



Dow AgroSciences



# DITHANE M-45 800 WP NT

## FUNGICIDE

Reg No L7484 Act / Wet No. / Nr. 36 of / van 1947  
W130089  
N-AR 1043

A wettable powder contact fungicide and acaricide recommended for the prevention and control of a number of fungus diseases and mites on various crops as listed below.

'n Benatbare poeier kontak myt- en swamdoder vir die voorkoming en beheer van 'n aantal verskillende swamsiektes en myte op gewasse soos hieronder aangedui.

**FUNGICIDE GROUP CODE**

**M3**

**SWAMDODER GROEPKODE**

### ACTIVE INGREDIENT/AKTIEWE BESTANDEEL

Mancozeb (dithiocarbamate) ..... 800 g/kg ..... Mankoseb (ditiokarbamaat)

Net Contents .....25 kg ..... Netto Inhoud

**REGISTRATION HOLDER / REGISTRASIEHOUER**  
DOW AGROSCIENCES SOUTHERN AFRICA (PTY) LTD / (EDMS) BPK  
REG NO 1967/007147/07  
PRIVATE BAG X160 PRIVAATSAK  
BRYANSTON 2021  
SOUTH AFRICA

Batch Number . . . . .



..... Lotnommer

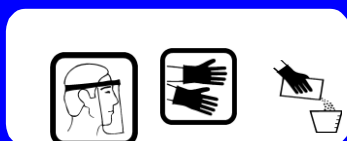
Date of manufacture.....

.....Vervaardigingsdatum

UN NUMBER: 3077

Poisons Helpline: +27(0)861-555-777  
Griffon Poison Information Centre: +27(0)82-446-8946  
24 Hour Emergency Tel No: 082-887-8079  
Information Hotline Tel No: (012) 361-8112

DITHANE M-45 800 WP NT /2013-03-05



**CAUTION  
VERSIGTIG**



## WARNINGS

If **DITHANE M-45 800 WP NT** is used on harvest and fodder crops, the following waiting periods must be observed:

Table grapes.....	4 to 6 weeks
Groundnut foliage to be used as fodder.....	21 days
Tomatoes, beans, peas, cucurbits and potatoes .....	3 days
All other edible crops.....	14 days
Mangoes .....	60 days

THE RECOMMENDED WITHHOLDING PERIOD BETWEEN LAST APPLICATION AND HARVEST MEETS LOCAL RESIDUE LEVEL REQUIREMENTS, BUT MAY NOT MEET EXPORT REQUIREMENTS.

May cause sensitization of the skin and irritation of eyes and air passages.

Toxic to fish and aquatic invertebrates.

Keep out of reach of children, uninformed persons and animals.

Keep the container well closed when not in use.

Store in a cool, dry place, away from food or feedstuffs.

If the chemical is allowed to get damp and then warmed up, it may generate flammable vapours and should therefore be kept away from sparks and open flames.

**Re-entry:** Do not enter treated field or orchard until spray deposit has dried unless wearing protective clothing.

DO NOT USE **DITHANE M-45 800 WP NT** ON TOBACCO SEEDLINGS

AERIAL APPLICATION: Notify all inhabitants of the immediate area to be sprayed and issue the necessary warnings. Do not spray over or allow drift to contaminate water or adjacent areas.

***Although this remedy has been extensively tested under a large variety of conditions the registration holder does not warrant that it will be efficacious under all conditions because the action and effect thereof may be affected by factors such as abnormal soil, climatic and storage conditions; quality of dilution water; compatibility with other substances not indicated on the label and the occurrence of resistance of the disease or pest against the remedy concerned as well as by the method, time and accuracy of application. The registration holder furthermore does not accept responsibility for damage to crops, vegetation, the environment or harm to man or animal or for lack of performance of the remedy concerned due to failure of the user to follow the label instructions or to the occurrence of conditions which could not have been foreseen in terms of the registration. Consult the supplier or registration holder in the event of any uncertainty.***

## **PRECAUTIONS**

Avoid contact with the skin, eyes and clothes, as well as inhalation of dust and spray mist.

Wear face mask and rubber gloves when mixing product.

Wash thoroughly with soap and water after application and in case of eye contamination, rinse the eyes thoroughly with plenty of cold water and obtain medical aid if necessary.

Wash contaminated clothing.

Do not spray over water or allow spray drift onto water or adjacent areas not under treatment.

Prevent contamination of food, feeds, drinking water and eating utensils.

Containers and packages must be completely emptied before being disposed of. Shake out thoroughly into the mixing or spray tank before destroying the empty container.

Destroy empty container by perforation and flattening and never use for any other purpose.

Clean application equipment after use and dispose of wash water where it will not contaminate crops, pastures, rivers, dams or other water sources.

Do not burn the empty container.

## **AERIAL APPLICATION**

Aerial application may only be done by a registered aerial application operator using a registered and correctly calibrated aircraft according to the instructions of SANS Code 10118 (Aerial Application of Agricultural Remedies). It is important to ensure that the spray mixture is distributed evenly over the target area and that the loss of spray material during application is restricted to a minimum. It is therefore essential that the following criteria be met;

### **Equipment**

- Use suitable atomising equipment (hydraulic nozzles or rotary atomisers) that will produce the desired droplet size and coverage of the target area and will ensure the minimum loss of product through drift.
- The operator must use a nozzle set-up that will produce a droplet spectrum with the lowest possible relative span.
- All nozzles and atomisers should be positioned within the inner 75% of the wingspan to prevent droplets from entering the wingtip vortices.

### **Application Parameters**

- A minimum volume of 30 ℓ spray mixture per ha is recommended. As this product has not been evaluated at a reduced volume rate, the registration holder cannot guarantee efficacy nor be held responsible for any adverse effects if this product is applied aerially at a lower volume rate than recommended.
- A droplet coverage of 30 – 40 droplets per sq cm must be recovered at the target.
- A droplet spectrum with a VMD of 250 – 280 microns is recommended. Ensure that the production of fine droplets, with a VMD less than 150 microns, is restricted to a minimum.
- The height of the spray boom should be maintained at between 3 and 4m above the target.
- Do not spray when the aircraft is in a climb, at the top of a turn or during a dive or when banking.
- Apply before the crop growth becomes too dense, which will interfere with overall plant coverage.

