CAUTION
KEEP OUT OF REACH OF CHILDREN
READ SAFETY DIRECTIONS BEFORE OPENING OR USING

Dithane M-45*

Agricultural Fungicide

Active Constituent: 800 g/kg MANCOZEB

GROUP	Y	FUNGICIDE

For the control of certain fungus diseases of fruit, field crops, tobacco, turf, vegetables and ornamentals as per Directions For Use.

Net Contents: 25 kg

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NRA Approval No: 30598/1101
GMID

DIRECTIONS FOR USE:

CROP	DISEASE	STATE	RATE PER 100 L	RATE PER HECTARE	WHP	CRITICAL COMMENTS * Refer to Surfactant Section
FRUIT						
Bananas	Leaf spot (*Mycosphaerella musicola*)	WA, Qld, & NSW only	200 g DITHANE M-45 plus 600 mL polyphase summer oil	2.2 to 4.5 kg (NSW 2.2 kg) DITHANE M-45 plus 3.5 to 4.2L polyphase summer oil or miscible summer oil	7 days	* Apply when weather conditions favour disease outbreak. Repeat treatments in accordance with locally recommended spray schedules. Use sufficient water to ensure good coverage. **New South Wales**: Ground Application - Apply at three week intervals from December or January until May. Aerial Application - Apply at 7 to 10 day intervals from December or January until May. **South Queensland**: Apply at three week intervals from December or January until May. **North Queensland**: Apply every two weeks during the wet season. Extend to three weeks after this and then to four to five weeks during the drier months returning to three weeks prior to the next wet season.
	Leaf speckle		200 g	2.2 kg		
	Cordana leaf spot Fruit speckle Black pit	WA & Qld only				
VEGETABLES						
Capsicum	Target Spot	All States	150 to 200 g	2 to 3 kg	14 days	* Apply when disease symptoms first appear and then repeat at 7 to 10 day intervals. Use the higher rate and shorter spray interval during weather conditions favourable to disease development.
Tomatoes	Early blight (target spot) Late blight (Irish blight) Anthracnose Leaf Mould (*Fulvia fulva*)	All States				
	Grey leaf spot Phoma rot	WA, NSW & Qld only				
Beans (including faba beans and green broadbeans)	Rust Anthracnose	All States		1.7 to 2.2 kg	7 days	
	Chocolate spot (*Botrytis fabae*)	WA, NSW, Tas, Vic & SA only		1.7 to 2.5 kg		Spray when leaves, flowers or pods on most plants first show signs of infection and weather conditions are likely to remain humid or wet and favour disease development.

	Suppression of leaf blight (*Ascochyta fabae*)	WA NSW, Tas & SA only			If disease pressure is severe and weather conditions favour spread of the disease, repeat the spray treatment at 2-3 week intervals in order to protect new growth and developing pods. Use higher rate for dense crops and if disease is severe. Repeat more frequently if severe disease persists. Volume of application: for ground equipment apply 100 L/ha; for aircraft spray apply at least 30 L/ha.
	Rust (*Uromyces viciae-fabae*)	NSW, Tas, Vic, SA & WA only	1.7 to 2.2 kg		
	Angular leaf spot	WA, Qld & NSW only			
Onion and Garlic	Downy mildew Purple blotch	All States	2.2 to 3.5 kg	7 days	
Celery	Septoria leaf spot (leaf blight)		1.7 to 2.2 kg		* Apply when disease symptoms first appear and then repeat at 7 to 10 day intervals. Use the higher rate and shorter spray interval during weather conditions favourable to disease development.
Carrots	Cercospora leaf spot Alternaria leaf spot				
Lettuce	Downy mildew Anthracnose Septoria leaf spot			14 days	
Spinach Silver Beet Beetroot	Downy mildew Cercospora leaf spot	All States			* Apply when disease symptoms first appear and then repeat at 7 to 10 day intervals. Use the higher rate and shorter spray interval during weather conditions favourable to disease development.
Rhubarb	Downy Mildew	All States			
	Rust	WA & Tas only			
Potatoes	Early blight (Target spot) Late blight (Irish blight)	All States		-	
COLE CROPS Cabbage Cauliflower Brussel Sprouts	Anthracnose Downy mildew Alternaria spot Ring spot			7 days	
Broccoli	Anthracnose Downy mildew Alternaria spot Ring spot	NSW, WA, Tas, SA & Qld only			* Apply when disease symptoms first appear and then repeat at 7 to 10 day intervals. Use the higher rate and shorter spray interval during weather conditions favourable to disease development

