# Trillum®

Wettable Powder Fungicide

Reg. No. L 11032 Act No. 36 Of 1947 / Reg. Nr. L 11032 Wet Nr. 36 van 1947

**READ THE LABEL BEFORE USE**
**KEEP OUT OF REACH OF CHILDREN AND ANIMALS**

| Group/Groep | BM 02 | Fungicide/Swamdoder |
|---|---|---|

**A WETTABLE POWDER BIOLOGICAL FUNGICIDE FOR THE CONTROL AND SUPPRESSION OF *RHIZOCTONIA*, *FUSARIUM* AND *PYTHIUM* ON ALL CROPS LISTED, AS WELL AS ENHANCED PLANT GROWTH.**

**'N BENATBARE POEIER BIOLOGIESE SWAMDODER VIR DIE BEHEER EN ONDERDRUKKING VAN *RHIZOCTONIA*, *FUSARIUM* EN *PYTHIUM* OP GEWASSE SOOS AANGEDUI, DIT VERBETER OOK PLANTGROEI.**

**NOT CLASSIFIED AS HAZARDOUS IN TERMS OF GHS.**

**Active Ingredient / Aktiewe Bestanddeel:**
*Trichoderma asperellum*..... 2 x $10^9$ spores/g .....*Trichoderma asperellum*

**Net Content**
**1 kg**

PROTEIN DEFENSE

Chitinase Catalyst

SSF
Solid State Fermentation

**Registered, Marketed and Distributed by / Geregistreer, Bemark en Versprei deur:**
MBFi (PTY) LTD • Reg No.: 2015/165672/07 • No. 144 Avenue 2, Modder East Orchards, Delmas, 2210
Tel: +27 (0) 82 738 0080 • Email: orders@mbfi.co.za • Web: www.mbfi.co.za

IN CASE OF POISONING, CALL THE FOLLOWING EMERGENCY NUMBER / IN GEVAL VAN VERGIFTIGING, SKAKEL DIE VOLGENDE NOODNOMMER 082 446 8946 / 0861 555 777

Trillum® is a registered trademark of MBFi (PTY) LTD / Trillum® is 'n geregistreerde handelsmerk van MBFi (EDMS) BPK.

MBFi
Leaders in Science. Partners in Growth.

ZAR 004

**WARNINGS:**
**• GHS Hazard Statement:**

| Pictogram and Signal word | Hazard Statement |
|---|---|
| Not Classified as Hazardous | Not Classified as Hazardous |

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 active ingredient is a living organism its action and effect may be affected by factors such as abnormal climatic and storage conditions; quality of dilution water and compatibility with other substances not indicated on the label, as well as by the method, time and accuracy of application. Furthermore, the registration holder, 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 in the event of any uncertainty.

**PRECAUTIONS:**
**• GHS Precautionary Statements:**

| | |
|---|---|
| P102 | Keep out of reach of children. |
| P234 | Keep only in original packaging. |
| P261 | Avoid breathing dust. |
| P264 | Wash hands thoroughly with soap after handling. |
| P270 | Do not eat, drink or smoke when using this product. |
| P402<br>P404 | Store in a dry place. Store in a closed container. |

- Remember, the active ingredient in Trillum® WP is a living organism.
- Do not mix with other pesticides (especially broad spectrum fungicides).
- Do not mix in containers that have previously been used for fungicides.
- Wash containers well with soap and water and rinse thoroughly before use.
- Do not use after the product has passed its expiry date.
- Do not leave product standing in direct sun or in extreme heat.
- Once product has been mixed with water it should be used within 6 hours.
- The product is not soluble in water and should be stirred frequently during use to avoid settling out.
- Do not use under extreme weather conditions (especially temperatures above 35°C).
- Clean the empty bag as follows: Shake all of the product out of the bag into the spray or mixing tank. Turn the bag inside out. Hold the bag over the spray or mixing tank and rinse the bag with running water for thirty seconds. Shake the rinsate off into the tank. Repeat the rinsing twice. Do not bury, burn or donate the bag to any other parties that may use it as a container for foodstuffs. These bags cannot be recycled and must be incinerated by a licensed incineration facility.

**DIRECTIONS FOR USE:**

**Mixing:** Dilute at a rate of 25 g/100 L water. First mix the required amount of powder with a small amount of water. Once a thin paste has been formed the remaining water can be added while mixing thoroughly.