### **Meteorological Conditions**

- The difference between the wet and dry bulb readings as determined by a whirling hygrometer, must not exceed 8° C.
- Do not spray under turbulent, unstable conditions nor during the heat of the day when rising thermals and downdraughts occur.
- Do not spray under temperature inversion conditions (spraying in or above the inversion layer).
- Do not spray when the wind speed exceeds 15 km per hour.

### **General**

- Ensure that fields are accurately marked and that the aerial spray operator knows exactly which fields to spray.
- Obtain an assurance from the aerial spray operator that the above requirements will be met.

**DIRECTIONS FOR USE : Use only as directed**

### **COMPATIBILITY**

**DITHANE M-45 800 WP NT** is compatible with most fungicides and insecticides, but should not be used with alkaline products, e.g. LIME SULPHUR and BORDEAUX MIXTURES. Do not use **DITHANE M-45 800 WP NT** together with CALCIUM ARSENATE or UREA on citrus.

## MIXING INSTRUCTIONS

First fill the spray tank half with water. Mix recommended quantity of **DITHANE M-45 800 WP NT** in a little water into a slurry, add more water, stir well and add to the spray tank whilst filling with the bulk of water. When used with emulsifiable concentrates it is essential that the **DITHANE M-45 800 WP NT** is first added to the spray tank, as described above, before the emulsifiable concentrate is added to the spray tank mixture. It is advisable that the emulsifiable concentrate also be pre-mixed in a little water, before it is added to the spray mixture in the tank. Maintain agitation of spray tank contents throughout spraying operation.

## APPLICATION DIRECTIONS

**Note:** **DITHANE M-45 800 WP NT** is a preventative contact fungicide and should be applied before expected infection periods, or in regular programmes. It is important to follow a programme and if significant rainfall is experienced product should be re-sprayed.

**Deciduous Fruits:** **DITHANE M-45 800 WP NT** can also be applied as a High or Low Volume (LV) application. Do not exceed by 4x the high volume concentration when applying low volume sprays.

Rate per ha should be calculated according to the formula for “*High Volume Requirement*” (HVR), using “*Unrath’s formula*” for “*Tree Row Volume*” (TRV)

$$\text{TRV} = \frac{\text{Tree Height (TH)}^* \times \text{Tree Width (TW)}^* \times 937}{\text{Distance between Rows (RW)}} = \text{HVR in liters per ha}$$

*\*(Tree height and tree width should be measured during summer when trees are at full flush)*

Directions for Application Volumes (AV) at different growth stages and the calculation of rate per ha, based on High Volume Requirements (HVR)

*Bud Break to Full Blossom:* AV = 60 % x HVR

*75 % Petal Fall to One month later (Mid Season):* AV = 80 % x HVR

*Mid Season to Post Harvest, Before Leaf Drop:* AV = 100 % x HVR

**Rate per ha =  $\frac{(\text{HVR}) \text{ liters per ha} \times \text{Rate per 100}}{100}$**

**Grapes:** The amount of **DITHANE M-45 800 WP NT** per ha must be calculated according to the requirements for high volume application. The following guidelines can be used.

Growth Stage	High Volume spray mixture required in ℓ/ha	
	Wine Grapes	Table Grapes
Shoot length 2,5cm to 25 cm	250 - 500	500 - 750
25cm Shoot length till just prior to flowering	500 - 750	750 - 1000
Flowering to Pea berry stage	750 - 1000	1000 - 1200
Pea berry stage to Harvest	1000 - 1200	*

\* Do not apply to table grapes after pea berry size.

**Note:** Application of **DITHANE M-45 800 WP NT** should be made **before** overhead irrigation or expected infection periods (rain).

### APPLICATION RATES

CROP AND DISEASE	RATE	REMARKS
<b>POTATOES</b> Early and Late Blight	200 – 300 g/100 ℓ water  2 – 3 kg/ha	Application of <b>DITHANE M-45 800 WP NT</b> can be done in Low- or High Volume. Repeat application every 7 - 10 days and after rain.  <b>High Volume:</b> Commence application after emergence of crop at 500 ℓ spray mixture/ha. Increase spray volume up to 1000 ℓ/ha as plant foliage increase. <b>Low Volume:</b> Use only suitable equipment and apply in 200 – 300 ℓ water/ha. <b>Aerial Application:</b> Apply in 30 ℓ water/ha. Use the higher rate from 6 weeks after emergence or when conditions are favourable for disease development.
Fusarium, Dry Rot and Common Scab	300 g/100 ℓ water	For seed potatoes only: Dip the whole or cut tubers in the suspension. Let tubers dry off and store under cool and well aerated conditions in disease free mass containers. Change dipping suspension frequently especially if the potatoes have a film of soil.

CROP AND DISEASE	RATE	REMARKS
<p><b>APRICOTS, PEACHES AND PLUMS</b> Rust</p> <p>Gumspot</p>	<p>150 g/100 ℓ water</p> <p>Note: The rate per ha should be applied according to the formula as described above</p> <p>150 g/100 ℓ water</p> <p>Note: The rate per ha should be applied according to the formula as described above</p>	<p><b>Winter Rainfall Region:</b> Start applications just after flowering. Repeat every 14 days until end November. Spray again after harvest during February and repeat after 3 - 4 weeks. See also recommendations for Gumspot.</p> <p><b>Summer Rainfall Region:</b> Apply from mid-February. Repeat at 10 - 14 day intervals as necessary.</p> <p>1. Autumn: Just after harvest. 2. Autumn: 75 % leaf drop. 3. Spring: Copper spray at bud movement. 4. Spring: 80 % petal fall. 5 &amp; 6. Two further applications at 14 days intervals if necessary. For plums commence spraying from mid-December and apply 2 sprays at 10 day intervals.</p>
<p><b>APRICOTS AND PEACHES</b> Freckle Apricots and Peaches</p>	<p>150 g/100 ℓ water</p> <p>Note: The rate per ha should be applied according to the formula as described above</p>	<p><b>Winter Rainfall Region:</b> Apply at 75 - 100 % petal drop and repeat 14 days later. In wet seasons repeat applications monthly on late cultivars.</p> <p><b>Summer Rainfall Region:</b> First application 3 weeks after petal drop and repeat 14 days later. In wet seasons repeat application monthly on late cultivars.</p>
<p><b>NOTE:</b> Do not apply more than six applications of <b>DITHANE M-45 800 WP NT</b> during the period that the fruit is on the tree.</p>		

