



Dow AgroSciences

# TRACER™ 480 SC

**INSECTICIDE**

**REG. NO. L6557 ACT No. 36 of 1947 / WET Nr. 36 van 1947  
W130090  
N-AR 1040**

<b>A SUSPENSION CONCENTRATE CONTACT AND STOMACH INSECTICIDE FOR THE CONTROL OF INSECTS ON AGRICULTURAL CROPS AS LISTED.</b>	<b>'N SUSPENSIEKONSENTRAAT KONTAK- EN MAAGINSEKDODER VIR DIE BEHEER VAN INSEKPLAE IN LANDBOUGEWASSE SOOS AANGEDUI.</b>
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**IRAC: INSECTICIDE GROUP CODE 5A IRAK: INSEKDODER GROEP KODE**

### Active Ingredient/Aktiewe Bestanddeel

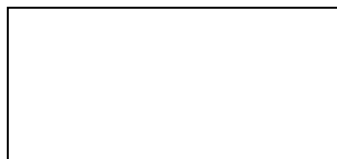
Spinosad (Naturalyte) ..... 480 g/l ..... Spinosad (Naturaliet)

Net volume ..... l ..... Netto volume

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

™Trademark of/Handelsmerk van Dow AgroSciences

Batch No. ....



..... Lot Nr.

Date of Manufacture .....

... Datum van Vervaardiging

UN NO: 3082

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

TRACER™ 480 SC/2017-03-29



## WARNINGS

### Withholding period - Minimum number of days between last application and harvest:

Apples .....	30 days
Blue berries .....	3 days
Black berries .....	3 days
Boysenberries .....	3 days
Cabbages .....	3 days
Citrus .....	14 days
Cherries .....	14 days
Chives .....	7 days
Cucurbits .....	7 days
Greenbeans .....	7 days
Gooseberries .....	3 days
Leeks .....	7 days
Lettuce .....	7 days
Nectarines .....	7 days
Peas .....	1 day
Pears .....	14 days
Peaches .....	21 days
Persimmon .....	21 days
Plums .....	21 days
Potatoes .....	7 days
Raspberries .....	3 days
Spinach .....	7 days
Strawberries .....	1 day
Table Grapes .....	28 days
Tomatoes .....	3 days
Onions .....	7 days

**NOTE:** Compliance with these withholding periods will ensure that residues do not exceed local Maximum Residue Limits. However, the import tolerances of other countries may differ and local residue limits and withholding periods may possibly not comply with those of other countries. If the crop to be treated is intended for export, consult the relevant importer or exporting body regarding the use of this product, Maximum Residue Limits and recommended withholding periods.

- Handle with care.
- May cause slight eye irritation.
- This product is moderately toxic to fish and toxic to aquatic invertebrates. Do not apply directly to open water.
- Beneficial Insects:
  - “Moderately Toxic to Bees”
    - ❖ This product is toxic to bees when exposed to direct spray, or sprayed flowering crops, before spray deposit is dry.
    - ❖ Do not apply directly to foraging bees, or bee colonies.
    - ❖ Apply only at night when crop is flowering or other foraging vegetation is within 500 m from the spraying area.

- ❖ Allow at least 3 hours between application and foraging period of bees.

Co-ordinate in this regard with neighbours, beekeepers and local extension services when applying in the vicinity of crops in flower. There is minimal effect on bees after the spray has dried.

“Harmful to Parasitoids”

“Harmless to Predatory Mites”

“Slightly Harmful to Coccinellidae”

“Slightly Harmful to Neuroptera”

Citrus beneficial insects:

*Chilochorus nigritus* – Slightly harmful

*Aphytis lingnanensis* – Harmful

*Coccidoxenoides peregrinus* – Very harmful

*Trichogrammatoidea cryptophlebiae* – Slightly harmful

*Euseius citri* – Slightly harmful.

\* It must be remembered that **TRACER™ 480 SC** does not have a long persistence in the field and therefore the effect on the beneficial insects should be of short duration.

- Store in a cool and dry place, away from food and feedstuffs.
- Keep out of reach of children, uninformed persons and animals.

**Re-entry interval:** Do not enter treated area until spray deposit has dried unless wearing protective clothing.

**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 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 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 use 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

Store in original labeled container only.

Avoid inhalation of spray mist.

Wash with soap and water after use or accidental skin contact.

Wear gloves and face shield when handling concentrate and faceshield when applying.

Avoid contamination of skin and eyes. In case of accidental contact with eyes, wash with running water for at least 15 minutes. Get medical attention if irritation persists.

Do not eat, drink or smoke whilst mixing or applying.

Wash hands and face before eating, drinking, smoking or using the toilet

Avoid spray drift onto adjacent crops, grazing, rivers, dams and areas not under treatment.

Clean applicators before using for other remedies and dispose of wash water where it will not contaminate crops, grazing, rivers, dams and water sources.

Triple rinse empty container in the following manner: Invert the empty container over spray or mixing tank and allow to drain for at least 30 seconds after the flow has slowed down to a drip. Thereafter rinse empty container three times with a volume of water equal to a minimum of 10 % of that of the container. Add the rinsings to the contents of the spray tank before destroying the container by perforation, flattening and burying and do not use for any other purpose.

Prevent contamination of food, feedstuffs, drinking water and eating utensils by handling, storage or disposal.

### **Insecticide Resistance Management (IRM)**

The classification scheme of insecticides are based on “mode of action” **TRACER™ 480 SC** is classified as a spinosyn (subgroup 5) insecticide.