CUCURBITS Cucumber Cantaloupe Pumpkin Melons Zucchini Squash Pumpkin	Downy mildew Anthracnose Gummy stem blight	All States				
	Septoria spot	WA & Qld only				
FIELD CROPS Peanuts	Cercospora leaf spot Rust	Qld, NSW & WA only	-	1.7 to 2.2 kg	14 days	* Apply at 10 to 14 day intervals commencing when disease symptoms first appear. If rust is anticipated, apply at 7 to 10 day intervals. Use higher rate and shorter spray interval during weather conditions favourable to disease development.
Poppies	Downy mildew	Tas only	-	2.5 kg	7 weeks	Apply as protectant spray when weather conditions favour disease development. Repeat spray on 14 day intervals if conditions persist.
Soybeans	Rust	Qld, NSW & WA only	-	2.2 kg	7 days	* Apply when disease symptoms first appear and repeat at 7 to 10 day intervals while warm rainy weather conditions prevail.
Tobacco	Blue mould Brown spot	WA, Qld, NSW & Vic only	200 g	2.2 kg	-	* **Field Treatments**: Apply at 7 day intervals commencing 10 days after transplanting and ceasing 7 to 10 days before the first harvest. Increase the spray volume accordingly as plant size increases. **Seed bed Treatments**: Apply when seedlings are 1.5 cm across and then repeat twice weekly. Wet the seedlings evenly without runoff.
	Frog eye leaf spot	WA & Qld only		2.2 kg		
TURF	Fusarium Rhizoctonia Helminthosporium	All States	200 to 250 g /100 sq. metres			Apply as a protective spray schedule at 7 day intervals throughout the susceptible season. Use sufficient water for adequate coverage. Do not feed grass clippings from treated areas to poultry or animals.
ORNAMENTALS Roses	Black spot	All States	150 to 200 g /100 L spray			* Apply when disease symptoms first appear and then repeat at 7 to 10 day intervals. During weather conditions favourable to disease development, use the higher rate and shorter spray interval.
Gladioli Chrysanthemums	Grey mould (*Botrytis*) Septoria leaf spot	All States				
	Rust	WA & Tas only				
Carnations	Rust Alternaria leaf spot	WA & Tas only				
Flowers Shrubs	Septoria leaf spot	WA & NSW only				
Ferns	Botrytis leaf spot	WA & NSW only	Ferns only 75 to 100 g/100 L spray			

TREE AND VINE CROPS

RATE In the following table, all rates are given for dilute spraying. For concentrate spraying, refer to the Application section.					**CRITICAL COMMENTS** *** Refer to Surfactant Section** For all uses in this table: Apply by dilute or concentration spraying equipment. **Apply the same amount of product to the target crop whether applying this product by dilute or concentrate spraying methods.**
CROP	**DISEASE**	**STATE**	**RATE PER 100 L**	**WHP**	
POME FRUITS Apples Pears	Pear Scab	All States	150 to 200 g	14 days	* Apply at 7 to 14 day intervals following a copper spray at green tip. Use the higher rate and shorter spray interval during prolonged wet conditions. DITHANE M-45 Agricultural Fungicide can be tankmixed with Topas® 100EC for the control of apple scab (black spot). Read and follow all recommendations on the manufacturer's label. DITHANE M-45 Agricultural Fungicide may be harmful to *Typhlodromus pyri* and its use in orchards where integrated control is practiced should be avoided.
	Apple Scab (Black spot)	WA, Vic, Tas, SA, Qld & NSW only			
	Target spot Bitter rot Sooty blotch Fly speck	All States			
	Ripe fruit spot	WA & Qld only			
STONE FRUIT Peaches Apricots Plums (except Wilson plums)	Rust Shot Hole Freckle	All States			* Apply at early bloom (1-10%), then repeat at mid to full bloom (50-100%); at petal fall, and at shuck fall. Continue with a protective spray programme at two week intervals.
	Brown rot	WA, Vic, Tas, SA, & NSW only			
Cherries	Brown rot	Tas & Vic only			
Nectarines	Brown rot	WA, SA & Tas only			
Almonds	Brown rot	SA & WA only			