CROP AND DISEASE	RATE	REMARKS
<b>YOUNG- AND BOYSENBERRIES</b> Downy Mildew and Anthracnose	200 g/100 ℓ water	<p><b>Anthracnose:</b> Commence spraying as soon as the first flowers appear and repeat every 7 -10 days.</p> <p><b>Downy Mildew:</b> Commence spraying when first signs of disease are noticed. Repeat every 10 – 14 days until risk for regular rains diminished. Apply adequate water to ensure thorough wetting of plant foliage (500 – 2000 ℓ spray mixture/ha, depending on plant density and plant foliage at the time of application).</p>
<b>APPLES AND PEARS</b> Scab and Septoria Leaf Spot	150 g/100 ℓ water	<p>May be applied as both pre- and post-blossom sprays.</p> <p><b>Pre-blossom:</b> Start application at early green tip stage and repeat every 7 days until end of blossoming.</p> <p><b>Post-blossom:</b> Apply immediately after blossoming and repeat at 7 - 14 day intervals until the risk for scab infection caused by regular rain (infection periods) diminished. To protect fruit from pinpoint scab (storage scab), repeat thereafter at monthly intervals until harvest.</p> <p><b>DITHANE M-45 800 WP NT</b> is compatible with most systemic fungicides registered for the treatment of scab. (See labels of such products to be used).</p>
<p>NOTE: 200 gram <b>DITHANE M-45 800 WP NT</b> IN 100 ℓ water = 30 grams/15 ℓ water.  (2 lb. In 100 gal. Water = 1 oz. In 3 gal. Water)  30 gram (1 Oz.) = 3 level tablespoons of aerated powder.</p>		



CROP AND DISEASE	RATE	REMARKS
<b>QUINCES</b> Black spot	125 g/100 ℓ water	Commence applications at green tip stage. Repeat at weekly intervals till 75 % petal drop and repeat thereafter at 10 – 14 day intervals until the risk for regular rain diminished.
<b>GRAPE VINES</b> Downy mildew <i>(Plasmopara viticola)</i>  Dead Arm Disease <i>(Phomopsis viticola)</i>	200 g/100 ℓ water  200 g/100 ℓ water	Apply first spray when young shoots have reached a length of 10 cm. Further sprays should be applied at 7 - 10 day intervals, depending on weather conditions favourable for downy mildew infections. Calculate rate per ha according to guidelines in table above.  Apply the first treatment when the shoots reach a length of 0,5 to 1 cm. Apply 3 - 4 times at intervals of 7 - 10 days prior to blossoming. Make sure the young shoots are well covered with spray material. See also Downy mildew for simultaneous control.  NOTE: Application of <b>DITHANE M-45 800 WP NT</b> should be made before overhead irrigation or expected rain (infection periods). Use guidelines under “Application directions” to determine the dosage/ha.
<b>TOMATOES</b> Early and Late Blight and Septoria Leaf Spot	200 g/100 ℓ water	Use 500 ℓ spray mixture per ha shortly after transplanting and increase the volume of spray mixture to 3 000 ℓ per ha as the plants grow bigger. <b>NOTE: DITHANE M-45 800 WP NT</b> can also be used on tomato seedlings.

CROP AND DISEASE	RATE	REMARKS
<b>GROUNDNUTS</b> Cercospora and <u>Phyllosticta</u> Leaf Spot	Dryland: 400 g/100 ℓ water  Irrigated lands: 300 g/100 ℓ water	Use 400 to 500 ℓ of spray mixture per ha. Commence spraying at the very first signs of disease appearing at the base of the plant and apply 5 sprays at 14 day intervals.  Use 1 000 ℓ of spray mixture/ha. Commence spraying at the very first signs of disease appearing at the base of the plant and apply 5 sprays at 14 day intervals.
<b>MANGOES</b> Anthracnose	200 g/100 ℓ water	Apply first spray when panicles appear but before flowers open. Apply second spray at fruit set and repeat thereafter at 14 to 21 day intervals. Do not apply <b>DITHANE M-45 800 WP NT</b> sprays after fruit reach golf ball size.
<b>BANANAS</b> Sigatoka Disease ( <i>Cercospora musae</i> )	2,5 kg/100 ℓ water plus 2,5 ℓ BP Spray Mist (mineral oil) (Reg. No. L6352)	Apply as a low volume application. First spray towards the end of November and repeat every 26 days until after rainy season.

CROP AND DISEASE	RATE	REMARKS
<p><b>CITRUS</b> Black Spot and Melanose</p>	<p>(a) 200 g/100 ℓ water</p> <p>(b) 200 g/100 ℓ water in the first 2 sprays, then 150 g/ 100 ℓ water plus 600 ml light/medium mineral oil or a registered wetter eg. *Wetcit surfactant at 100 ml in subsequent 2 or 3 sprays.</p>	<p>When rainfall is normal during July to September, spray during the third week of October and repeat 3 times at 25 day intervals</p> <p style="text-align: center;"><u>or</u></p> <p>When rainfall is above normal in July to September, apply after full petal drop and repeat 4 times with 25 days intervals.</p>
Citrus Rust Mite	75 g/100 ℓ water	Apply as a full-cover application in Spring. The <b>DITHANE M-45 800 WP NT</b> programme against black spot will also control rust mite.
Citrus silver Mite	200 g/100 ℓ water	This pest can cause russetting of lemons and grapefruit during the 5-7 week period after petal fall. Apply as a full-cover application to wet the foliage canopy and fruitlets as soon as first mite presence is noticed. Alternatively apply at petal fall to trees which suffered fruit russet the previous season. In the case of lemons, fruitlets resulting from summer blossom are most susceptible to attack.
<p><b>GUAVAS</b> Lump Disease and Blossom-End Rot</p>	200 g/100 ℓ water	<p><b>Lump Disease:</b> Full cover application in the early stages until fruit begins to swell. Apply at 30 day intervals.</p> <p><b>Blossom-end rot:</b> Apply as full cover application 14 days before harvesting when very wet weather is experienced.</p>