Any insect population may contain individuals naturally resistant to **TRACER™ 480 SC** and other spinosyns. The resistant individuals will eventually dominate the insect population if these insecticides are used repeatedly over long periods or to consecutive generations. **TRACER™ 480 SC** or other spinosyn insecticides may not control these resistant insects. Local experts should be consulted for resistance strategies and specific recommendations. It is recognised that resistance of insects and mites to insecticides and acaricides can also result from enhanced metabolism, reduced penetration or behavioural changes that are not linked to any site of action classification but are specific for individual chemicals or chemical groupings. Despite this, alternation of compounds from different chemical classes remains a viable anti-resistance management technique.

To delay insecticide resistance

- Avoid the exclusive repeated use of insecticides from the same chemical subgroup.
- Do not use less than recommended label rates of any insecticides.
- Target applications preferably against early instar larvae and eggs of the pest whenever possible.
- Include proven cultural and biological control practices within an Integrated Pest Management Programme.

## **Integrated Pest Management (IPM) Programme:**

**TRACER™ 480 SC** can be recommended for IPM programmes in various crops. **TRACER™ 480 SC** should be applied when field scouting indicates target pest densities have reached the economic threshold. Other than reducing the target pest species as a food source, **TRACER™ 480 SC** used under GAP, does not have a significant impact on certain parasitic or predaceous insects and mites, including ladybirds, lacewings, assassin bugs, predatory mites, etc. Although **TRACER™ 480 SC** is classified as “harmful” to Parasitoids, field studies showed a rapid recovery of numbers after application. The feeding activities of these beneficial arthropods will aid in the extended natural control of other insects and reduce the likelihood of secondary pest outbreaks for which additional insecticide treatments may be needed. If **TRACER™ 480 SC** is tank mixed with any insecticide that reduces its selectivity in preserving beneficial predatory insects, then the full benefit of **TRACER™ 480 SC** to the IPM programme may be reduced.

### **DIRECTIONS FOR USE:**

**Use only as indicated**

**TRACER™ 480 SC** is a suspension concentrate, which should be mixed with water and applied as a foliar spray with ground equipment equipped for conventional insecticide application.

### **MIXING INSTRUCTIONS:**

#### **Mixing TRACER™ 480 SC alone:**

Fill the spray tank with water to about half of the total spray volume required. Start agitation and add the required amount of **TRACER™ 480 SC** to the spray tank. Continue mixing and agitation while filling the spray tank to the required spray volume. Maintain sufficient agitation during application to ensure uniformity of the spray mix. Do not allow water or spray mixture to back-siphon into the water source.

#### **Compatibility, pH and tank mixing:**

Do not apply **TRACER™ 480 SC** in muddy water. Although the pH of the spray mixture does not have an effect on the initial knockdown performance of **TRACER™ 480 SC**, a low pH value (< pH 6) of the spray mixture will decrease the residual performance. Buffer agents are generally not needed. Acidifiers or products that will acidify the spray mixture below pH 6 (e.g. phosphonates, high rates of foliar fertilizers, etc.) should be avoided or buffered back to pH 6 - 9. **TRACER™ 480 SC** will perform best at pH 6 – 9.

Before tank mixing **TRACER™ 480 SC** with other products, a pH and compatibility test (jar test) using relative proportions of tank mix products should be conducted prior to mixing in the spray tank. If foliar fertilisers are used, the compatibility test should be repeated with each batch of fertiliser utilising the mixing water source. Vigorous, continuous agitation during mixing, filling and throughout application is required for all tank mixes. Back flow sparger pipe agitators, at the bottom of the spray tank, generally provide the most effective agitation in spray tanks. To prevent foaming in the spray tank, avoid mixing air into the spray mixture.

**When adding wetting agents to the spray mixture, a compatibility test needs to be carried out.**

### **Mixing Sequence for Tank Mixes:**

Fill the spray tank with water to approximately one quarter of the total spray volume required. Start agitation. Add different formulation types in the order indicated below, allowing time for complete mixing and dispersion after addition of each product. Allow extra mixing and dispersion time for water dispersible granule (dry flowable) (WG) products.

Add different formulation types in the following order:

1. Water dispersible granules. (After pre-mixing with water)
2. Wettable powders. (After pre-mixing with water)
3. **TRACER™ 480 SC** and other aqueous suspensions.  
*Maintain agitation and fill spray tank to three-quarters of total spray volume.*  
*Then add:*
4. Emulsifiable concentrates.
5. Spray Adjuvants. (Where **TRACER™ 480 SC** is needed to be applied in combination with a spray-oil, first pre-mix the required volume of **TRACER™ 480 SC** and spray-oil, before adding to the spray water)
6. Foliar Fertilizers.

Finish filling the spray tank while maintaining continuous agitation during mixing, final filling and throughout application. If spraying and agitation must be stopped before the spray tank is empty, settled materials must be resuspended before spraying is resumed. A back flow sparger agitator at the bottom of the tank is particularly useful for this purpose.

### **Premixing:**

Dispersible granule (WG) and Wettable Powder (WP) formulations may be pre-mixed with water (slurried) and added to the spray tank through a 20 - 35 mesh screen. This procedure assures good initial dispersion of these formulation types.

## APPLICATION

Proper applications techniques help ensure thorough spray coverage and the correct dosage necessary to obtain optimum control of insect pests. The following recommendations are provided for effective application of **TRACER™ 480 SC**. To ensure adequate spray coverage, attention should be given to ground speed and calibration, wind speed, and foliar canopy.

