



CROP GUARD®

NATURAL PRODUCT OF SUGARCANE



REGISTRATION NO. L 6864 Act No. 36 of 1947 REGISTRASIE NR. L 6864 Wer Nr. 36 of 1947

A CONTACT EMULSIFIABLE CONCENTRATE NEMATICIDE FOR THE CONTROL OF NEMATODES ON CROPS AS INDICATED

‘N KONTAK EMULGEERBARE KONSENTRAAT NEMATODEDODER (AALWURMDODER) VIR DIE BEHEER VAN NEMATODES OP GEWASSE SOOS AANGEDUI

Active Ingredient: *Furfural (aldehyde) 900 g/l*
Aktiewe Bestanddeel: *Furfural (aldehyd) 900 g/l*

20e

UN NUMBER. 1199 (FURALDEHYDES)

**EMERGENCY TEL:
ENVIROSERV HAZMAT SERVICES
0800 147 112**

REGISTERED AND FORMULATED BY:
GEREGISTREER EN GEFORMULEER DEUR:

ILLOVO SUGAR LIMITED
Co. Reg. No. 1906/000622/06
Mpy. Reg. Nr. 1906/000622/06

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PO BOX 194, DURBAN, 4000
POSBUS 194, DURBAN, 4000



**GIFTIG
TOXIC**



WARNINGS

- Withholding period:
- Allow 43 days between application and harvest of citrus.
- Allow 42 days between application and harvest of lettuce.
- Allow 41 days between application and harvest of onions.
- Allow 14 days between last application and harvest of potatoes.
- Do not graze treated groundnut fields within 28 days of application.
- Handle with extreme care.
- Poisonous when swallowed or inhaled.
- Irritating to eyes and respiratory system.
- Harmful to skin.
- Store under lock and key in a cool dry place away from food and feedstuffs.
- Toxic to fish and other animals.
- Flammable - do not store near open flame.
- Keep out of reach of children, uninformed persons and animals.
- In case of poisoning take patient to a doctor and make this label available to him/her.

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 effected 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 pest to the remedy concerned as well as by the method, time and accuracy of application.

Irrespective of treatment rate, the persistency and nematocidal activity of this remedy is strongly influenced by factors beyond the manufacturer's control, such as mono cropping, rotation with nematode susceptible crops, soil type and the amount of irrigation or rainfall and some nematode damage must be expected. When high infestations are present producers should not expect an absolutely clean crop and severe losses can occur. If abnormal cultural practices are followed, e.g. continuous planting of susceptible crops on the same land, or where high nematode levels are present, the use of **Crop Guard®** is not recommended. The Registration holder furthermore does not accept responsibility for damage to crops, vegetation, and the environment or harm to man or animals or for the 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 registration. Consult the supplier in the event of any uncertainty.

PRECAUTIONS

- Do not inhale spray mist and prevent contact with skin and eyes.
- Wash contaminated clothing daily.
- Wash with soap and cold water after application or accidental skin contact.
- Do not eat, drink or smoke during application or before washing hands and face.
- Avoid drift of spray mist onto other crops, grazing, rivers, dams, and areas not under treatment.
- Clean applicator after use and dispose of wash water where it will not contaminate crops, grazing, rivers or dams.
- Triple rinse empty containers with a volume of water equal to at least one tenth that of the container size and add the rinsing to the contents of the spray tank before disposing of the container in the prescribed manner.
- Destroy empty containers by perforation and flattening, and never use for any other purpose.
- Prevent contamination of foodstuffs; drinking water and eating utensils.

SYMPTOMS OF HUMAN POISONING

- Ingestion: sore throat, abdominal pain, vomiting
- Skin: redness, pain, burn
- Eyes: redness, pain, blurred vision
- Inhalation: sore throat, coughing, shortness of breath, laboured breathing

FIRST AID TREATMENT

- Remove patient from source of poisoning to a well-ventilated area and keep him/her quiet and reassured. Remove contaminated clothing and rinse contaminated body area thoroughly with copious quantities of water and soap. In case of contact with eyes rinse immediately with plenty of clean water and seek medical advice.

NOTE TO PHYSICIAN

- Treat symptomatically and supportive.

DIRECTIONS FOR USE

- Use only as directed.