<b>CROP AND DISEASE</b>	<b>RATE</b>	<b>REMARKS</b>
<b>CUCURBITS</b> Anthracnose and Downy Mildew	200 g/100 ℓ water	Start applications at first signs of disease. Repeat every 7 - 10 days until conditions favouring disease development are diminished. Ensure that the lower leaf surfaces are thoroughly covered with spray material. Use 1 000 to 1 500 ℓ of spray mixture/ha.
<b>BEANS</b> Anthracnose and Rust	1 to 4 kg/ha	Rust: Commence spraying at the first signs of disease appearing and repeat at 7 to 10 day intervals. Anthracnose: Commence spraying when first flowers appear and repeat at 7-14 day intervals. Dosage depends on plant density and size. Use enough water to ensure thorough coverage. For aerial application apply in 30 ℓ water/ha.
<b>PEAS</b> Downy Mildew	1 to 4 kg/ha	Commence spraying at 4-6 leaf stage or when disease is noted and repeat at 7 to 10 day intervals. Dosage depends on plant density and size. Use enough water to ensure thorough wetting. For aerial application use in 30 ℓ water/ha.
<b>ONIONS</b> Downy Mildew	1 to 4 kg/ha	Commence spraying at 4 to 6 leaf stage or when disease is noticed, and repeat at 7 to 10 day intervals. Add a wetter/spreader to the spray mixture. Dosage depends on plant density and size. Use in enough water to give thorough coverage of the plants.

<b>CROP AND DISEASE</b>	<b>RATE</b>	<b>REMARKS</b>
<b>OLIVES</b> Anthracnose	200 g/100 ℓ water	First application in Autumn before discoloration of fruit begins. Repeat 2 to 3 times at monthly intervals.
<b>CRUCIFERAE</b> Downy Mildew	1 to 4 kg/ha	Commence spraying at 4 to 6 leaf stage, or when disease is noticed and repeat at 7 to 10 day intervals. Add a wetter/spreader to the mixture. Treat seedbeds at 3 to 5 day intervals. Dosage depends on plant density and size. Use in enough water to give thorough coverage of the plants.
<b>ORNAMENTALS</b> Downy Mildew, Anthracnose and Rusts	150 to 200 g/ 100 ℓ water plus spreader/sticker	Apply at first signs of disease and repeat every 7 to 10 days. Dosage depends on severity of disease. Ensure thorough coverage of the plants
<b>PAPAYA</b> Black Speckle	2 kg/ha	Apply from flowering stage at 28 day intervals. Shorten intervals to 14 days under conditions favourable for high disease pressure. For low volume application (in 25 to 40 ℓ water/ha) add mineral oil (light/narrow range) at a rate of 16 ℓ/100 ℓ spray mix.

\*Wetcit (L7474) is the Trade name of Citrus Oil Products trading as Oro Agri SA (Pty) Ltd.

**24 HOUR EMERGENCY TEL. NO. +27 (0)82-887-8079**

**INFORMATION HOTLINE : TEL. NO.: +27 (0)12 361-8112**

## WAARSKUWINGS

Vir die gebruik van **DITHANE M-45 800 WP NT** op oes- en voergewasse moet die volgende tydperke vanaf laaste toediening tot oes verloop:

Tafeldruiwe.....	4 tot 6 weke
Grondboonhooi wat vir veevoer gebruik word.....	21 dae
Tamaties, bone, erte, pampoengewasse en aartappels .....	3 dae
Alle ander eetbare gewasse.....	14 dae
Mango's .....	60 dae

**DIE AANBEVOLE ONTHOUDINGSPERIODE TUSSEN DIE LAASTE TOEDIENING EN OES VOLDOEN AAN DIE VEREISTES VIR PLAASLIKE RESIDUVLAKKE, MAAR MAG DALK NIE VOLDOEN AAN DIE VEREISTES VIR UITVOER NIE.**

Mag sensitisering van die vel en irritasie van oë en luggange veroorsaak.

Giftig vir visse en waterinvertebrata.

Stoor in 'n koel, droë plek, weg van voedsel en voer.

Hou die houder dig toe wanneer nie in gebruik nie.

Hou buite bereik van kinders, oningeligte persone en diere.

**Herbetreding:** Moenie behandelde lande/boorde na bespuiting betree sonder beskermende klere nie.

**DITHANE M-45 800 WP NT MOET NIE OP TABAKSAAILINGE GEBRUIK WORD NIE.**

Indien die middel toegelaat word om, om die beurt, klam en dan warm te word, mag dit ontvlambare dampe vrystel en moet dit daarom van vonke en oop vlamme weggehou word.

**LUGTOEDIENING:** Stel alle inwoners in die nabye omgewing van die lugbespuitingsarea in kennis en reik die nodige waarskuwings uit. Voorkom besoedeling en wegdrywe van spuitnewel na water of aangrensende gewasse en gebiede.

***Alhoewel hierdie middel omvattend onder 'n groot verskeidenheid toestande getoets is, waarborg die registrasiehouer nie dat dit onder alle toestande doeltreffend sal wees nie aangesien die werking en effek daarvan beïnvloed kan word deur faktore soos abnormale grond-, klimaats- en bergingstoestande; kwaliteit van verdunningswater; verenigbaarheid met ander stowwe wat nie op die etiket aangedui is nie en die voorkoms van weerstand van die siekte of plaag teen die betrokke middel sowel as die metode, tyd en akkuraatheid van toediening. Verder aanvaar die registrasiehouer nie verantwoordelikheid vir skade aan gewasse, plantegroei, die omgewing of vir nadelige effek op mens en dier of vir 'n gebrek aan prestasie van die betrokke middel as gevolg van die versuim deur die gebruiker om etiketaanwysings na te kom of as gevolg van die ontstaan van toestande wat nie kragtens die registrasie voorsien kon word nie. Raadpleeg die verskaffer of registrasiehouer in geval van enige onsekerheid.***

## **VOORSORGMATREËLS**

Vermyn aanraking met die vel, oë en klere sowel as inaseming van die stof of spuitnewel.