### Application for row crops:

Use conventional ground spray equipment calibrated to provide thorough coverage of the target crop. Align the boom and nozzles to obtain uniform coverage of the target crop. Under certain conditions, nozzles on drop arms may be required to obtain uniform crop coverage. Use hollow cone nozzles suitable for insecticide spraying. Follow manufacturer's recommendations for ideal nozzle spacing, pressure, and boom height.

### Application for Fruit tree crops:

Use conventional orchard spray equipment correctly calibrated to provide thorough coverage of the target crop and correct rate per ha.

#### Deciduous fruit trees:

**TRACER™ 480 SC** should be sprayed as a high volume (HV) application to deciduous fruit trees. Rate per ha should preferably be calculated according to the formula for 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 in full flush)

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

Growth Stage	Application Volume
Bud Break to Full Blossom	60 % x HVR
75 % Petal Fall to One Month Later (Mid Season)	80 % x HVR
Mid Season to Post Harvest, Before Leaf Drop	100 % x HVR

$$\text{Rate per ha} = \frac{\text{HVR in } \ell / \text{ha} \times \text{Rate per 100 } \ell}{100}$$

## Application for Table Grapes:

**TRACER™ 480 SC** should be sprayed as a high volume application to table grapes. The amount of **TRACER™ 480 SC** per ha must be calculated according to the high volume requirements for a specified growth stage by using the following guidelines.

Growth Stage	Suggested volume of spray mixture per ha for high volume application
2,5 cm to 25 cm shoot length	500 – 750 ℓ
25 cm shoot length to just prior to flowering	750 – 1000 ℓ
Flowering to pea berry stage	1000 – 1200 ℓ
Pea berry stage to harvest	1200 – 1500 ℓ

**WARNING:** Where crops are produced under shade cloth, the breakdown of spinosad may take longer which will increase the withholding period/residues.

CROP/PEST	DOSAGE/100 ℓ WATER	REMARKS
<b>APPLES</b> American (African) Bollworm <i>(Helicoverpa armigera)</i>	20 ml	Apply <b>TRACER™ 480 SC</b> as a high volume, cover application when scouting indicates infestation level at, or above threshold level. <b>Note:</b> As a single corrective spray against bollworm, <b>TRACER™ 480 SC</b> is more effective against early instar larvae.
Thrips (Various species including Western Flower Thrip – WFT – <i>Frankliniella</i> <i>occidentalis</i> )	15 ml	Early thrip damage normally occurs during the period of early blossom to shortly after blossom. Hot weather conditions favours thrip activity. Recommended monitoring methods should be adhered to, to establish the presence and extent of the pest, especially during the susceptible stage.  Apply <b>TRACER™ 480 SC</b> during flowering as a high volume cover application when scouting indicates infestation of pest at, or above threshold levels. Depending on the duration of the flowering period and the infestation level of thrips, a follow-up application within 7 – 10 days may be necessary to obtain adequate protection.  <b>Resistance management:</b> For resistance management, <b>TRACER™ 480 SC</b> should not be applied in total more than four times per season on apples.



CROP/PEST	DOSAGE/100 ℓ WATER	REMARKS
<p><b>BLUE BERRIES, BLACKBERRIES, GOOSEBERRIES AND BOYSENBERRIES</b> American (African) Bollworm (<i>Helicoverpa armigera</i>)</p> <p>Thrips (Various species including Western Flower Thrip – WFT – <i>Frankliniella occidentalis</i>)</p>	<p>20 ml</p> <p>15 ml</p>	<p>Apply <b>TRACER™ 480 SC</b> as a high volume, cover application when scouting indicates infestation level at, or above threshold level. <b>Note:</b> As a single corrective spray against bollworm, <b>TRACER™ 480 SC</b> is more effective against early instar larvae.</p> <p>Early thrip damage normally occurs during the period of early blossom to shortly after blossom and late damage after harvest on new vegetative growth. Hot weather conditions favours thrip activity. Recommended monitoring methods should be adhered to, to establish the presence and extent of the pest, especially during the susceptible stage.</p> <p>Apply <b>TRACER™ 480 SC</b> during flowering as well as post harvest when new (vegetative) growth is attacked as a high volume cover application when scouting indicates infestation of pest at, or above threshold levels. Depending on the duration of the flowering period and the infestation level of thrips, a follow-up application within 7 – 10 days may be necessary to obtain adequate protection.</p> <p><b>Resistance management:</b> For resistance management, <b>TRACER™ 480 SC</b> should not be applied in total more than three times per season on blue berries.</p>

CROP/PEST	DOSAGE/100 ℓ WATER	REMARKS
<p><b>CABBAGE</b> Diamond-Back Moth larvae (<i>Plutella xylostella</i>)</p> <p>Tomato leaf miner moth (<i>Tuta absoluta</i>)</p>	<p>30 mℓ (150 - 300 mℓ/ha) +</p> <p>150 – 250 mℓ light or medium narrow range mineral spray oil</p> <p>OR</p> <p>A registered wetter at the registered dosage rate for use on cabbages.</p>	<p>Apply in a spray programme as a full cover spray at a minimum of 500 ℓ/ha spray mixture every 7 - 10 days.</p> <p>Start application when the pest is first noticed or apply as a follow-up application in a spray programme after insecticides from a different class as required in anti-resistant programmes. Apply a minimum of two consecutive <b>TRACER™ 480 SC</b> sprays to ensure effective control of pest.</p> <p><b>Use the shorter spray interval of 7 days when heavy infestations occur or when climatic conditions favour the pest e.g. during summer months.</b></p> <p>For the purpose of a <b>resistance strategy</b>, do not apply <b>TRACER™ 480 SC</b> in more than four (4) consecutive applications in any 28-day period. Rotate <b>TRACER™ 480 SC</b> in a spray programme with a different chemical class of insecticide for the duration of at least one generation of the pest. Do not apply <b>TRACER™ 480 SC</b> in more than a total of six (6) applications per cultivation.</p>

