



DITHANE M-45

A BROAD SPECTRUM FUNGICIDE FOR USE ON CERTAIN VEGETABLES AND ORNAMENTALS

ACTIVE INGREDIENT:

Mancozeb: A coordination product of zinc ion and manganese
Ethylene bisdithiocarbamate in which the ingredients are..... 80%

Manganese++.....	16%
Zinc++.....	2%
Ethylene bisdithiocarbamate ion (C4H6N2S4).....	62%

OTHER INGREDIENTS:.....	<u>20%</u>
TOTAL	100%

*Dithane is a registered trademark of Dow AgroSciences

**Keep Out Of Reach Of Children
CAUTION**

FIRST AID

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment advice. For information on this pesticide product including health concerns, medical emergencies, or pesticide incidents, call the National Pesticide Information Center at 1-800-858-7378.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Harmful if absorbed through the skin. Avoid contact with skin, eyes, or clothing. Causes moderate eye irritation. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Do not breathe dust or spray mist.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to aquatic organisms. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate.

Southern Agricultural Insecticides, Inc.

Palmetto, Fla. 34220 Hendersonville, N.C. 28793 Boone, N.C. 28607
E.P.A. Reg. No. 829-286

Personal Protective Equipment

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category A on an EPA chemical-resistance category selection chart.

Mixers, loaders, applicators and other handlers must wear: *long-sleeved shirt, *long pants, *shoes and socks, *chemical-resistant gloves made of any waterproof material

In addition, all handlers must wear: A NIOSH approved respirator with a dust/mist filter with MSHA/NIOSH approval number prefix TC-21C or any N,R,P or HE filter.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

User Safety Recommendations

Users should: * Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. * Remove clothing/PPE immediately if pesticide gets inside, then wash thoroughly and put on clean clothing. * Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

DIRECTIONS FOR USE

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

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval.

The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard. Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours. PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as soil or water, is:

*Coveralls

*Chemical-resistant gloves made of any waterproof material

*Shoes plus socks

Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are not within the scope of the Worker Protection Standard for agricultural pesticides, (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses

Applications to golf courses, industrial (office park), and commercial (municipal) lawns and ornamentals grown in such areas are not within the scope of the Worker Protection Standard. *Keep unprotected persons out of treated area until sprays have dried.

Storage and Disposal

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

Pesticide Storage: Keep away from fire and sparks. Store in a cool, dry, well-ventilated area. Do not allow to become wet or overheated in storage: decomposition, impaired activity, or fire may result. Keep container closed when not in use. Decomposition produces a foul odor; if observed, check for hot containers and immediately remove to open areas for disposal.

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: Nonrefillable container. Do not reuse or refill this container. Offer for recycling. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Product Information

Dithane R M-45 fungicide is a broad-spectrum protectant fungicide labeled for outdoor or greenhouse grown crops. Optimum disease control is achieved when the fungicide is applied in a regularly scheduled preventative spray program. The addition of an agricultural surfactant will improve fungicide performance by providing a more uniform spray deposit, increased foliar redistribution, and improved fungicide retention during periods of wet weather.

Read all Directions for Use carefully before applying.

Use Rate Determination

Carefully read, understand, and follow label use rates and restrictions.

Under low disease conditions, minimum label rates per application can be used while maximum label rates and the minimum interval may be used for severe or threatening disease conditions.

For proper application, determine the number of acres to be treated, the recommended label use rate and the gallonage to be applied per acre. Prepare only the amount of spray solution required to treat the measured acreage. Careful calibration of spray equipment is recommended prior to use.

When applied by hand sprayers, 1 pound Dithane M-45 per 100 gallons per acre is equivalent to 1 level tablespoon per gallon spray solution.

Mixing

Observe all directions for use, crops/sites, use rates, dilution ratios, precautions, and limitations which appear on the tank mix product label. No label dosage rate may be exceeded, and the most restrictive label precautions and limitations must be followed. This product may not be mixed with any product which prohibits such mixing.

Slowly place into spray tank as it is being filled. Add other co-applied fungicides, insecticides, growth regulators, micronutrients, and spray adjuvants after Dithane M-45 has been placed into suspension.

When preparing spray solutions for use in a hand sprayer, premix as a slurry in a small container, and then add to sprayer containing 1/3 to 1/2 the desired final water volume.