Dra gesigsmasker en rubberhandskoene wanneer produk gemeng word.

Was deeglik met seep en water na toediening en in die geval van oogbesoedeling, spoel die oë deeglik met groot hoeveelhede koue water en kry mediese hulp indien nodig.

Was besoedelde klere.

Houers moet goed leeggemaak word voor dit weggegooi word. Skud deeglik oor meng- of spuitnek uit voor die leë houer vernietig word.

Moet nie oor water spuit nie of toelaat dat die spuitstof oorwaai om water of aangrensende gebiede nie onder behandeling nie, te besoedel.

Vernietig die leë houer deur dit te perforeer, plat te trap en te begrawe en moet dit vir geen ander doel gebruik nie. Leë houer moenie verbrand word nie.

Maak toedieningsapparaat skoon na gebruik en raak van waswater ontslae waar dit nie gewasse, weiding, riviere, damme of enige ander waterbronne sal besoedel nie.

Voorkom besoedeling van voedsel, voer, eetgerei en drinkwater.

## **LUGTOEDIENING**

Lugtoediening mag slegs deur 'n geregistreerde lugbespuitingsoperateur met 'n geregistreerde en korrek gekalibreerde vliegtuig volgens die instruksies van SANS Kode 10118 (Aerial Application of Agricultural Remedies) gedoen word. Dit is belangrik om te verseker dat die spuitmengsel eweredig oor die teikenarea versprei word en dat die verlies aan spuitmengsel tydens toediening tot 'n minimum beperk word. Die volgende kriteria moet nagekom word.

### **Toerusting**

- Gebruik geskikte atomiseringsapparaat (hidroliese of roterende spuitkoppe) wat die vereiste druppelgrootte en bedekking van die teiken sal produseer, maar wat die minste verlies van produk deur wegdrywing sal verseker.
- Die operateur moet 'n spuitstelsel gebruik wat 'n druppelspektrum met die kleinste moontlike relatiewe span sal produseer.
- Al die spuitkoppe en atomiseerders moet in die binneste 75% van die vlerkspan geplaas word om die beweging van druppels in die vlerkvorteks in te beperk.

## **Toedieningsvereistes**

- 'n Minimum volume van 30 ℓ spuitmengsel per ha word aanbeveel. Aangesien hierdie produk nie teen 'n verlaagde spuitvolume getoets is nie, kan die registrasiehouer nie effektiwiteit waarborg of verantwoordelik gehou word vir enige nadelige effek indien hierdie produk teen 'n laer volume as hierbo aanbeveel, uit die lug toegedien word nie.
- 'n Druppelbedekking van 30 - 40 druppels per vk cm moet op die teikenarea herwin word.
- 'n Druppelspektrum met 'n VMD van 250 - 280 mikron word aanbeveel. Verseker dat die produksie van fyn druppels, die wat kleiner as 150 mikron is, tot 'n minimum beperk word.
- Die hoogte van die spuitbalk moet tussen 3 en 4m bo die teiken gehandhaaf word.
- Moet nie spuit wanneer die vliegtuig aan die bopunt van 'n draai is of tydens 'n duik of terwyl dit uitklim of draai nie.
- Dien toe voordat die gewas te ruig word aangesien die druppelbedekking op die plante sal verminder word.

## **Meteorologiese Toestande**

- Die verskil tussen die nat- en droëbollesing, soos met 'n swaaihygrometer bepaal, moet nie 8 °C oorskry nie.
- Moenie toedien tydens turbulente en onstabiele weerstoestande of gedurende die hitte van die dag wanneer styg en dalende konveksie windbeweging plaasvind nie.
- Moenie toedien onder temperatuur inversie toestande (deur bo of binne die inversie laag te spuit) nie.
- Moenie spuit indien die windspoed 15 km per uur oorskry nie.

## **Algemeen**

- Sorg dat die lande akkuraat gemerk is en die spuitoperateur presies weet watter lande gespuit moet word.
- Verkry 'n versekering van die spuitoperateur dat aan die bogenoemde vereistes voldoen sal word.

## **GEBRUIKSAANWYSINGS: Gebruik slegs soos aangedui**

### **VERENIGBAARHEID**

**DITHANE M-45 800 WP NT** kan met die meeste swam- en insektemiddels gemeng word, maar moenie in mengsels met alkaliese middels bv. Kalkswael en Bordeaux mengsels, gebruik word nie. Moenie **DITHANE M-45 800 WP NT** saam met Kalsiumarsenaat of Ureum op sitrus gebruik nie.



## MENGINSTRUKSIES

Maak eers die spuittenk half vol met water. Meng die aanbevole hoeveelheid **DITHANE M-45 800 WP NT** eers met 'n bietjie water tot 'n dik room, voeg meer water by, roer deeglik en voeg dan in die spuittenk, terwyl die spuittenk verder gevul word.

Wanneer in mengsels saam met emulgeerbare konsentrate gebruik word, is dit noodsaaklik om eers die **DITHANE M-45 800 WP NT** in die spuittenk te vermeng soos hierbo beskryf. Die emulsifiseerbare konsentraat moet dan laastens bygevoeg word terwyl die spuitmengsel in die tenk deeglik geroer word. Dit is altyd raadsaam om ook die emulgeerbare konsentraat eers vooraf met 'n klein hoeveelheid water te vermeng voordat dit in die tenk by die spuitmengsel gevoeg word. Mengsel in spuittenk moet voortdurend geroer word tydens bespuiting.

## TOEDIENINGSAANWYSINGS

Nota: **DITHANE M-45 800 WP NT** is 'n voorkomende kontak-swamdoder en moet daarom, waar moontlik, voor verwagte infeksieperiodes toegedien word, of in 'n gereelde programbespuiting aangewend word. Dit is belangrik om 'n program te volg en indien aansielike reënval ervaar word, moet produk weer gespuit word.