CROP/PEST	DOSAGE/100 ℓ WATER	REMARKS
<p><b>CHERRIES</b> <i>African Bollworm</i> <i>(Helicoverpa armigera)</i></p> <p>Thrips (Various species including Western Flower Thrip <i>(Frankliniella occidentalis)</i>)</p>	<p>20 ml</p> <p>15 ml</p>	<p>Apply <b>TRACER 480™ SC</b> as a full cover application.</p> <p><b>Note:</b> As a single corrective spray against bollworm, <b>TRACER™ 480 SC</b> is more effective against early instar larvae.</p> <p>Commence spraying at the first signs of Thrip presence. Repeat application when necessary. Apply as a light cover spray. Thorough coverage of the target area is essential.</p> <p><b>Resistance note:</b> Do not apply <b>TRACER™ 480 SC</b> more than 3 (three) times per season to any block of Cherries. Alternate the use of <b>TRACER™ 480 SC</b> with registered insecticides with a different mode of action.</p>
<p><b>CHIVES</b> <i>Thrips (Thrips tabaci)</i></p>	<p>15 ml (75 – 150 ml/ha) + 150 – 250 ml light or medium narrow range mineral spray oil</p> <p>OR</p> <p>A registered wetter at the registered dosage rate for use on chives.</p>	<p>Apply in a spray programme as a full cover spray at 500 – 1000 ℓ/ha. Ensure thorough wetting of plants. Spray mixture every 7 – 10 days.</p> <p>Start application when the pest is first noticed or apply as a follow-up application in a spray programme after insecticides from a different class as required in ant-resistant programmes. Apply a minimum of two consecutive <b>TRACER™ 480 SC</b> sprays to ensure effective control of pest.</p> <p>Use the shorter spray interval of 7 days when heavy infestations occur or when climatic conditions favour the pest e.g. during summer months.</p> <p>Notwithstanding control measures some thrip damage may occur.</p>

CROP/PEST	DOSAGE/100 ℓ WATER	REMARKS
<b>CHIVES</b> Thrips ( <i>Thrips tabaci</i> ) (cont.)		For the purpose of a resistance strategy, do not apply <b>TRACER™ 480 SC</b> in more than four (4) consecutive applications in any 28-day period. Rotate <b>TRACER™ 480 SC</b> in a spray programme with a different chemical class of insecticide for the duration of at least one generation of the pest. Do not apply <b>TRACER™ 480 SC</b> in more than a total of six (6) applications per cultivation.
<b>CITRUS</b> Citrus thrips ( <i>Scirtothrips aurantii</i> )  American (African) Bollworm ( <i>Helicoverpa armigera</i> )	15 ml + 300 ml of a registered Light or medium narrow range mineral spray oil  20 ml	Commence spraying after 90 % petal fall at the first signs of thrip presence. Repeat application when necessary. Apply as a light cover spray to the point of run-off. Do not exceed four applications of <b>TRACER™ 480 SC</b> per season. Rotate to a different class of insecticide for resistance management.  Apply <b>TRACER™ 480 SC</b> as a high volume, cover application when scouting indicates infestation level at, or above threshold level. <b>Note:</b> As a single corrective spray against bollworm, <b>TRACER™ 480 SC</b> is more effective against early instar larvae.
<b>CUCURBITS</b> <i>Thripidae</i> Spp.	15 ml (75 – 150 ml/ha) + 150 – 250 ml light or medium narrow range mineral spray oil  OR A registered wetter at the registered dosage rate for use on cucurbits.	Apply in a spray programme as a full cover spray at a minimum of 500 ℓ/ha up to 1000 ℓ/ha spray mixture every 7 - 10 days.  Start application when the pest is first noticed or apply as a follow-up application in a spray programme after insecticides from a different class as required in anti-resistant programmes. Apply a minimum of two consecutive <b>TRACER™ 480 SC</b> sprays to ensure effective control of pest.  <b>Use the shorter spray interval of 7 days when heavy infestations occur or when climatic conditions favour the pest e.g. during summer months.</b>

CROP/PEST	DOSAGE/100 ℓ WATER	REMARKS
<p><b>CUCURBITS (cont.)</b>  American (African) Bollworm  (<i>Helicoverpa armigera</i>)</p> <p>American Leafminer spp.  (<i>Liriomyza trifolii</i>)</p> <p>Tomato leaf miner moth  (<i>Tuta absoluta</i>)</p>	<p>20 ml  (100 – 200 ml/ha)  +  150 – 250 ml light or medium narrow range mineral spray oil</p> <p>OR</p> <p>A registered wetter at the registered dosage rate for use on cucurbits.</p> <p>30 ml  (150 – 300 ml/ha)  +  150 – 250 ml light or medium narrow range mineral spray oil</p> <p>OR</p> <p>A registered wetter at the registered dosage rate for use on cucurbits.</p>	<p>For the purpose of a <b>resistance strategy</b>, do not apply <b>TRACER™ 480 SC</b> in more than four (4) consecutive applications in any 28-day period. Rotate <b>TRACER™ 480 SC</b> in a spray programme with a different chemical class of insecticide for the duration of at least one generation of the pest. Do not apply <b>TRACER™ 480 SC</b> in more than a total of six (6) applications per cultivation.</p>
<p><b>LAWNS</b>  Lawn caterpillar</p>	<p>2 ml/10 ℓ water  (10 ℓ spray mixture/20 m<sup>2</sup>)</p>	<p>Apply 10 ℓ spray mixture evenly over 20 m<sup>2</sup> lawn area with a fine rose watering can as a drench as soon as the lawn caterpillars appear.  Repeat the application as soon as a new generation of lawn caterpillars appear.</p>