PRODUCT PROPERTIES AND USE-RESTRICTIONS

- **Crop Guard®** is a contact nematicide and is not systemic and will therefore not penetrate the plant. Nematodes that have entered the roots of the plants will not be controlled by **Crop Guard®** applications. Only nematodes in the soil around the roots will be controlled.
- Do not use **Crop Guard®** on soils with a high clay content.
- Field must be irrigated to field capacity before application of the product. It is important to incorporate **Crop Guard®** through ploughing, discing, rotavating and/or irrigation into the root zone that needs to be protected.
- On soilborne tuber and roots crops it is advised that the soil is initially fumigated with a registered soil sterilant before **Crop Guard®** application.
- All old plant material must be removed from the field prior to product application.
- If any old tuber/root material is present, the soil must be treated with a soil fumigant.
- Does not control *Meloidogyne chitwoodi* or cyst nematode.

COMPATIBILITY

- **Crop Guard®** is compatible with acetochlor (EC) and imazethapyr containing non-incorporated pre-emergent herbicides used on ground nuts.

Crop Guard® is not compatible with the following materials:

- Fibreglass
- PVC
- Rubber
- Soft elastomers (elastic synthetic rubber components)

MIXING INSTRUCTIONS AND APPLICATION

- Half fill the spray tank with clean water and commence agitation.
- Slowly add the recommended amount of **Crop Guard®** to the spray tank containing the water whilst continuing agitation and then fill the spray tank with the required volume of water.
- Application should be carried out during a windless time of the day, immediately after mixing but certainly within one hour of mixing.
- Do not allow spray mixture in tank to stand without agitation.
- After application thoroughly rinse the spray tank with water.

CROP/PEST	DOSAGE RATE	REMARKS
Groundnuts Under irrigation Plant parasitic nematodes	At plant: Overall application 50 <i>l</i> /ha Crop Guard® in at least 350 <i>l</i> /ha water or 25 <i>l</i> /ha Crop Guard® in at least 350 <i>l</i> /ha water at plant followed by an additional 25 <i>l</i> /ha Crop Guard® in 350 <i>l</i> /ha water 4 weeks after plant Follow up application: 25 <i>l</i> /ha Crop Guard® in at least 350 <i>l</i> /ha water every 4 weeks throughout the season	Overall application • Apply to a well-prepared, fine seedbed immediately before first irrigation. • Incorporate Crop Guard® into the top 10 cm of soil. • In fields with a history of excessively high peanut pod nematode infestation or where poor grade kernel were harvested repeatedly for reasons other than black pod rot infection, an application of Crop Guard® or other registered pre plant nematicides can be followed by a supplementary application of Crop Guard® every 4 weeks. • In high nematode infested areas, the higher dosage rate of 50 <i>l</i> /ha Crop Guard® must be used. Note: • Refer to 'Compatibility' and 'Product Properties and use-restrictions'.
Tomatoes Plant parasitic nematodes Chillies, Peppers, Paprika Plant parasitic nematodes Ornamentals Flowers only Plant parasitic nematodes	At plant: Overall application: 75 <i>l</i> /ha Crop Guard® in at least 600 <i>l</i> /ha water or 75 <i>l</i> /ha Crop Guard® split into an application of 50 <i>l</i> /ha Crop Guard® in at least 600 <i>l</i> /ha water 48 h before planting followed by 25 <i>l</i> /ha Crop Guard® in at least 600 <i>l</i> /ha water 4 weeks after planting Post plant: Supplementary overall application: 25 <i>l</i> /ha Crop Guard® in at least 600 <i>l</i> /ha water 4 weeks after planting Dripper irrigation application: 750 ml/100 m row or 750 ml/100 m row Crop Guard® split into an application of 500 ml/100 m row Crop Guard® 48 h before planting followed by 250 ml/100 m row Crop Guard® 4 weeks after planting Post plant: Supplementary application: 250 ml/100 m row Crop Guard® 4 weeks after planting	Medium and low nematode infestation: • Apply 48 h before plant to a well-prepared field irrigated to 70% of field capacity. • Ridge, transplant and irrigate. On fields with a history of high nematode infestations: • Fumigate the field initially with a registered soil fumigant and then follow with a supplementary application of Crop Guard® at the rate indicated. Re-infestation: • If re-infestation of nematodes is experienced during the season a supplementary soil application of Crop Guard® can be applied at the rate indicated. Notes: • Crop Guard® must be irrigated into the soil with a minimum of 10 mm water immediately after application. • Apply Crop Guard® as a directed spray to the soil and do not apply over plants when they are bearing fruit. • Prepare a pre-mix mixture of not more than 10 % in a pressure tank prior to dosing. Apply the mixture through dosing in the dripper irrigation system to a well-prepared field. Note: • Crop Guard® must be irrigated into the soil with a minimum of 10 mm water immediately after application. • Refer to 'Compatibility' and 'Product Properties and use-restrictions'.