**Sagtevrugte:** **DITHANE M-45 800 WP NT** kan as hoë of *lae volume (LV)* bespuiting toegedien word mits die konsentrasie (*LV*) nie 4x die van hoë volume oorskry nie. Dosis per ha moet volgens die formule vir "*Hoë volume Behoefte*" (*HVB*) bereken word, deur van die "*Unrath-formule*" "*Boom-Ry-Volume*" (*BRV*) gebruik te maak.

$$\text{BRV} = \frac{\text{Boomhoogte (BH)} \times \text{Boomwydte (BW)} \times 937}{\text{Afstand tussen rye (RW)}} = \text{HVB in liters per ha}$$

\*(Boomhoogte en boomwydte soos tydens volle somergroei gemeet)

### Riglyne vir Toedieningsvolumes (TV) by verskillende ontwikkelingstadiums en bepaling van dosis per ha, gebaseer op Hoë Volume Behoefte (HVB)

Bot tot Volblom:	<b>TV</b>	=	60 % x HVB
75 % Blomblaarval tot Een maand later (mid-groeiseisoen)	<b>TV</b>	=	80 % x HVB
Mid Groeiseisoen tot Na Oes, Voor Blaarval	<b>TV</b>	=	100 % x HVB

$$\text{Dosis per ha} = \frac{(\text{HVB}) \text{ Liters per ha} \times \text{Dosis per 100 } \ell}{100}$$

**Wingerde:** Die hoeveelheid **DITHANE M-45 800 WP NT** per ha benodig moet volgens ooreenkomstige behoefte vir hoë volume bespuiting bereken word. Gebruik die volgende as riglyn vir druiwe.

Groeistadium	Hoë Volume Spuitmengsel in ℓ per ha	
	Wyndruiwe	Tafeldruiwe
Lootlengte 2.5 cm tot 25 cm	250 - 500	500 - 750
25 cm Lootlengte tot net voor blom	500 - 750	750 - 1000
Blom tot ertjekorrel-stadium	750 - 1000	1000 - 1200
Ertjekorrel-stadium tot oestyd	1000 - 1200	*

\*Moet nie op tafeldruiwe toedien na ertjie-korrel grootte nie.

**Opmerking:** Toediening van **DITHANE M-45 800 WP NT** moet voor oorhoofse besproeiing of verwagte infeksieperiodes (reën) gemaak word.

GEWAS EN SIEKTE	DOSIS	OPMERKINGS
<b>AARTAPPELS</b> <b>Vroeë- en Laatroes</b>	200 – 300 g/100 ℓ water  2 – 3 kg/ha	Toediening kan in Lae- of Hoë Volume geskied. Toedienings moet elke 7 - 10 dae en na reën herhaal word  <b>Hoë Volume:</b> Begin spuit na opkoms met 500 ℓ spuitmengsel/ha en verhoog volume tot minstens 1000 ℓ/ha na mate plantloof vermeerder.  <b>Lae Volume:</b> Gebruik slegs geskikte apparaat en dien toe in 200 – 300 ℓ water per ha.  <b>Lugbespuiting:</b> Dien toe in 30 ℓ water/ha. Gebruik die hoër dosis vanaf 6 weke na opkoms, of wanneer bevorderlike toestande vir siekte-ontwikkeling voorkom.
Fusarium-droë verrotting en Gewone Skurfsiekte	300 g/100 ℓ water	<b>Slegs vir gebruik by saadaartappels:</b> Doop die hele- of gesnyde moere in die suspensie. Laat afdroog en berg daarna onder koel en goed deurlugte toestande in siektevrye massahouers. Vervang doopsuspensie gereeld veral as die aartappels 'n laag grond op het.

GEWAS EN SIEKTE	DOSIS	OPMERKINGS
<p><b>APPELKOSE, PERSKES EN PRUIME</b> Bruinroes</p> <p>Gomvlek</p>	<p>150 g/100 ℓ water</p> <p>NOTA: Die dosis per ha moet volgens die formule bo bereken word.</p> <p>150 g/100 ℓ water</p> <p>NOTA: Die dosis per ha moet volgens die formule bo bereken word.</p>	<p><b>Winterreënvalstreek:</b> Begin toediening net na blom en herhaal elke 14 dae tot einde November. Dien weer na-oes, gedurende Februarie toe en herhaal 3 - 4 weke later. Sien ook aanbevelings vir Gomvlek</p> <p><b>Somerreënvalstreek:</b> Dien vanaf middel Februarie toe. Herhaal met tussenposes van 10 - 14 dae indien nodig.</p> <ol style="list-style-type: none"> <li>1. Herfs: Net na oes.</li> <li>2. Herfs: 75 % blaarval.</li> <li>3. Lente: Koper bespuiting as bome begin bot.</li> <li>4. Lente: 80 % blomblaarval.</li> <li>5 &amp; 6. Twee verdere toedienings met tussenposes van 14 dae indien nodig. Vir pruime begin spuit vanaf middel Desember en dien 2 bespuitings toe met tussenposes van 10 dae.</li> </ol>
<p><b>APPELKOSE EN PERSKES</b> Appelkoos en Perskesproetsiekte</p>	<p>150 g/100 ℓ water</p> <p>NOTA: Die dosis per ha moet volgens die formule bo bereken word.</p>	<p><b>Winterreënvalstreek:</b> Dien toe vanaf 75 - 100 % blomblaarval en weer 14 dae later. Gedurende nat seisoene moet toedienings op laat kultivars maandeliks herhaal word.</p> <p><b>Somerreënvalstreek:</b> Eerste toediening 3 weke na blomblaarval en herhaal weer 14 dae later. Gedurende nat seisoen moet toedienings op laat kultivars maandeliks herhaal word.</p> <p>L.W. Moenie meer as 6 bespuitings van <b>DITHANE M-45 800 WP NT</b> gedurende die tyd van vrugdrag toedienie.</p>