CROP/PEST	DOSAGE/100 ℓ WATER	REMARKS
<p><b>LEEKs</b> Thrips (<i>Thrips tabaci</i>)</p>	<p>15 ml (75 – 150 ml/ha) + 150 – 250 ml light or medium narrow range mineral spray oil</p> <p>OR</p> <p>A registered wetter at the registered dosage rate for use on leeks.</p>	<p>Apply in a spray programme as a full cover spray at 500 – 1000 ℓ/ha. Ensure thorough wetting of plants. Spray mixture every 7 – 10 days.</p> <p>Start application when the pest is first noticed or apply as a follow-up application in a spray programme after insecticides from a different class as required in anti-resistant programmes. Apply a minimum of two consecutive <b>TRACER™ 480 SC</b> sprays to ensure effective control of pest.</p> <p><b>Use the shorter spray interval of 7 days when heavy infestations occur or when climatic conditions favour the pest e.g. during summer months.</b></p> <p>Notwithstanding control measures some thrip damage may occur.</p> <p>For the purpose of a <b>resistance strategy</b>, do not apply <b>TRACER™ 480 SC</b> in more than four (4) consecutive applications in any 28-day period. Rotate <b>TRACER™ 480 SC</b> in a spray programme with a different chemical class of insecticide for the duration of at least one generation of the pest. Do not apply <b>TRACER™ 480 SC</b> in more than a total of six (6) applications per cultivation.</p>



CROP/PEST	DOSAGE/100 ℓ WATER	REMARKS
<p><b>ONIONS</b> Thrips (<i>Thrips tabaci</i>)</p>	<p>15 ml (75 - 150 ml/ha) + 150 – 250 ml light or medium narrow range mineral spray oil OR A registered wetter at the registered dosage rate for use on onions.</p>	<p>Apply in a spray programme as a full cover spray at 500 – 1000 ℓ/ha. Ensure thorough wetting of plants. Spray mixture every 7 – 10 days.</p> <p>Start application when the pest is first noticed or apply as a follow-up application in a spray programme after insecticides from a different class as required in anti-resistant programmes. Apply a minimum of two consecutive <b>TRACER™ 480 SC</b> sprays to ensure effective control of pest.</p> <p><b>Use the shorter spray interval of 7 days when heavy infestations occur or when climatic conditions favour the pest e.g. during summer months.</b></p> <p>Notwithstanding control measures some thrip damage may occur.</p> <p>For the purpose of a <b>resistance strategy</b>, do not apply <b>TRACER™ 480 SC</b> in more than four (4) consecutive applications in any 28-day period. Rotate <b>TRACER™ 480 SC</b> in a spray programme with a different chemical class of insecticide for the duration of at least one generation of the pest. Do not apply <b>TRACER™ 480 SC</b> in more than a total of six (6) applications per cultivation.</p>



CROP/PEST	DOSAGE/100 ℓ WATER	REMARKS
<b>ORNAMENTALS AND ROSES</b> Western Flower Thrip ( <i>Frankliniella occidentalis</i> )	5 ml/10 ℓ water	<p><b><u>Corrective Spray:</u></b>            Remove all open flowers before treatment when thrips are present on Roses. Not essential on any other plants but can improve efficacy. Apply as a full cover spray on foliage, open flowers and buds.</p> <p><b><u>Preventative spray:</u></b>            Apply as a full cover spray before buds open and apply at weekly intervals. A minimum of three applications 7 days apart should give sufficient control.</p>
<b>PEACHES including NECTARINES</b> American (African) Bollworm ( <i>Helicoverpa armigera</i> )	20 ml	<p>Apply <b>TRACER™ 480 SC</b> as a high volume, cover application when scouting indicates infestation level at, or above threshold level.</p> <p><b>Note</b> As a single corrective spray against bollworm, <b>TRACER™ 480 SC</b> is more effective against early instar larvae.</p>
<b>NECTARINES only</b> Thrips (Various species including Western Flower Thrip – WFT – <i>Frankliniella occidentalis</i> )		<p>Early thrip damage normally occurs during the period of early blossom to shortly after blossom. Damage caused by WFT may also occur as late as shortly before harvest. (See “Prevention of Silvering”) Hot weather conditions favours thrip activity. Recommended monitoring methods should be adhered to, to establish the presence and extent of the pest, especially during the susceptible stage.</p>

CROP/PEST	DOSAGE/100 ℓ WATER	REMARKS
<p><b>NECTARINES <i>only</i></b> Early damage</p> <p>Prevention of silvering</p>	<p>15 ml</p> <p>15 ml</p>	<p>Apply <b>TRACER™ 480 SC</b> during flowering as a high volume, cover application when scouting indicates infestation of pest at, or above threshold levels. Depending on the duration of the flowering period and the infestation level of thrips, a follow-up application within 7 – 10 days may be necessary to obtain adequate protection.</p> <p>Apply <b>TRACER™ 480 SC</b> as a high volume cover application when first thrip activity, responsible for silvering, is noticed. Do not apply within 7 days of harvest.</p> <p><b>Resistance management:</b> For resistance management, <b>TRACER™ 480 SC</b> should not be applied in total, more than four times per season on Nectarines.</p>
<p><b>PEARS</b> American (African) Bollworm (<i>Helicoverpa armigera</i>)</p>	<p>20 ml</p>	<p>Apply <b>TRACER™ 480 SC</b> as a high volume cover application when scouting indicates infestation level at, or above threshold level.</p> <p><b>Note:</b> As a single, corrective spray against bollworm, <b>TRACER™ 480 SC</b> is more effective against early instar larvae.</p> <p><b>Resistance management:</b> For resistance management, <b>TRACER™ 480 SC</b> should not be applied in total, more than four times per season on Pears.</p>