Compatibility

Dithane M-45 is compatible with most commonly used agricultural fungicides, insecticides and growth regulators. When preparing tank mixes, consult spray compatibility charts or State Cooperative Extension Service specialists prior to actual use.

Spray Adjuvants

The addition of agricultural surfactants to Dithane M-45 sprays will improve initial spray deposits, fungicide redistribution and weatherability.

Add Dithane M-45 to the spray mixture prior to adding an adjuvant. Follow applicable use directions, precautions and limitations on the label of the adjuvant product.

Spray Drift Management

A variety of factors including weather conditions (e.g. wind direction, wind speed, temperature, relative humidity) and method of application (e.g. hand sprayer) can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product.

Wind Speed

Do not apply at wind speeds greater than 15 m.p.h.

Temperature Inversions

If applying at wind speeds less than 3 m.p.h., the applicator must determine if a) conditions of temperature inversion exist, or b) stable atmospheric conditions exist at or below nozzle height. Do not make applications into areas of temperature inversions or stable atmospheric conditions.

Other State and Local Requirements

Applicators must follow all state and local pesticide drift requirements regarding application of mancozeb. Where states have more stringent regulations, they must be observed.

Application

Apply by hand sprayer only. Thoroughly spray plant foliage until runoff.

Disease Monitoring

Dithane M-45 is a broad-spectrum, protectant fungicide. If not applied on a routine protectant spray schedule, crops should be scouted on a weekly basis. Make fungicide application at the labeled use rate and spray schedule, at the first sign of disease, report of disease in the area, or during environmental conditions favorable for disease development.

Restrictions

Users must carefully read, understand, and follow all use restrictions prior to using Dithane M-45.

Foliar Applications: Where EBDC Products Used Allow the Same Maximum Poundage of Active Ingredient Per Acre Per Season: If more than one product containing an EBDC active ingredient (maneb, mancozeb, or metiram) is used on a crop during the same growing season and the EBDC products used allow the same maximum poundage of active ingredient per acre per season, then the total poundage of all such EBDC products used must not exceed any one of the specified individual EBDC product maximum seasonal poundage of active ingredient allowed per acre.

Where EBDC Products Used Allow Different Maximum Poundage of Active Ingredient Per Acre Per Season: If more than one product containing an EBDC active ingredient is used on a crop during the same growing season and the EBDC products used allow different maximum poundage of active ingredient per acre per season, then the total poundage of all such EBDC products used must not exceed the lowest specified individual EBDC product maximum seasonal poundage of active ingredient allowed per acre.

ORNAMENTALS:

Neither the manufacturer nor the seller has determined the effects of using Dithane M-45 fungicide on ornamentals not specified on this label.

Prior to any large-scale applications on such plants, determine the effects of Dithane M-45 fungicide by testing a small section of the type of plants treated.

For outdoor or greenhouse use, apply the equivalent of 1 1/2 lb. of Dithane M-45 fungicide per 100 gallons of dilute spray. The addition of Latron B1956 to spray solutions will improve performance. Begin spraying when plants are well leafed out or at first sign of disease, in a full coverage spray at 7 to 10 day intervals throughout season.

Restrictions:

- * Cut flowers and greenhouse grown ornamentals: Limit to 20 applications per year.
- * Do not use for food or feed purposes
- * Minimum retreatment interval is 7 days
- * Not for use in residential greenhouses.

AFRICAN VIOLET: To control Botrytis blight.

ANTHURIUM: To control Anthracnose, spadix rot.

ABORVITAE: To control Cercospora blight.

ASTER, perennial: To control Puccinia rusts.

AUCUBA, japonica: To control Alternaria leaf spot, Anthracnose.

AZALEAS, To control cylindrocladium rot, petal blight phytophthora twig and bud blight. Apply a full coverage spray, 2 to 3 times a week, while flowers are opening. Direct spray into flowers and thoroughly spray ground under bushes.

BEGONIA: To control Botrytis blight.

CAMELLIAS: To control Petal blight. Refer to Azalea

CARNATION: To control Rust, Septoria leaf spot.

CEDAR, red (Juniper): To control Cercospora blight, Phomopsis blight.

CHRYSANTHEMUM: To control Ascochyta blight, Botrytis petal spot, Rust, apply twice weekly during blooming period.

CONIFERS: Lophodermium needle cast, Pine gall rust, Scirrhia brown spot, Begin application in spring or early summer before infection occurs. Repeat after heavy rains and at two-week intervals as long as needed.

CORDYLINE: To control Cercospora leaf spot.