GEWAS EN SIEKTE	DOSIS	OPMERKINGS
<b>YOUNG- EN BOYSENBESSIES</b> Donsige Skimmel en Antraknose	200 g/100 ℓ	<p><b>Antraknose:</b> Begin spuit sodra die eerste blomme verskyn en herhaal elke 7 - 10 dae.</p> <p><b>Donsige Skimmel:</b> Begin spuit wanneer die eerste tekens van siekte opgemerk word. Herhaal elke 7 - 10 dae totdat kanse vir gereelde reën afneem. Spuit voldoende water om 'n deeglike benatting te verseker (500 - 2000 ℓ spuitmengsel/ha, afhangend van plantdigtheid en loofontwikkeling).</p>
<b>APPELS EN PERE</b> Skurfsiekte en Septoria blaarvlek	150 g/100 ℓ water	<p>Kan beide as voor- en nablom bespuitings toegedien word.</p> <p><b>Voor-blom:</b> Begin met bespuitings wanneer die groenpunt stadium bereik word. Herhaal elke 7 dae tot aan die einde van die blom periode.</p> <p><b>Na-blom:</b> Dien onmiddellik na blom toe en herhaal met 7 - 14 dae tussenposes totdat die risiko vir skurfsiekte besmettings as gevolg van gereelde reën (infeksieperiodes) afneem. Herhaal bespuitings daarna maandeliks tot en met oes om die ontwikkeling van skurfsiekte op vrugte tydens stoor te beperk.</p>

GEWAS EN SIEKTE	DOSIS	OPMERKINGS
<b>APPELS EN PERE</b> Skurfsiekte en Septoria blaarvlek		<b>DITHANE M-45 800 WP NT</b> is verenigbaar met meeste sistemiese swamdoders vir die behandeling van skurfsiekte. (Sien etikette van produkte wat gebruik word).
<b>LET WEL:</b> 200 g <b>DITHANE M-45 800 WP NT</b> in 100 ℓ water = 30 gram/15 ℓ water. (2 lb. in 100 gal. Water = 1 oz. in 3 gal. Water) 30 gram (1 ons.) = 3 gelykvol eetlepels deurlugte poeier.		
<b>KWEPERS</b> Swartvlek	125 g/100 ℓ water	Begin bespuitings by groenpuntstadium. Herhaal weekliks tot 75 % blomblaarval. Herhaal na 75 % blomblaarval in 10 – 14 dae intervalle, totdat die kans vir reën (infeksieperiodes) afneem.
<b>WINGERDE</b> Donsige skimmel ( <i>Plasmopara viticola</i> )	200 g/ 100 ℓ water	Dien die eerste bespuiting toe wanneer die jong lote 'n lengte van 10 cm bereik het. Verdere bespuitings, moet met tussenposes van 7 - 10 dae toegedien word, afhangend van weerstoestande gunstig vir donsskimmelbesmettings, Gebruik die riglyne onder "Toedienings-aanduidings" om dosis per ha nodig te bepaal.

GEWAS EN SIEKTE	DOSIS	OPMERKINGS
<b>WINGERDE (verv.)</b> Streepvleksierte <i>(Phomopsis viticola)</i>	200 g/100 ℓ water	<p>Dien die eerste bespuiting toe wanneer die lote 'n lengte van 0,5 tot 1 cm bereik. Dien 3 - 4 maal voor blom toe met tussenposes van 7 - 10 dae. Maak seker dat die jong lootjies deeglik met spuitstof bedek word. Sien Donsige Skimmel vir gelyktydige beheer.</p> <p><b>Nota:</b> Behandelings van <b>DITHANE M-45 800 WP NT</b> moet voor sprinkelbesproeiing of verwagte reën (infeksieperiodes) geskied. Gebruik die riglyne onder "Toedienings-aanduidings" om dosis per ha benodig te bepaal.</p>
<b>TAMATIES</b> Vroeë- en Laatroes en Septoria Blaarvlek	200 g/100 ℓ water	<p>Gebruik 500 ℓ spuitmengsel per ha kort na verplanting en vermeerder die volume spuitmengsel na 3000 ℓ/ha na gelang die plante groter word.</p> <p><b>NOTA: DITHANE M-45 800 WP NT</b> kan ook op tamatiesaailinge gebruik word.</p>

GEWAS EN SIEKTE	DOSIS	OPMERKINGS
<b>GRONDBONE</b> Cercospora en <u>Phyllosticta</u> Blaarvlek	<p><b>Droëland:</b> 400 g/100 ℓ water</p> <p><b>Besproeide lande:</b> 300 g/100 ℓ water</p>	<p>Gebruik 400 tot 500 ℓ spuitmengsel per ha. Begin spuit met die eerste tekens van die siektes wat by die basis van die plante verskyn en dien 5-bespuittings met tussenposes van 14 dae toe.</p> <p>Gebruik 1 000 ℓ spuitmengsel per ha. Begin spuit met die eerste tekens van siektes wat by die basis van die plante verskyn en dien 5 bespuittings met tussenposes van 14 dae toe.</p>
<b>MANGO'S</b> Antraknose	200 g/100 ℓ water	Dien die eerste bespuiting toe wanneer die panikula verskyn, maar voor die bloeisels oopgaan. Dien die tweede bespuiting toe met vrugset en herhaal daarna met tussenposes van 14 tot 21 dae. Staak bespuiting van <b>DITHANE M-45 800 WP NT</b> wanneer vrugte gholfbalgrrootte bereik.
<b>PIESANGS</b> Sigatokasiekte ( <i>Cercospera musae</i> )	2,5 kg/100 ℓ water plus 2,5 ℓ BP Spray Mist (minerale olie) (Reg. No. L6352)	Wend aan as 'n lae volume toediening. Eerste bespuiting aan die einde van November en herhaal elke 26 dae tot na die reënseisoen.