CROP/PEST	DOSAGE/100 ℓ WATER	REMARKS
<p><b>PEAS and GREENBEANS</b>  <b>Only peas that will be shelled</b>            Potato leafminer  <i>(Liriomyza huidobrensis)</i></p>	<p>30 mℓ            (150 - 300 mℓ/ha)            +              150 – 250 mℓ light or medium narrow range mineral spray oil              OR              A registered wetter at the registered dosage rate for use on peas.</p>	<p>Apply in a spray programme as a full cover spray at 500 – 1000 ℓ/ha spray mixture every 7 – 10 days.</p> <p>Start application when the pest is first noticed or apply as a follow-up application in a spray programme after insecticides from a different class as required in anti-resistant programmes. Apply a minimum of two consecutive <b>TRACER™ 480 SC</b> sprays to ensure effective control of pest.</p> <p>The volume of spray mixture to be applied per ha depends on the plant size and plant density. Start with a minimum of 500 ℓ spray mixture/ha on young plants and increase volume up to 1000 ℓ/ha as plant size increases.</p> <p>Use the shorter spray interval of 7 days when heavy infestations occur or when climatic conditions favour the pest e.g. during summer months or when beneficial insects are absent.</p> <p>For the purpose of a <b>resistance strategy</b>, do not apply <b>TRACER™ 480 SC</b> in more than four (4) consecutive applications in any 28-day period. Rotate <b>TRACER™ 480 SC</b> in a spray programme with a different chemical class of insecticide for the duration of at least one generation of the pest. Do not apply <b>TRACER™ 480 SC</b> in more than a total of six (6) applications per cultivation.</p> <p><b>Note:</b> Do not use plant material for fodder or grazing after harvest.</p>

CROP/PEST	DOSAGE/100 ℓ WATER	REMARKS
<p><b>PERSIMMON</b> American (African) Bollworm</p> <p>Thrips (Various species including Western Flower Thrip – WFT – <i>Frankliniella</i> <i>occidentalis</i>)</p>	<p>20 ml</p> <p>15 ml</p>	<p>Apply <b>TRACER™ 480 SC</b> as a high volume cover application when scouting indicates infestation level at, or above threshold level. Note: As a single corrective spray against bollworm, <b>TRACER™ 480 SC</b> is more effective against early instar larvae.</p> <p>Early thrip damage normally occurs during the period of early blossom to shortly after blossom. Hot weather conditions favour thrip activity. Recommended monitoring methods should be adhered to, to establish the presence and extent of the pest, especially during the susceptible stage.</p> <p>Apply <b>TRACER™ 480 SC</b> during flowering as a high volume, cover application when scouting indicates infestation of pest at, or above threshold levels. Depending on the duration of the flowering period and the infestation level of thrips, a follow-up application within 7 – 10 days may be necessary to obtain adequate protection.</p> <p><b>Resistance management:</b> For resistance management, <b>TRACER™ 480 SC</b> should not be applied in more than two consecutive applications within 21 days. Any follow-up applications should only commence at least 28 days after the last application previously done. Do not apply in total, more than four times per season on Persimmons.</p>

CROP/PEST	DOSAGE/100 ℓ WATER	REMARKS
<p><b>PLUMS</b> American (African) Bollworm (<i>Helicoverpa armigera</i>)</p> <p>Thrips (Various species including Western Flower Thrip – WFT – <i>Frankliniella occidentalis</i>)</p>	<p>20 ml</p> <p>15 ml</p>	<p>Apply <b>TRACER™ 480 SC</b> as a high volume cover application when scouting indicates infestation level at, or above threshold level. <b>Note:</b> As a single corrective spray against bollworm, <b>TRACER™ 480 SC</b> is more effective against early instar larvae.</p> <p>Early thrip damage normally occurs during the period of early blossom to shortly after blossom. Hot weather conditions favour thrip activity. Recommended monitoring methods should be adhered to, to establish the presence and extent of the pest, especially during the susceptible stage.</p> <p>Apply <b>TRACER™ 480 SC</b> during flowering as a high volume, cover application when scouting indicates infestation of pest at, or above threshold levels. Depending on the duration of the flowering period and the infestation level of thrips, a follow-up application within 7 – 10 days may be necessary to obtain adequate protection.</p> <p><b>Resistance management:</b> For resistance management, <b>TRACER™ 480 SC</b> should not be applied in total, more than four times per season on Plums.</p>