CRAB APPLE (Ornamental); To control Cedar-apple rust, Scab, sphaeropsis leaf spot. Do not use fruit for food or feed.

DAHLIA: To control Botrytis blight.

DIEFFENBACHIA: To control Leptosphaeria brown spot.

DOGWOOD, FLOWERING: To control Anthracnose, Elsinoe leaf spot, Septoria leaf spot. Apply when buds begin to open, when BRACTS have fallen, 4 weeks later and again in late summer after flower buds for next season have formed.

DRACAENA: Fusarium leaf spot.

ELM: To control Black leaf spot.

EUONYMUS: To control Anthracnose.

FATSIA: To control Anthracnose.

FERN: To control Rhizoctonia blight.

FICUS: To control Cercospora leaf spot.

FIR, Douglas: To control Swiss needle cast.

FIRETHORN (Pyracantha): To control Fusicladium scab.

FUCHSIA: To control Botrytis blight, Rust.

GERANIUM: To control Rust.

GLADIOLUS: To control Botrytis blossom blight, Curvularia leaf spot, Make regular weekly applications starting before diseases appear and increase to 2 or 3 applications per week during periods of heavy disease and during rainy weather. On flower spikes, reduce spray concentrations to 3/4 table-spoonfuls per gallon.

HAWTHORN: To control Cedar-apple rust, Fabraea leaf spot, Frogeye leaf spot, Hawthorn rust, Scab.

HOLLY: To control Purple spot.

HOLLYHOCK: To control Anthracnose, Cercospora leaf spot, Puccinia rusts.

HONEYSUCKLE: To control Herpobasidium blight.

IRIS: To control Didymellina leaf spot.

HORSECHESTNUT, Buckeye: To control Alternaria leaf spot, Guignardia leaf spot.

HYDRAGEA: To control Botrytis blight, Cercospora leaf spot.

JUNIPER: To control Phomopsis blight.

LAUREL, mountain: Cercospora leaf spot, Petal blight. Refer to Azalea comments.

LIGUSTRUM: To control Cercospora leaf spot.

LILY: To control Botrytis blight.

MAGNOLIA: To control Gloeosporium leaf spot.

MAPLE : To control Alternaria leaf spot, phyllosticta leaf spot (Do not use on Maples intended for syrup production).

MARIGOLD: To control Botrytis blossom blight.
(Do not use on French dwarf double or Signet-type marigold seedlings.)

NARCISSUS: To control Botrytis blight (fire), Smoulder.

OAK: To control Actinopelte leaf spot, Taphrina leaf blister.

ORCHID (Dendrobium): To control Botrytis blossom blight.

PANSY: To control Anthracnose.

PEONY: To control Botrytis blossom blight, Phytophthora blight. Apply in early spring and early fall, drenching soil around plants as well as the foliage. Promptly destroy all infected plant parts.

PEPEROMIA: To control Cercospora leaf spot.

PHILODENDRON: To control Dactylaria leaf spot, Phytophthora leaf spot.

PHOTINIA: To control Entomosporium leaf spot.

PLEOMELE: To control Fusarium leaf spot.

POINSETTIA: To control Sphaceloma scab.

RHODODENDRON: To control Dactylaria leaf spot, phytophthora leaf spot. Refer to azalea.

ROSE: To control Black spot, Cercospora leaf spot, Rust.

SCHEFFLERA: To control Alternaria blight.

SKUNKBUSH, SUMAC: To control Cylindrosporium leaf spot.

SNAPDRAGON: To control Rust.

STATICE: To control Cercospora frog-eye.

SYNGONIUM: To control Cephalosporium leaf spot.

TULIP: To control Botrytis blight (fire).

VENUS, FLYTRAP: To control Anthracnose.

VIBURNUM: Downy mildew, Ramularia leaf spot.

ZINNIA: To control Alternaria leaf blight.

VEGETABLES:

Corn (sweet corn for fresh use; popcorn) to control common rust, *Helminthosporium* leaf blight. Use 1.5 lb of Dithane M-45/acre per application. Use sufficient water for thorough coverage. Start applications when disease first appears and repeat at 4 to 7 day intervals. The addition of a Latron surfactant to spray solutions will improve performance.

Restrictions: Do not apply within 7 days of harvest.