GEWAS EN SIEKTE	DOSIS	OPMERKINGS
<p><b>SITRUS</b> Swartvlek en Melanose</p>	<p>(a) 200 g/100 ℓ water</p> <p>(b) 200 g/100 ℓ water vir die eerste twee bespuitings dan 150 g /100 ℓ water plus 600 mℓ ligte/medium minerale olie of 'n geregistreerde benatter, bv. *Wetcit benatter teen 100 mℓ vir die latere 2 tot 3 bespuitings.</p>	<p>Wanneer normale reënval gedurende Julie tot September voorkom , spuit gedurende die derde week in Oktober en herhaal drie keer met tussenposes van 25 dae</p> <p><u>Of</u></p> <p>Wanneer bo-normale reënval gedurende Julie tot September voorkom, spuit na volle blomblaarval en herhaal 4 keer met tussenposes van 25 dae.</p>
<p>Sitrusroesmyt</p>	<p>75 g/100 ℓ water</p>	<p>Dien as 'n vol dekbespuiting in die lente toe. 'n <b>DITHANE M-45 800 WP NT</b> program teen swartvlek sal ook roesmyt beheer.</p>
<p>Sitrusilwermyt</p>	<p>200 g/100 ℓ water</p>	<p>Hierdie plaag kan skilverruwing van suurlemoene en pomelo's gedurende die periode 5 - 7 weke na blomblaarval veroorsaak. Dien toe as 'n voldek bespuiting om sodoende die blare en vrugte deeglik met spuitstof te bedek sodra die eerste myte waargeneem word. Alternatiewelik, kan vir bome waar daar die vorige seisoen 'n probleem was, by blomblaarval toegedien word. In die geval van suurlemoene is die vruggies van somerblomme die mees vatbaarste.</p>



GEWAS EN SIEKTE	DOSIS	OPMERKINGS
<b>KOEJAWELS</b> Knopvelsiekte en Blomendverrotting	200 g/100 ℓ water	<p><b>Knopvelsiekte:</b> Dien Volle dekbespuitings in die vroeë stadiums van vrugontwikkeling toe. Herhaal bespuitings met 30 dae tussenposes totdat die vrugte begin swel.</p> <p><b>Blomend-verrotting:</b> Wanneer nat toestande bevordelik vir die ontwikkeling van blomend-verrotting is - dien 'n volle dekbespuiting 14 dae voor oes toe.</p>
<b>PAMPOENGEWASSE</b> Antraknose en Donsige Skimmel	200 g/100 ℓ water	Begin toedienings wanneer die eerste tekens van siekte opgemerk word. Herhaal toedienings elke 7 - 10 dae totdat die gunstige toestande vir siekteontwikkeling afneem. Maak seker dat die onderste blaaroppervlakke deeglik met spuitstof bedek word. Gebruik 1 000 tot 1500 ℓ spuitmengsel/ha.
<b>BOONTJIES</b> Bruinroes en Antraknose	1 tot 4 kg/ha	<p><b>Boontjieroes:</b> Begin met toedienings wanneer die eerste tekens van siekte opgemerk word. Herhaal elke 7 tot 10 dae.</p> <p><b>Antraknose:</b> Begin met bespuiting sodra die eerste blomme verskyn. Herhaal elke 7 tot 10 dae. Dosis hang af van plantdigtheid en -grootte. Gebruik voldoende water om deeglike bedekking van die plante te verseker.</p> <p>Lugtoediening: Dien toe in 30 ℓ water per ha.</p>

GEWAS EN SIEKTE	DOSIS	OPMERKINGS
<b>ERTJIES</b> Donsige Skimmel	1 tot 4 kg/ha	Begin met bespuitings by 4 - 6 blaarstadium of met die eerste tekens van die siekte en herhaal elke 7 tot 10 dae. Dosis hang af van plantdigtheid en -grootte. Gebruik voldoende water om deeglike bedekking van die plante te verseker. Lugtoediening: Dien toe in 30 ℓ water per ha.
<b>UIE</b> Donsige Skimmel	1 tot 4 kg/ha	Begin bespuitings wanneer plante 4 tot 6 blare het of wanneer toestande vir siekteontwikkeling gunstig word. Herhaal elke 7 tot 10 dae. Voeg benatter/kleefmiddel by die spuitmengsel. Dosis hang af van die plantdigtheid en grootte. Gebruik voldoende water om deeglike bedekking van die plante te verseker.
<b>OLYWE</b> Antraknose	200 g/100 ℓ water	Bespuit gedurende die herfs voordat verkleuring van vrugte begin. Herhaal 2 tot 3 keer met maandelikse intervalle.
<b>KOOLGEWASSE</b> Donsige Skimmel	1 tot 4 kg/ha	Begin bespuiting wanneer plante 4 tot 6 blare het of wanneer siekte opgemerk word. Herhaal elke 7 tot 10 dae. Voeg benatter / kleefmiddel by die spuitmengsel. Spuit saadbeddings elke 3 tot 5 dae. Dosis hang af van plantdigtheid en -grootte. Gebruik in 'n voldoende hoeveelheid water om deeglike bedekking van die plante te verseker.

<b>GEWAS EN SIEKTE</b>	<b>DOSIS</b>	<b>OPMERKINGS</b>
<b>SIERPLANTE</b> Donsige Skimmel, Antraknose en Roessiektes	150 tot 200 g/ 100 ℓ water plus 'n kleefmiddel	Begin met toedienings wanneer die eerste tekens van die siektes opgemerk word. Herhaal elke 7 tot 10 dae. Dosis hang af van graad van infeksie. Verseker dat die plante deeglik benat word.
<b>PAPAJAS</b> Swartspikkel	2 kg/ha	Dien toe vanaf blomstadium met tussenposes van 28 dae. Onder toestande gunstig vir hoë infeksiedruk verkort tussenposes tot 14 dae. Vir lae volume toedienings (in 25 tot 40 ℓ water/ha) voeg minerale olie (ligte smalbestek) by teen 16 ℓ per 100 ℓ spuitmengsel.

\*Wetcit (L7474) is die handelsnaam van Citrus Oil Products handeldrywend as Oro Agri SA (Pty) Ltd.

**24 UUR NOODGEVAL TEL. NO. +27(0)82-887-8079**

**TEGNIESE NAVRAE/INLIGTING TEL. NO. +27 (0)12 361-8112**