

DAZOMET



Project MP/ZAM/08/002
Technical assistance for
the total phase-out of
methyl bromide in cut
flowers, horticulture and
post harvest use

Pre-cultural soil disinfectant for the control of nematodes, soil insects and soil fungi with herbicidal and bactericidal side-effects.

Dazomet is a soil fumigant generating the gaseous methyl isothiocyanate (MITC) in the presence of appropriate soil moisture content. The MITC gas diffuses through pores into the soil, mainly in upward direction, and it possesses soil-sterilizing properties. Dazomet may be applied alone or followed by a period of soil solarization (2-3 weeks).

The commercial formulation is available both as powder and microgranulate. It is recommended to use it as microgranulate to facilitate the homogeneous distribution in the soil and to reduce the inconvenience that the powder has for applicators and handlers. The gases released during the degradation of this product in the soil are irritating to the skin, eyes and mucous membranes.

The generation and dissipation of MITC in the soil depends on the moisture, on the temperature, on the method of incorporation. Dazomet requires an uniform distribution and soil temperatures between 10-12 and 22-25°C. An excellent measure of soil humidity is sowing bed condition, i.e. 60-70% of the water-holding capacity.

Before seeding, planting or transplanting all the gaseous residues must be removed from the soil. The waiting period between treatment and planting (2-4 weeks) depends on soil temperature and on the method of sealing. Longer waiting period may be required for soils with high concentrations of organic matter.

FIELDS OF

APPLICATION

- Tree nurseries (sowing and multiplication weeds)
- Flower growing
- Fruit growing and strawberry
- Vegetable growing (tomato, carrots, cucumber, lettuce, onion..)
- Potatoes
- Tobacco seed beds

Weeds controlled

Crabgrass, henbit, pigweed, foxtail, purslane, mustard, broomrape, dodder and others.

Nematodes controlled

Root knot *Meloidogyne* spp., stubby root, ectoparasitic root and others.

Diseases controlled

Soil-borne fungi

Root rots, damping off and wilt diseases caused by *Fusarium* sp., *Pythium* sp., *Rhizoctonia* spp., *Phytophthora* spp., *Sclerotinia* spp., *Sclerotium* spp., *Verticillium* spp.

Soil-borne bacteria

Agrobacterium tumefaciens (gall), *Streptomyces* spp. (scabs).

Warnings

- **Harmful if swallowed!**
- Keep out of reach of children.
- Keep away from food, drink and animal feeding stuff.
- When using do not eat, drink or smoke.
- Wear suitable protective clothing and gloves.



Precautions

- When spreading the granules, rubber gloves and rubber boots should be worn (wear trousers outside the boots).
- When applied in greenhouses wear a mask with filter.
- Do not enter greenhouses without a mask with filter within two days after treatment.
- Store in dry places below 35°C.

Application Conditions

TIME OF APPLICATION

Dazomet must be applied to the bare soil, well ahead of planting or sowing the crop.

If root knot nematodes or other endoparasitic root lesion species are to be controlled Dazomet should be applied only when the remains of galled roots have begun to rot (at the earliest 2 – 3 weeks after the infect crop has been harvested).

SOIL MOISTURE

In order to obtain the optimum effect the soil must be at 60-70% of its water holding capacity for 8-14 days before the application until 4-12 days after.

In a soil of optimum moisture content all the pathogens are in sensitive state.

SOIL TEMPERATURE

Dazomet should be applied at soil temperature of 12-22°C.

At this temperature Dazomet is rapidly activated and the pathogens are sensitive.

For more than 25°C the release of the active ingredient is too fast and effectiveness may be reduced.

Application Technique

PREPARATION OF THE SOIL

The area to be treated should be in seedbed condition with a fine tilth, free of clods. Rotatiller the soil to 30 cm depth. This will help fumigants to move uniformly in the soil. Do not apply farmyard manure, peat, other organic fertilizers, burnt lime or lime nitrogen just before, along with or just after this product. When the humus content of the soil is high there is danger of adsorption of the active material. In this case the application rate should be increased. If this is the case, longer time has to pass before planting.



APPLICATION AND INCORPORATION

Dazomet should be spread at rate of 30 –45 g/m² evenly over the soil surface using a granule spreader or by hand (use rubber gloves). Immediately after spreading the granules should be worked at least 20 cm depth (30 cm to control stem rots, root rots, fungi that cause wilt disease, e.g. *Fusarium* and *Verticillium*). Thorough mixing may be achieved with a fast rotovator. A shovel, spade or hoe may also be employed. The operations can be carried out simultaneously if the granule spreader and rotovator are attached to the same tractor.

SEALING THE SOIL SURFACE

In order to avoid loss of gases and maintain suitable soil moisture for 4-12 days the soil should be compressed with a roller and then irrigated.

Covering the soil with polyethylene sheeting is recommended.



PREPARATION PRIOR TO PLANTING

Before seeding, planting or transplanting all the gaseous residues must be gone from the soil. Under optimum conditions and soil temperatures of 10°-25°C soil should be loosened and aerated at the earliest 4—12 days after treatment.

No soil from the lower, untreated layers should be carried upwards since new infection can spread rapidly in sterilized soil.