OTHER FRUIT Passion Fruit	Septoria spot Brown spot (*Alternaria passiflorae*)	WA & Qld only	150 g		Apply at 10 to 14 day intervals from October to May and every 21 to 28 days for remainder of year.
Mangoes	Anthracnose (*Collectotrichum gloeosporiodes*)		200 g		* Apply at weekly intervals during flowering and then at monthly intervals until near harvest.
Grapevines	Blackspot	All States		30 days	* For Black spot control apply at budburst and then repeat 10 to 14 days later. If Downy mildew is expected, continue spray programme at 10 to 14 day intervals until the threat of disease has passed. Use the shorter spray interval during weather conditions favourable to disease development.
	Downy mildew	WA, Qld, NSW, Vic, SA & Tas only			
	Phomopsis Cane and Leaf spot	All States	150 to 200 g		Apply at budburst and then repeat 7 to 10 days later.
Citrus	Black spot	WA, Qld, NSW, Tas, Vic, & SA only	200 g	-	**On heavy soil**: Add 250 mL polyphase summer oil. Spray at eight and at fifteen weeks following a Bordeaux (5-5-100) spray at petal fall. **On light soil**: Add 250 mL polyphase summer oil plus 12 mL LATRON B-1956 as a spreader - sticker. Spray at six and at thirteen weeks following a Bordeaux (3.5-3.5-100) spray at petal fall. **Queensland**: Add 600 mL polyphase summer oil or miscible summer oil per 100 L and spray at six and twelve weeks after a copper spray at ½ to ¾ petal fall.
	Citrus rust mite Brown citrus mite	WA & Qld only			Apply at first sign of mite activity on fruit, usually between December and May.
	Citrus bud mite				Apply when blossom malformation is observed, usually February.

NOT TO BE USED FOR ANY PURPOSE, OR IN ANY MANNER, CONTRARY TO THIS LABEL UNLESS AUTHORISED UNDER APPROPRIATE LEGISLATION.

WITHHOLDING PERIOD:

Beans, Soybeans, Bulb Vegetables, Celery, Carrots, Cole Crops, Cucurbits, Bananas — **DO NOT APPLY LATER THAN 7 DAYS BEFORE HARVEST.**

Capsicums, Tomatoes, Lettuce, Spinach, Silver Beet, Beetroot, Rhubarb, Pome and Stone Fruit, Nectarines, Almonds, Passion Fruit, — **DO NOT APPLY LATER THAN 14 DAYS BEFORE HARVEST.**

Mangoes, Peanuts	
Grapevines	**DO NOT APPLY LATER THAN 30 DAYS BEFORE HARVEST.**
Poppies	**DO NOT APPLY LATER THAN 7 WEEKS BEFORE HARVEST**
Potatoes, Tobacco, Citrus	**WITHHOLDING PERIOD NOT REQUIRED WHEN USED AS DIRECTED**
Soybeans, Peanuts	**DO NOT GRAZE LIVESTOCK ON SOYBEAN OR PEANUT CROPS TREATED WITH DITHANE M-45 OR FEED TREATED CROPS AND/OR TRASH TO LIVESTOCK**

GENERAL INSTRUCTIONS

DITHANE M-45* Agricultural Fungicide is a protectant fungicide for the control of certain fungus diseases in many crops. For best results, apply as a regular spray programme. Thorough coverage of the treated crop is essential.