CROP/PEST	DOSAGE/100 ℓ WATER	REMARKS
<p><b>POTATOES</b></p> <p>Potato tuber moth larvae (<i>Phthorimaea operculella</i>)</p> <p>American (African) Bollworm (<i>Helicoverpa armigera</i>)</p> <p>Potato leaf miner (<i>Liriomyza huidobrensis</i>)</p> <p>Tomato leaf miner moth (<i>Tuta absoluta</i>)</p>	<p>30 mℓ (150 - 300 mℓ/ha)</p> <p>+</p> <p>150 – 250 mℓ light or medium narrow range mineral spray oil</p> <p>OR</p> <p>A registered wetter at the registered dosage rate for use on potatoes.</p>	<p>Apply in a spray programme as a full cover spray at 500 - 1000 ℓ/ha spray mixture every 7 - 10 days.</p> <p>Start application when the pests are first noticed or apply as a follow-up application in a spray programme after insecticides from a different class as required in anti-resistant programmes. Apply a minimum of two consecutive <b>TRACER™ 480 SC</b> sprays to ensure effective control of pests.</p> <p>The volume of spray mixture to be applied per ha depends on the plant size and plant density. Start with a minimum of 500 ℓ spray mixture/ha on young plants and increase volume up to 1000 ℓ/ha as plant size increases.</p> <p>Use the shorter spray interval of 7 days when heavy infestations occur or when climatic conditions favour the pest e.g. during summer months or when beneficial insects are absent.</p> <p>For the purpose of a <b>resistance strategy</b>, do not apply <b>TRACER™ 480 SC</b> in more than four (4) consecutive applications in any 28-day period. Rotate <b>TRACER™ 480 SC</b> in a spray programme with a different chemical class of insecticide for the duration of at least one generation of the pest. Do not apply <b>TRACER™ 480 SC</b> in more than a total of six (6) applications per cultivation.</p> <p><b><u>Potato leaf miner (<i>Liriomyza huidobrensis</i>):</u></b></p> <p>Use SANAMECTIN 18 EC (Reg. No. L5928) to rotate with <b>TRACER™ 480 SC</b> in an anti-resistance spray programme.</p> <p>Ridge at least twice during growing season (tuber moth).</p>

CROP/PEST	DOSAGE/100 ℓ WATER	REMARKS
<p><b>RASPBERRIES</b> American (African) Bollworm (<i>Helicoverpa armigera</i>)</p> <p>Thrips (Various species including Western Flower Thrip – WFT – <i>Frankliniella</i> <i>occidentalis</i>)</p>	<p>20 ml</p> <p>15 ml</p>	<p>Apply <b>TRACER™ 480 SC</b> as a high volume, cover application when scouting indicates infestation level at, or above threshold level. <b>Note:</b> As a single corrective spray against bollworm, <b>TRACER™ 480 SC</b> is more effective against early instar larvae.</p> <p>Early thrip damage normally occurs during the period of early blossom to shortly after blossom, and late damage after harvest on new vegetative growth. Hot weather conditions favours thrip activity. Recommended monitoring methods should be adhered to, to establish the presence and extent of the pest, especially during the susceptible stage.</p> <p>Apply <b>TRACER™ 480 SC</b> during flowering as well as post-harvest when new vegetative growth is attacked, as a high volume cover application when scouting indicates infestation of pest at, or above threshold levels. Depending on the duration of the flowering period and the infestation level of thrips, a follow-up application within 7 – 10 days may be necessary to obtain adequate protection.</p> <p><b>Resistance management:</b> For resistance management, <b>TRACER™ 480 SC</b> should not be applied in total more than three times per season on raspberries.</p>

CROP/PEST	DOSAGE/100 ℓ WATER	REMARKS
<p><b>SPINACH</b> <i>Thripidae</i> spp.</p> <p>American (African) Bollworm (<i>Helicoverpa armigera</i>)</p> <p>American Leafminer (<i>Liriomyza trifolii</i>)</p> <p>Tomato leaf miner moth (<i>Tuta absoluta</i>)</p>	<p>15 ml (75 – 150 ml/ha) + 150 – 250 ml light or medium narrow range mineral spray oil</p> <p>OR</p> <p>A registered wetter at the registered dosage rate for use on spinach.</p> <p>20 ml (100 – 200 ml/ha) + 150 – 250 ml light or medium narrow range mineral spray oil</p> <p>OR</p> <p>A registered wetter at the registered dosage rate for use on spinach.</p> <p>30 ml (150 – 300 ml/ha) + 150 – 250 ml light or medium narrow range mineral spray oil</p> <p>OR</p> <p>A registered wetter at the registered dosage rate for use on spinach.</p>	<p>Apply in a spray programme as a full cover spray at a minimum of 500 ℓ/ha up to 1000 ℓ/ha spray mixture every 7 - 10 days.</p> <p>Start application when the pest is first noticed or apply as a follow-up application in a spray programme after insecticides from a different class as required in anti-resistant programmes. Apply a minimum of two consecutive <b>TRACER™ 480 SC</b> sprays to ensure effective control of pest.</p> <p><b>Use the shorter spray interval of 7 days when heavy infestations occur or when climatic conditions favour the pest e.g. during summer months.</b></p> <p>For the purpose of a <b>resistance strategy</b>, do not apply <b>TRACER™ 480 SC</b> in more than four (4) consecutive applications in any 28-day period. Rotate <b>TRACER™ 480 SC</b> in a spray programme with a different chemical class of insecticide for the duration of at least one generation of the pest. Do not apply <b>TRACER™ 480 SC</b> in more than a total of six (6) applications per cultivation.</p>