Maize Under irrigation Plant parasitic nematodes	At plant: a) Overall application: 25 L/ha Crop Guard[®] in at least 350 L/ha water b) Row application: 250 mL Crop Guard[®] per 100 m row. Apply to a 50 cm wide band over the row. It is recommended that at least 350 L/ha water is used 1. Centre Pivot application: 25 L/ha Crop Guard[®]	- Planting may commence directly following product application but preferably within three days after product application. - Irrigate within 24 hours after application with at least 10 mm of water to ensure proper incorporation. or - Apply Crop Guard[®] to a well-prepared field irrigated to 70% field capacity with at least 10 mm of water - Incorporate the Crop Guard[®] into the soil to a depth of 10 cm using an appropriate implement. - Irrigate with at least 10 mm of water after application. - Planting may commence directly following application but preferably within three days after application. - Plant in a well-prepared seedbed. - Prepare a 10 % mixture (10 L Crop Guard[®] in 100 L water) in the mixing tank. See notes regarding flowmeter. - Irrigate with at least 10 mm of water within 24 hours of product application. Notes: - Ensure even coverage through the pivot irrigation system. Use a glass flow meter to ensure accurate application and even distribution. - Refer to 'Compatibility' and 'Product Properties and use restrictions'.
Turf Plant parasitic nematodes	Initial application: 7.5 mL/m^2 Crop Guard[®] in 143 mL/m^2 water (150mL/m^2 total volume) 75 L/ha Crop Guard[®] in 1425 L/ha water (1500 L/ha mixture) Maintenance application: 2.5 mL/m^2 Crop Guard[®] in 50 mL/m^2 water (52.5 mL/m^2 mixture) 25 L/ha Crop Guard[®] in 475 L/ha water (500 L/ha mixture)	- Initial application at the start of the season or at high nematode pressure. - Apply the mixture as a full cover coarse spray on actively growing turf irrigated to 70% field capacity. - Irrigate with 10 mm of water within 15 minutes after application. • For severely stressed turf only use the maintenance rate - Maintenance applications at 4 week intervals if necessary. Season (spring and summer) length application is advisable to minimise nematode infestations - Apply the mixture as a full cover coarse spray on turf irrigated to field capacity. - Irrigate with 10 mm of water within 15 minutes after application. Notes: - The area to be treated must be accurately determined and the dosage rate calculated based on this area. - The shoot length must be less than 20 mm. - Application must be undertaken during a cool period of the day preferably in the early morning. - Sandy soils should be irrigated with 5 mm of water within 15 minutes after application. - Under high infestation revert to the 75 L/ha dosage rate. • For severely stressed turf only use the maintenance rate. - Refer to 'Compatibility' and 'Product Properties and use restrictions'.

Onions Plant parasitic nematodes	At plant: Overall application: 25 l/ha Crop Guard [®] in at least 350 l/ha water Follow-up application: 25 l/ha Crop Guard [®] in 350 l/ha water 4 weeks after the first application	Overall Application ● Apply to a well-prepared field irrigated to 70% field capacity. ● Incorporate mechanically to a depth of 10 cm. ● Irrigate with 10 mm of water directly after application. ● Plant into the treated seedbed within 24 hours of application. Centre pivot application ● Plant into a well-prepared seedbed. ● Apply through the pivot irrigation system with the first irrigation after plant within at least 24 hours. ● Irrigate with a minimum of 10 mm water within at least 24 hours. ● Ensure even coverage through the pivot irrigation system. Notes: ● Refer to 'Compatibility' and 'Product Properties and use restrictions'.
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Sugarcane Plant parasitic nematodes	Irrigated Cane Plant cane/Ratoon cane Row application 500 mL Crop Guard® in 5 L of water in a band 50 cm wide per 100 m plant row Follow-up application: (Optional – Refer Notes) 250 mL Crop Guard® in 5 L of water in a band 50cm wide per 100 m plant row, 4 weeks after the first application Rainfed cane Plant cane Row application 500 mL Crop Guard® in 5 L of water in a band 50 cm wide per 100 m plant row	Irrigated cane ● Apply in/over the furrow before plant to a well prepared land, irrigated to field capacity. ● Seal or incorporate to a depth of 20 cm. ● Irrigate with 10 mm of water directly after application. or ● Apply over the ratoon as a row application to land irrigated to field capacity ● Irrigate with 10 mm of water directly after application. Rain fed cane ● Apply over/in the furrow before plant to a well prepared land of high moisture content ● Seal or incorporate to a depth of 20 cm Notes ● Follow-up applications may be applied at 4 week intervals anytime during the season in instances of high nematode pressure. ● High moisture content of the soil is important for good efficacy under rainfed conditions. ● Do not use on rainfed ratoon cane. ● Refer to 'Compatibility' and 'Product Properties and use restrictions'.
Potatoes Potatoes cultivated under irrigation only Plant parasitic nematodes	At plant: Overall application: 25 L/ha Crop Guard® in at least 250 L/ha water Row application: 250 mL Crop Guard® / 100m row in at least 2.5 L of water Follow up application: 25 L/ha of Crop Guard® in at least 250 L/ha of water every 2 weeks throughout the season Row application: 250 mL Crop Guard® / 100m row in at least 2.5 L of water every 2 weeks throughout the season	Overall Application ● Apply to a well-prepared field irrigated to 70% field capacity ● Incorporate to a depth of 20 cm. ● Plant and ridge. ● Irrigate with a minimum of 10 mm of water. Centre pivot application ● Apply through the pivot irrigation system to a well-prepared field at a rate that evenly covers the area that is to be treated and to a depth of at least 20 cm by monitoring the irrigation water depth. Notes: ● On fields with a history of excessively high nematode populations the soil should initially be fumigated with a registered soil sterilant and then followed with a supplementary application of Crop Guard®. ● Crop Guard® is a contact nematicide. To prevent re infestation from endoparasitic nematodes, application of a systemic nematicide at plant is recommended. ● Refer to 'Compatibility' and 'Product Properties and use restrictions'. Planting clean seed: ● Healthy seed tubers, of uniform maturity, should be planted ● Plant only certified nematode-free potato seed

