILIZATION

Methyl bromide destroys beneficial bacteria as well as those that cause diseases. Usually the bacteria that transform organic, ammonium and nitrite forms of nitrogen to the more usable nitrate nitrogen will not be present in adequate numbers for several weeks to possibly several months. To prevent a deficiency of nitrate nitrogen, fertilize all plants (both legume and nonlegume) with a source of fertilizer in which at least a portion of the nitrogen is in the nitrate form. Examples would be sodium nitrate and ammonium nitrate.

## TREATMENT CHECKLIST

- Treat when the soil temperature at a 4-inch depth is at least 55°F and preferably 60°F or above.
- Treat when the soil moisture is about right for good seed germination. Soils too wet or too dry will markedly decrease the effectiveness of the fumigant.
- Holes in the cover allow the gas to escape too quickly to obtain control. Keep dogs and other animals off the cover and repair any holes in the cover with masking tape.
- Do not use within 3 feet of living shrubs or within the drip line of trees.
- Always use care. Take extra precautions to prevent children and pets from pulling up or tearing through the cover and breathing the gas fumes. Avoid breathing fumes while removing the cover. Keep animals and children from the site for at least 30 minutes after the cover is removed.
- Avoid contamination of treated area. If the treated area is in a location where flooding or washing is possible after rains, plow a furrow or make a trench around the treated area for proper drainage.
- Do not move untreated soil or manure into the fumigated area.

***Methyl bromide is an extremely toxic material.  
Follow label instructions exactly and  
handle with care.***

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