**Suppression:** Trillum® WP is a fungal inoculant containing *Trichoderma asperellum* which will provide season long suppression of soil borne root diseases, facilitating quality plant growth significantly in infected soil conditions.

**Drenching:** Apply as a drench to seedling trays, seed beds or field vegetables directly after planting as a preventative treatment. A top-up application can be done if deemed necessary.

**Seed treatment:** If an insecticide is being applied to the seed, then before the insecticide dries the Trillum® WP powder should be added and mixed thoroughly. In this way the insecticide helps the Trillum® WP stick to the seed. Alternatively, any suitable sticker can be used to make the seed sticky before adding the dry powder as above. On rough seed the Trillum® WP powder can be applied dry to the seed.

| Crop and Disease | Dosage | Remarks |
|---|---|---|
| Bean:<br>Dry Bean, Green Bean, Groundnut, Soybean<br><br>*Rhizoctonia* | 1 g/kg seed | Improves seed germination by up to 30%.<br><br>Apply as a seed treatment prior to planting. If applying rhizobium inoculant, then combine with this treatment.<br><br>Can also be applied on top of the insecticide seed treatment. Apply dry powder to the seed after the insecticide has been applied but before the insecticide dries completely. In this way the insecticide will help the Trillum® WP stick to the seed.<br><br>Trillum® WP can also be applied dry to the seed in the seed planter. |
| *Fusarium* | | Suppresses *Fusarium* and improves root development. |

| Crop and Disease | Dosage | Remarks |
|---|---|---|
| Field application for vegetables: Carrot, Cruciferae, Cucurbit, Lettuce, Onion, Pepper, Tomato, etc.<br><br>*Rhizoctonia* | 25 g/100 L (250-500 g/ha) | Improves seedling germination by up to 30%.<br><br>Apply as a soil drench with a min water volume of 1000 L/ha.<br><br>A total of 250-500 g of product should be applied/ha. Irrigate immediately after application to ensure Trillum® WP spores are washed into the root zone. Apply monthly or according to disease pressure. |
| *Fusarium* and *Pythium* spp. | | Suppresses *Fusarium* and *Pythium* spp. and improves root development. |
| Maize:<br><br>*Rhizoctonia* | 1 g/kg seed | Improves seed germination by up to 8%.<br><br>Apply as a seed treatment prior to planting.<br><br>Can be applied on top of the insecticide seed treatment. Apply dry powder to the seed after the insecticide has been applied but before the insecticide dries completely. In this way the insecticide will help the Trillum® WP stick to the seed.<br><br>If no insecticide treatment is being done, then the Trillum® WP can be applied together with any suitable sticker.<br><br>If the seed has been pre-treated with an insecticide, then the Trillum® WP can be added dry to the seed in the planter. |
| | 25 g/100 L (250-750 g/ha) | Where disease incidence is particularly severe, a combination of a seed treatment, plus follow-up application of 250-750 g/ha applied as a drench at 2-4 weeks after planting and again 8-10 weeks after planting can be used. Irrigate immediately after application to ensure the Trillum® WP spores are washed into the root zone. |
| *Fusarium* | | Suppresses *Fusarium* and improves root development. |
| Potato:<br><br>Stem canker and Black scurf<br><br>*Rhizoctonia* | 25 g/100 L (250-750 g/ha) | Apply as a spray over the top of the seed potatoes in the plant furrow immediately before closing the furrow.<br><br>This may either be done with a spray rig mounted on the planter or by knapsack sprayer when planting by hand.<br><br>An alternative method of treating is to dust the seed potatoes with Trillum® WP plus 4 kg of kaolin per hectare of seed. 500 g of Trillum® WP must be thoroughly mixed with 4 kg of kaolin. This mixture can then be dusted over the seed potatoes, as they are loaded into the planter.<br><br>Where *Rhizoctonia* incidence is particularly severe, a combination treatment of 500 g seed treatment plus a follow-up application of 250-750 g applied as an infurrow drench at 2-4 weeks after planting can be used. Irrigate immediately after application to ensure Trillum® WP spores are washed into the root zone. |
| Seedlings:<br>Cruciferae, Cucurbit, Tomato, Lettuce, etc.<br><br>Root rot<br>*Rhizoctonia* | 25 g/100 L (250-500 g/ha) | Improves seedling germination by up to 30%.<br><br>Apply as a soil drench with a min water volume of 1000 L/ha.<br><br>A total of 250-500 g of product should be applied/ha. Irrigate immediately after application to ensure Trillum® WP spores are washed into the root zone. Apply monthly or according to disease pressure. |
| *Fusarium* and *Pythium* spp. | | Suppresses *Fusarium* and *Pythium* spp. and improves root development. |