Carrots Plant parasitic nematodes	At plant: Overall application: 25 g/ha Crop Guard® in at least 350 g/ha water Follow-up application: 25 g/ha Crop Guard® in at least 350 g/ha water 2-3 weeks after the first application	Overall Application ● Apply to a well-prepared field irrigated to 70% field capacity. ● Follow the application immediately with a minimum of 10 mm of water. or ● Incorporate mechanically to a depth of 10 cm immediately after application and then irrigate with a minimum of 5 mm of water. ● Sow into the treated seedbed within 24 hours of application. Centre pivot application ● Plant into a well-prepared seedbed. ● Apply through the pivot irrigation system with the first irrigation after plant in a minimum of 10 mm of water. ● Ensure even coverage through the pivot irrigation system. Notes: ● On fields with a history of excessively high nematode populations the soil should initially be fumigated with a registered soil sterilant and then followed with supplementary applications of Crop Guard®. ● For season length protection follow-up applications of 25 g/ha at 2-3 week intervals are recommended. Should there be high nematode pressure, the field has a history of high nematode infestation or the field contains some plant material (roots) from the previous season the 2 week interval should be used. ● Refer to 'Compatibility' and 'Product Properties and use restrictions'.
Lettuce Plant parasitic nematodes	At plant: Overall application: 25 g/ha Crop Guard® in at least 350 g/ha water Follow-up application: 25 g/ha Crop Guard® in at least 350 g/ha water 2 weeks after the first application	Overall application ● Apply to a well-prepared field irrigated to 70% field capacity. ● Follow the application immediately with a minimum of 10 mm of water. or ● Incorporate to a depth of 10 cm immediately after application and then irrigate with a minimum of 5 mm of water. ● Sow into the treated seedbed within 48 hours of application. Centre pivot application ● Plant into a well prepared a fine seedbed. ● Apply through the pivot irrigation system 48 hours before planting in a minimum of 10 mm of water. ● Ensure even coverage through the pivot irrigation system. Notes: ● Field must be irrigated to 70% field capacity before application of the product. ● Refer to 'Compatibility' and 'Product Properties and use restrictions'.