FUNGICIDE RESISTANCE WARNING

GROUP	Y	FUNGICIDE

For fungicide resistance management DITHANE M-45* Agricultural Fungicide is a Group Y fungicide.

Some naturally occurring individual fungi resistant to DITHANE M-45* Agricultural Fungicide and other Group Y fungicides may exist through normal genetic variability in any fungal population. The resistant individuals can eventually dominate the fungi population if these fungicides are used repeatedly. These resistant fungi will not be controlled by DITHANE M-45* Agricultural Fungicide and other Group Y fungicides, thus resulting in a reduction in efficacy and possible yield loss.

Since the occurrence of resistant fungi is difficult to detect prior to use, Dow AgroSciences accepts no liability for any losses that may result from the failure of DITHANE M-45*Agricultural Fungicide to control resistant fungi.

MIXING

Slowly place into spray tank as it is being filled, or thoroughly premix in a nurse tank for concentrate or aircraft sprayers. Add other co-applied fungicides, insecticides, surfactants etc after DITHANE M-45 Agricultural Fungicide has been placed into suspension.

Maintain sufficient agitation during mixing and spraying to prevent the product settling out and to ensure a uniform spray mixture. Rinse out spray tank, pumps and nozzles at the end of the day.

When preparing spray solutions for use in a hand sprayer, premix as a slurry in a small container, and then add to sprayer containing one-third to half the desired final water volume.

SURFACTANTS

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

LATRON B-1956® has been especially formulated to optimize the performance of foliar applied agricultural chemicals. Add 10 to 40 mL per 100 litres of spray according to label directions for LATRON B-1956.

There are other proprietary brand surfactants available, however before using check manufacturer's recommendations.

APPLICATION

DILUTE SPRAYING

- Use a sprayer designed to apply high volumes of water up to the point of run-off and match to the crop being sprayed.
- Set up and operate the sprayer to achieve even coverage throughout the crop canopy. Apply sufficient water to cover the crop to the point of first run-off. Avoid excessive run-off.
- The required water volume may be determined by applying different test volumes, using different settings on the sprayer, from industry guidelines or expert advice.
- Add the amount of product specified in the Directions for Use table for each 100L of water. Spray to the point of runoff.
- The required dilute spray volume will change and the sprayer set up and operation may also need to be changed, as the crop grows.

  A general guide for mature crops is as follows:

Crops	**Spray Volume**
Vines and other row crops	200 to 1100 L/ha
Bananas, Tobacco	200 to 1100 L/ha
Pome and Stone Fruit	1100 to 4000 L/ha
Citrus	4000 to 8000 L/ha

CONCENTRATE SPRAYING

- Use a sprayer designed and set up for concentrate spraying (that is a sprayer which applies water volumes less than those required to reach the point of run-off) and matched to the crop being sprayed.
- Set up and operate the sprayer to achieve even coverage throughout the crop canopy using your chosen water volume.
- Determine an appropriate dilute spray volume (See Dilute Spraying above) for the crop canopy. Consult your local advisor, agronomist or Department of Agriculture to determine this volume. This is needed to calculate the concentrate mixing rate.
- The mixing rate for concentrate spraying can then be calculated in the following way:

  Concentrate Spraying Example

  1. Dilute spray volume as determined above: e.g. 1000L/ha
  2. Your chosen concentrate spray volume: e.g. 500L/ha
  3. The concentration factor is 2X (1000 / 500)
  4. If the dilute label rate is 40 mL/100L, then the concentrate rate becomes 2X 40, i.e. 80 mL/100L of concentrate spray
- The chosen spray volume, amount of product per 100L of water and the sprayer set up and operation may need to be changed as the crop grows.
- For further information on concentrate spraying, users are advised to consult relevant industry guidelines, undertake appropriate competency training. Always follow Industry Best Practices.

AERIAL APPLICATION

- May be applied by agricultural aircraft.
- Use at least 30 to 50 litres of spray mixture per hectare. Consult the Directions For Use for the correct rate to be applied in specific crop situations.

SPRAY TIMING

- Treatments should begin prior to disease infection and continue until the threat of disease has passed.
- Repeated applications are necessary to protect new plant growth.
- Reduce the spray interval when weather conditions favour disease development.