East of the Mississippi River, Arkansas and Louisiana, do not apply more than 22.5 lb. product (18 lb active ingredient) per acre per crop. West of the Mississippi River, (except Arkansas and Louisiana), do not apply more than 7.5 lb. product (6 lb active ingredient) per acre per crop.

Cucumbers: To control Anthracnose, *Cercospora* leaf spot, Downy mildew, Gummy stem blight, *microdochium* blight*, Scab. Use 2 to 3 lb of Dithane M-45/acre per application. Start applications when plants are in the two-leaf stage and repeat at 7 to 10 day intervals. Use sufficient water and direct spray to provide thorough coverage of both upper and lower leaf surfaces. Restrictions: Do not apply within 5 days of harvest. Do not apply more than 24 lb product (19.2 lb active ingredient) per acre per crop.

Melons: (Cantaloupe, Casaba, Crenshaw, Honeydew, Muskmelon) To control *Alternaria* leaf spot, Anthracnose, Downy mildew, Gummy stem blight, *microdochium* blight*, use 2 to 3 lb of Dithane M-45 /acre per application. Start applications when plants are in the two-leaf stage and repeat at 7 to 10 day intervals. Use sufficient water and direct spray to provide thorough coverage of both upper and lower leaf surfaces. Some cantaloupe varieties (i.e.: Harvest Queen, Gold Star, Super Star, Sweet and Early and Saticoy) are sensitive to Dithane M-45. Consult State Cooperative Extension Service specialist prior to use. Restrictions: Do not apply within 5 days of harvest. Do not apply more than 24 lb. product (19.2 lb active ingredient) per acre per crop.

Tomatoes: To control anthracnose, early blight, gray leaf spot, late blight, leaf mold, septoria leaf spot. West of the Mississippi River use 1.5 to 2 lb of Dithane M-45 /acre per application.

Use 1.5 to 3 lb of Dithane M-45 /acre per application East of the Mississippi River. Start applications when seedlings emerge or transplants are set and repeat at 7 to 10 day intervals throughout the season. The addition of a Latron surfactant to spray solutions will improve performance. Restrictions: Do not apply within 5 days of harvest. West of the Mississippi River do not apply more than 8 lb. product (6.4 lb active ingredient) per acre per crop. East of the Mississippi River do not apply more than 21 lb. product (16.8 lb. active ingredient) per acre per crop.

To control bacterial speck and spot, use a full rate of a fixed copper fungicide in tank mix combination with a half to full rate of Dithane M-45.

Watermelons: To control *Alternaria* leaf spot, Anthracnose, *Cercospora* leaf spot, Downy mildew, Gummy stem blight, *microdochium* blight*, Scab. Use 2 to 3 lb of Dithane M-45 /acre per application. Start application when plants are in the two-leaf stage and repeat at 7 to 10 day intervals. Use sufficient water and direct spray to provide thorough coverage of both upper and lower leaf surfaces. Restrictions: Do not apply within 5 days of harvest. Do not apply more than 24 lb product (19.2 lb active ingredient) per acre per crop.

* Not approved for use on this pest species in California.

NOTE: This product may stain concrete and masonry surfaces.

ATTENTION: This product contains mancozeb and ETU, chemicals known to the State of California to cause cancer. ETU is also known to the state of California to cause birth defects or other reproductive harm.

Terms and Conditions of Use

If terms of the following Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. To the extent permitted by law, otherwise, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies.

Warranty Disclaimer

Southern Agricultural Insecticides, Inc. warrants that this product conforms to the chemical description of the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. To the extent permitted by law, Southern Agricultural Insecticides, Inc. MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

Inherent Risks of Use

It is impossible to eliminate all risks associated with use of this product. Crop injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.) abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Southern Agricultural Insecticides, Inc. or the seller. To the extent permitted by law, all such risks shall be assumed by buyer.

Limitations of Remedies

To the extent permitted by law, the exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at Southern Agricultural Insecticides, Inc.'s election, one of the following:

1. Refund of purchase price paid by buyer or user for product bought, or
2. Replacement of amount of product used.

To the extent permitted by law, Southern Agricultural Insecticides, Inc. shall not be liable for losses or damages resulting from handling or use of this product unless Southern Agricultural Insecticides, Inc. is promptly notified of such loss or damage in writing. To the extent permitted by law, in no case shall Southern Agricultural Insecticides, Inc. be liable for consequential or incidental damages or losses.

The terms of the Warranty Disclaimer, Inherent risks of use and this Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Southern Agricultural Insecticides, Inc. or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.