Citrus Plant parasitic nematodes	1 application of 7.5m^l/m² followed by 2 applications of 2.5m^l/m² at 2 to 3 week intervals	Overall application or Drip/Micro-jet application • Make up a 10% Crop Guard[®] solution with water, prior to application of product • Apply to a field irrigated to at least 70% field capacity. • Follow the applications immediately with a minimum of 10 mm of water. Area to be treated (number of m²) • Treat the tree basin, under the tree canopy for an overall surface spray or the area covered by the drip or micro-irrigation system if applied through these. Notes: • Applications must be undertaken during the spring and autumn root flush periods • In instances of high nematode infestation, use an alternative nematicide and follow up with Crop Guard[®]. • When Crop Guard[®] is applied through the irrigation system, it will only control nematodes present in the area reached by the dripper or micro-jet. • Refer to 'Compatibility' and 'Product Properties'
Tobacco Plant parasitic nematodes	At plant: Overall application: 50 l/ha Crop Guard[®] in at least 500 l of water Follow-up application: 25 l/ha Crop Guard[®] in at least 500 l of water 2 to 3 weeks after the first application	Ground application • Apply to a well-prepared field irrigated to 70% field capacity. • Follow the applications immediately with a minimum of 10 mm of water. or • Incorporate to a depth of 10 cm immediately after application and then irrigate with a minimum of 5 mm of water. • Plant into the treated seedbed 48 hours of application. Notes: • Field must be irrigated to 70% field capacity before application of Crop Guard[®]. • To follow-up applications of 25 l/ha Crop Guard[®] at 2 to 3 week intervals are recommended. Should there be high nematode pressure, or where the field has a history of high nematode infestation or the field contains some plant material (roots) from the previous season the 2 week interval should be used. • In instances of high nematode infestation, the field should be fumigated with a registered fumigant prior to application of Crop Guard[®]. Any susceptible rotational crop planted after tobacco must be protected against nematodes. • Plant only nematode-free seedlings. • Refer to 'Compatibility' and 'Product Properties and Use-restrictions'.

Vines Plant parasitic nematodes (Eelworms)	1 application of 5.0ml/m² followed by 2 applications of 2.5ml/m² at 2 to 3 week intervals	Overall application or Drip/Micro-jet application • Make up a 10% Crop Guard® solution with water, prior to application of product • Apply to a field irrigated to at least 70% field capacity. • Follow the applications immediately with a minimum of 10 mm of water. Area to be treated (number of m²) • Treat the tree basin, under the tree canopy for an overall surface spray or the area covered by the drip or micro-irrigation system if applied through these. Notes: • Applications must be undertaken during the spring and autumn root flush periods • In instances of high nematode infestation, a further application can be made during the 3rd root flush period. • When Crop Guard® is applied through the irrigation system, it will only control nematodes present in the area reached by the dripper or micro-jet. • Refer to 'Compatibility' and 'Product Properties'.
Stone fruit Plant parasitic nematodes (Eelworms)	1 application of 5.0ml/m² followed by 2 applications of 2.5ml/m² at 2 to 3 week intervals	Overall application or Drip/Micro-jet application • Make up a 10% Crop Guard® solution with water, prior to application of product • Apply to a field irrigated to at least 70% field capacity. • Follow the applications immediately with a minimum of 10 mm of water. Area to be treated (number of m²) • Treat the tree basin, under the tree canopy for an overall surface spray or the area covered by the drip or micro-irrigation system if applied through these. Notes: • Applications must be undertaken during the spring and autumn root flush periods • In instances of high nematode infestation, a further application can be made during the 3rd root flush period. • When Crop Guard™ is applied through the irrigation system, it will only control nematodes present in the area reached by the dripper or micro-jet. • Refer to 'Compatibility' and 'Product Properties'.

Apples Plant parasitic nematodes (Eelworms)	1 application of 5.0ml/m² followed by 2 applications of 2.5ml/m² at 2 to 3 week intervals	Overall application or Drip/Micro-jet application • Make up a 10% Crop Guard® solution with water, prior to application of product • Apply to a field irrigated to at least 70% field capacity. • Follow the applications immediately with a minimum of 10 mm of water. Area to be treated (number of m²) • Treat the tree basin, under the tree canopy for an overall surface spray or the area covered by the drip or micro-irrigation system if applied through these. Notes: • Applications must be undertaken during the spring and autumn root flush periods • In instances of high nematode infestation, a further application can be made during the 3rd root flush period. • When Crop Guard® is applied through the irrigation system, it will only control nematodes present in the area reached by the dripper or micro-jet. • Refer to 'Compatibility' and 'Product Properties'.
Hops Plant parasitic nematodes (Eelworms)	1 application of 5.0ml/m² followed by 2 applications of 2.5ml/m² at 2 to 3 week intervals	Overall application or Drip/Micro-jet application • Make up a 10% Crop Guard® solution with water, prior to application of product • Apply to a field irrigated to at least 70% field capacity. • Follow the applications immediately with a minimum of 10 mm of water. Area to be treated (number of m²) • Treat the tree basin, under the tree canopy for an overall surface spray or the area covered by the drip or micro-irrigation system if applied through these. Notes: • Applications must be undertaken during the spring and autumn root flush periods • In instances of high nematode infestation, a further application can be made during the 3rd root flush period. • When Crop Guard™ is applied through the irrigation system, it will only control nematodes present in the area reached by the dripper or micro-jet. • Refer to 'Compatibility' and 'Product Properties'.