COMPATIBILITY

- DITHANE M-45 Agricultural Fungicide may be harmful to *Typhlodromus pyri*, and its use in orchards where integrated control is practiced should be avoided.
- This product is compatible with most commonly used agricultural fungicides and insecticides, however, before preparing tank mixes, the user is advised to check compatibility with the other manufacturer's recommendations.

PROTECTION OF LIVESTOCK, WILDLIFE, FISH, CRUSTACEA, THE ENVIRONMENT AND OTHERS

- This product is toxic to fish.
- Drift and run off from treated areas may be hazardous to aquatic organisms in neighbouring areas.
- DO NOT contaminate ponds, waterways or drains with the chemical or used containers.
- DO NOT re-use container.

STORAGE AND DISPOSAL

- Store in the closed, original container in a dry, cool, well-ventilated area out of direct sunlight. Keep away from fire and sparks.
- DO NOT allow to become wet or overheated in storage: decomposition, impaired activity or fire may result.
- DO NOT store near food, feedstuffs, fertilizers or seed. Users are reminded this product should be used before the stated expiry date.
- Shake empty bag into spray tank. Do not dispose of undiluted chemicals on site.
- Puncture or shred and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots.
- Empty bags and product should not be burnt.

SMALL SPILL MANAGEMENT

- Sweep up material and contain in a refuse vessel for disposal in the same manner as for containers (see Storage and Disposal Section).

SAFETY DIRECTIONS

- May irritate the eyes, nose, throat and skin. Avoid contact with eyes and skin.
- DO NOT inhale dust or spray mist.
- After use and before eating, dinking and smoking, wash hands, arms and face thoroughly with soap and water.
- After each day’s use, wash contaminated clothing.

FIRST AID

If poisoning occurs, contact a doctor or Poisons Information Centre. (Phone: Australia 13 11 26). Avoid giving alcohol.

MATERIAL SAFETY DATA SHEET

Additional information is listed on the Material Safety Data Sheet for DITHANE M-45® Agricultural Fungicide which is available from Dow AgroSciences on request. Call Customer Service Toll Free on 1-800-700 096.

NOTICE

Seller warrants that the product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with directions under normal conditions of use. No warranty of merchantability or fitness for a particular purpose, express or implied, extends to the use of the product contrary to label instructions, or under off-label permits not endorsed by Dow AgroSciences or under abnormal conditions.

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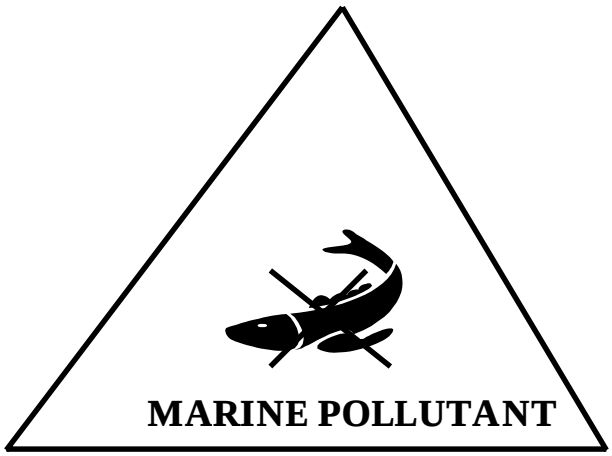
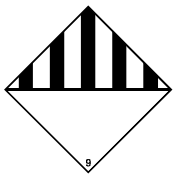
Dithane M-45*



ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (MANCOZEB)



EMERGENCY RESPONSE
(All Hours)
RING FROM ANYWHERE IN AUSTRALIA
1-800 033 882
(LOCAL CALL FEE ONLY)

IN A TRANSPORT EMERGENCY ONLY
DIAL 000
FOR POLICE OR FIRE BRIGADE

Barcode
for stock
identification

NRA Approval No.: 30598/ 1101
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D.O.M.: Batch No.:

Expiry Date: 2 years after date of manufacture