| Crop and Disease | Dosage | Remarks |
|---|---|---|
| Wheat:<br>Root development and improvement | 1 g/kg seed | Apply as a seed treatment prior to planting.<br><br>Can be applied on top of the insecticide seed treatment. Apply dry powder to the seed after the insecticide has been applied but before the insecticide dries completely. In this way the insecticide will help the Trillum® WP stick to the seed.<br><br>DO NOT apply together with a fungicide seed treatment.<br><br>If no insecticide treatment is being done, then the Trillum® WP can be applied together with any suitable sticker.<br><br>If the seed has been pre-treated with an insecticide or fungicide, then the Trillum® WP can be added dry to the seed. |
| | 25 g/100 L<br>(250-750 g/ha) | Where disease incidence is particularly severe, a combination of a seed treatment, plus follow-up application of 250-750 g/ha applied as a drench at 2-4 weeks after planting and again 8-10 weeks after planting can be used. Irrigate immediately after application to ensure the Trillum® WP spores are washed into the root zone.<br><br>If uncertain of product compatibility, please consult an MBFi representative. |
| *Fusarium* | | Suppresses *Fusarium* and improves root development. |

Approved by ECOCERT INPUTS

Product suitable for use in Organic Farming in accordance with EU Regulation No 2018/848 and 2021/1165 *and* NOP Regulation *and* JAS Regulation
Controlled by ECOCERT SAS

**WAARSKUWINGS:**
**• GHS-Gevaarstelling:**

| Piktogram en Seinwoord | Gevaarstelling |
|---|---|
| Nie Geklassifiseer as Gevaarlik nie | Nie Geklassifiseer as Gevaarlik nie |

Alhoewel hierdie middel aan uitgebreide toetse onder 'n verskeidenheid van toestande onderwerp is, kan die registrasiehouer nie waarborg dat dit effektief sal wees onder alle omstandighede nie. Omdat die aktiewe bestandeel 'n lewende organisme is kan die werking en effek beïnvloed word deur faktore soos abnormale weers-en-bergingstoestande, die kwaliteit van verdunningswater en die verenigbaarheid met ander stowwe nie aangedui op die etiket, nie sowel as deur die metode, tyd en akkuraatheid van toediening. Verder aanvaar die registrasiehouer ook nie verantwoordelikheid vir enige skade aan gewasse, plantegroei, die omgewing of die nadelige uitwerking op mens of dier nie, of vir die onvermoë van die betrokke middel om te presteer nie, as gevolg van die gebruiker se versuim om die etiket se aanwysings te volg of vir die voorkoms van toestande wat nie voorsien kon word in terme van die registrasie nie. Raadpleeg die verskaffer indien daar enige onsekerheid is.

**VOORSORGMAATREËLS:**
**• GHS-Voorsorgverklarings:**

| | |
|---|---|
| P102 | Hou buite bereik van kinders. |
| P234 | Hou slegs in oorspronklike verpakking. |
| P261 | Vermy inasemhaling van stof. |
| P264 | Na hantering van produk was hande met seep en water. |
| P270 | Moenie eet, drink of rook wanneer hierdie produk gebruik word nie. |
| P402<br>P404 | Berg in 'n droë plek. Berg in 'n geslote houer. |

- Onthou, die aktiewe bestanddeel in Trillum® WP is 'n lewende organisme.
- Moenie met ander plaagdoders meng nie (veral breë spektrum swamdoders).
- Moenie meng in houers wat voorheen gebruik is vir swamdoders nie.
- Was houers behoorlik met seep en water en spoel deeglik uit voor gebruik.
- Moenie die produk gebruik as die vervaldatum reeds versktryk het nie.
- Moenie die produk laat staan in direkte sonlig of in uitermatige hitte nie.
- Gebruik produk binne 6-ure vandat dit met water gemeng is.
- Hierdie produk is oplosbaar in water, maar moet gereeld geroer word tydens verbruik om 'n uniforme dosis te verseker.
- Moenie onder uitermatige weerstoestande gebruik nie (veral nie in temperature bo 35°C).
- Maak die leë sak soos volg skoon: Skud al die produk uit die sak in die spuit of mengtenk in. Dop die sak se binnekant na buite uit. Hou die sak oor die spuit of mengtenk en spoel die sak vir dertig sekondes met lopende water. Skud die spoelwater in die tenk af. Spoel nog twee keer. Moet nie die sak begrawe verbrand of aan enige ander partye skenk wat dit as houer vir voedsel mag gebruik nie. Hierdie sakke kan nie herwin en verwerk word nie hulle moet deur 'n gelisensieërde verbrandingsaanleg verbrand word.

**GEBRUIKSAANWYSINGS:**

**Vermenging:** Verdun teen 25 g/100 L water. Meng eers die vereiste hoeveelheid poeier met 'n klein hoeveelheid water. As 'n dun pasta of smeersel gevorm het kan die res van die water bygevoeg word terwyl deeglik gemeng word.

**Onderdrukking:** Trillum® WP is 'n swam-inokulant wat *Trichoderma asperellum* bevat wat seisoenlange onderdrukking van grondgedraagde wortelsiektes sal verskaf, wat kwaliteit plantgroei aansienlik in besmette grondtoestande sal vergemaklik.

**Deurdrenk:** Gebruik as algehele toediening op saailingskinkborde, saadbeddings of veldgroentes direk na aanplanting as 'n voorkomende behandeling. Dit kan aangevul word met 'n tweede toediening indien nodig.

**Saadbehandeling:** As 'n insekdoder toegedien word aan die saad, moet die Trillum® WP poeier bygevoeg en deeglik gemeng word voordat die insekdoder droog word. Sodoende help die insekdoder die Trillum® WP om aan die saad vas te kleef. Alternatiewelik kan enige ander geskikte kleefmiddel gebruik word om die saad taai te maak voordat die poeier aangewend word soos bo aanbeveel. Op rowwe saad kan die Trillum® WP poeier droog aangewend word.

| Gewas en Siekte | Dosis | Opmerkings |
|---|---|---|
| Aartappel:<br><br>Stam kanker en Swartskurf<br><br>*Rhizoctonia* | 25 g/100 L<br>(250-750 g/ha) | Dien toe as 'n spuitmiddel bo-oor die ontkiemde aartappels (of aartappelsaad) in die plantvoor onmiddelik voordat die voor toegemaak word.<br><br>Dit kan of gedoen word met 'n spuitkop op die planter of met 'n rugsakspuit wanneer daar met die hand geplant word.<br><br>'n Alternatiewe manier van behandeling is om die ontkiemde aartappels (of aartappelsaad) met Trillum® WP plus 4 kg kaolien per hektaar saad te besprinkel. 500 g Trillum® WP moet deeglik gemeng word met 4 kg kaolien. Hierdie mengsel kan oor die ontkiemde aartappels (of aartappelsaad) gesprinkel word soos wat dit gelaai word in die planter.<br><br>Waar die voorkoms van *Rhizoctonia* besonder ernstig is, kan 'n kombinasie behandeling van 500 g saadbehandeling plus 'n opvolg toediening van 250-750 g/ha as 'n deurdrenking by 2-4 weke na plant kan gebruik word. Besproei onmiddelik na toediening om te verseker dat Trillum® WP spore binne in die wortelarea intrek. |

| Gewas en Siekte | Dosis | Opmerkings |
|---|---|---|
| Boon:<br>Droëboon, Groenboon, Grondboon, Sojaboon<br><br>*Rhizoctonia* | 1 g/kg saad | Bevorder saadontkieming met tot 30%.<br><br>Dien toe as ’n saadbehandeling voor aanplanting. As rhizobium inenting toegedien word, kombineer met hierdie behandeling.<br><br>Kan ook bo-oor die insekdodersaadbehandeling toegedien word. Dien droë poeier toe aan die saad nadat die insekdoder toegedien is, maar voordat die insekdoder heeltemal droog is. Op hierdie manier sal die insekdoder die Trillum® WP help om aan die saad vas te kleef.<br><br>Trillum® WP kan ook droog toegedien word aan die saad in die saadplanter. |
| *Fusarium* | | Onderdruk *Fusarium* en bevorder wortelontwikkeling. |
| Koring:<br>Wortel ontwikkeling en bevordering | 1 g/kg seed | Dien toe as 'n saadbehandeling voor plant.<br><br>Kan bo-op die insekdoder saadbehandeling toegedien word. Dien droë poeier toe op die saad nadat die insekdoder toegedien is, maar voordat die insekdoder heeltemal droog word. Op hierdie manier sal die insekdoder die Trillum® WP help om aan die saad vas te kleef.<br><br>MOET NIE saam met 'n swamdodersaadbehandeling toedien nie.<br><br>As geen insekdoder behandeling gedoen word nie kan die Trillum® WP saam met enige ander geskikte kleefmiddel toegedien word.<br><br>As die saad vooraf met 'n insekdoder of swamdoder behandel is, kan die Trillum® WP droog by die saad gevoeg word. |
| | 25 g/100 L<br>(250-750 g/ha) | Waar die voorkoms van die siekte besonder ernstig is, kan ‘n kombinasie behandeling van ‘n saadbehandeling plus ‘n opvolg toediening van 250-750 g/ha as ’n deurdrenking by 2-4 weke na plant en weer by 8-10 weke na plant kan gebruik word. Besproei onmiddelik na toediening om te verseker dat Trillum® WP spore binne in die wortelarea intrek.<br><br>Indien onseker oor produkversoenbaarheid, raadpleeg asseblief 'n MBFi-verteenwoordiger. |
| *Fusarium* | | Onderdruk *Fusarium* en bevorder wortelontwikkeling. |
| Mielies:<br><br>*Rhizoctonia* | 1 g/kg seed | Bevorder saad ontkieming met tot 8%.<br><br>Dien toe as ‘n saadbehandeling voor aanplanting.<br><br>Kan toegedien word bo-oor die insekdoder saadbehandeling. Dien droë poeier toe aan die saad nadat die insekdoder toegedien is, maar voordat die insekdoder heeltemal droog is. Sodoende sal die insekdoder die Trillum® WP help om aan die saad vas te kleef.<br><br>As geen insekdoder behandeling gedoen word nie kan die Trillum® WP saam met enige ander geskikte kleefmiddel toegedien word.<br><br>As die saad vooraf behandel is met ‘n insekdoder kan die Trillum® WP droog gevoeg word by die saad in die planter. |
| | 25 g/100 L<br>(250-750 g/ha) | Waar die voorkoms van die siekte besonder ernstig is, kan ‘n kombinasie behandeling van ‘n saadbehandeling plus ‘n opvolg toediening van 250-750 g/ha as ’n deurdrenking by 2-4 weke na plant en weer by 8-10 weke na plant kan gebruik word. Besproei onmiddelik na toediening om te verseker dat Trillum® WP spore binne in die wortelarea intrek. |
| *Fusarium* | | Onderdruk *Fusarium* en bevorder wortelontwikkeling. |
| Saailinge:<br>Blaarslaai, Koolgewasse, Pampoengewasse, Tamatie, ens.<br><br>*Wortelvrot*<br>*Rhizoctonia* | 25 g/100 L<br>(250-500 g/ha) | Bevorder saailing ontkieming met tot 30%.<br><br>Dien toe as ’n algehele grondtoediening met ‘n min water volume van 1000 L/ha.<br><br>'n Totaal van 250-500 g produk moet/ha toegedien word. Besproei onmiddellik na toediening om te verseker dat Trillum® WP spore in die wortelsone gewas word. Dien maandeliks toe of volgens siektedruk. |
| *Fusarium* & *Pythium* spp. | | Onderdruk *Fusarium* en *Pythium* spp. en bevorder wortelontwikkeling. |

| Gewas en Siekte | Dosis | Opmerkings |
|---|---|---|
| Veldaanwending vir groentes: Blaarslaai, Koolgewasse, Pampoengewasse, Tamatie, Uie, Wortel, ens.<br><br>*Rhizoctonia* | 25 g/100 L<br>(250-500 g/ha) | Bevorder saailing ontkieming met tot 30%.<br><br>Dien toe as 'n algehele grondtoediening met 'n min water volume van 1000 L/ha.<br><br>'n Totaal van 250-500 g produk behoort toegedien te word/ha. Besproei onmiddelik na toediening om te verseker dat Trillum® WPspore binne in die wortelarea intrek. Dien maandeliks toe of volgens die voorkoms van die siekte. |
| *Fusarium* & *Pythium* spp. | | Onderdruk *Fusarium* en *Pythium* spp. en bevorder wortelontwikkeling. |

Approved by ECOCERT INPUTS

Produk goedgekeur vir die gebruik in Organiese Boerdery volgens EC Regulasies Nr 2018/848
en 2021/1165 *en* NOP Regulasie *en* JAS Regulasie
Gekontrolleer deur ECOCERT SAS