CROP/PEST	DOSAGE/100 ℓ WATER	REMARKS
<p><b>STRAWBERRIES</b> African Bollworm (<i>Helicoverpa armigera</i>)</p> <p>Thrips (Various species including Western Flower Thrip – (<i>Frankliniella occidentalis</i>)</p>	<p>20 ml</p> <p>15 ml</p>	<p>Apply <b>TRACER™ 480 SC</b> as a full cover application. <b>Note:</b> As a single corrective spray against Bollworm, <b>TRACER™ 480 SC</b> is more effective against early instar larvae.</p> <p>Commence spraying at the first signs of Thrips presence. Repeat application if necessary. Apply as a light cover spray. Thorough coverage of the target area is essential.</p> <p><b>Resistance Note:</b> do not apply <b>TRACER™ 480 SC</b> more than 3 (three) times per season to any field of Strawberries.</p> <p>Alternate the use of <b>TRACER™ 480 SC</b> with registered insecticides with a different mode of action.</p>
<p><b>TABLE GRAPES</b> American (African) Bollworm (<i>Helicoverpa armigera</i>)</p>	<p>20 ml</p>	<p>Apply <b>TRACER™ 480 SC</b> as a high volume, cover application when scouting indicates infestation level at, or above threshold level. <b>Note:</b> As a single corrective spray against bollworm, <b>TRACER™ 480 SC</b> is more effective against early instar larvae.</p>

CROP/PEST	DOSAGE/100 ℓ WATER	REMARKS
<p><b>TABLE GRAPES (cont.)</b> Thrips (Various species including Western Flower Thrip – <i>Frankliniella occidentalis</i>)</p>	<p>15 ml</p>	<p>The presence of thrips and their coupled damage on grapes occurs mainly during the period of early flowering to shortly after flowering. In some areas and under certain conditions (hot and dry weather) thrips may occur at a later stage during the season. The presence of thrips should be monitored on a regular basis and control measures should be considered when scouting indicates infestation at, or above threshold levels.</p> <p>Apply <b>TRACER™ 480 SC</b> as a high volume cover application. Depending on the duration of the flowering period or presence of Thrips, a follow-up application within 5 – 7 days may be necessary to obtain adequate protection.</p> <p>Do not apply <b>TRACER™ 480 SC</b> in more than two consecutive applications per season. (Adhere to withholding periods).</p>
<p><b>TOMATOES</b> American leafminer (<i>Liriomyza trifolii</i>)  American (African) bollworm (<i>Helicoverpa armigera</i>)  Tomato Semi-looper (<i>Chrysodeixis acuta</i>)  Tomato leaf miner moth (<i>Tuta absoluta</i>)</p>	<p>30 ml (150 - 300 ml/ha) + 150 – 250 ml light or medium narrow range mineral spray oil  OR  A registered wetter at the registered dosage rate for use on tomatoes.</p>	<p>Apply in a spray programme as a full cover spray at 500 – 1000 ℓ/ha spray mixture every 7 - 10 days.</p> <p>Start application when the pests are first noticed or apply as follow-up applications after insecticides from a different chemical class as required in anti-resistant programmes. Apply a minimum of two consecutive <b>TRACER™ 480 SC</b> sprays to ensure effective control of pests.</p> <p>The volume of spray mixture to be applied per ha depends on the plant size and canopy density. Start with a minimum of 500 ℓ spray mixture/ha on young plants and increase volume up to 1000 ℓ/ha as plant size increases.</p>

CROP/PEST	DOSAGE/100 <i>ℓ</i> WATER	REMARKS
TOMATOES (cont.)		<p>Use the shorter spray intervals when the infestations are heavy or the climatic conditions favour the pest e.g., during summer months or in absence of natural enemies.</p> <p>For the purpose of a <b>resistance strategy</b>, do not apply <b>TRACER™ 480 SC</b> in more than four (4) consecutive applications in any 28-day period. Rotate to a different chemical class of insecticide for at least one generation. Do not apply more than a total of six (6) treatments per cultivation.</p>

**24 HOUR EMERGENCY TEL. NO. 082-887-8079**

**INFORMATION HOTLINE : TEL. NO.: (012) 361-8112**

## WAARSKUWINGS

**Onthoudingsperiode** - Minimum aantal dae wat tussen die laaste toediening en oes moet verstryk:

Aarbeie .....	1 dag
Aartappels .....	7 dae
Appelliefies .....	3 dae
Appels .....	30 dae
Blaarslaai .....	7 dae
Bloubessies .....	3 dae
Boysenbessies .....	3 dae
Braambessies .....	3 dae
Ertjies .....	1 dag
Frambose .....	3 dae
Grasuie .....	7 dae
Groenbone .....	7 dae
Kersies .....	14 dae
Kopkool .....	3 dae
Nektariens .....	7 dae
Pampoengewasse .....	7 dae
Pere .....	14 dae
Persimmon .....	21 dae
Perskes .....	21 dae
Preie .....	7 dae
Pruime .....	21 dae
Sitrus .....	14 dae
Spinasie .....	7 dae
Tafeldruiwe .....	28 dae
Tamaties .....	3 dae
Uie .....	7 dae

**LET WEL:** Nakoming van bogenoemde onthoudingsperiodes sal verseker dat die plaaslike vereistes vir Maksimum Residu Limiete nie oorskry word nie. Die invoertolleransies van ander lande mag egter verskil en plaaslike vlakke en onthoudingsperiodes mag dalk nie voldoen aan die vereistes van ander lande nie. Indien die gewas wat behandel gaan word vir uitvoer bestem is, skakel met die betrokke invoerder of uitvoerorganisasie rakende die gebruik van hierdie produk, maksimum residuvereistes en aanbevole onthoudingsperiodes.

- Hanteer die produk versigtig.
- Mag moontlike ligte oogirritasie veroorsaak.
- Hierdie produk is matig giftig vir vis en giftig vir ander waterorganismes. Moenie oor oop waterbronne toedien nie

- Voordelige Insekte: “Matig Giftig vir Bye”
  - ❖ Hierdie produk is giftig vir bye wanneer hul aan direkte bespuiting, of plante in blom waarop die spuitstof nog nie afgedroog het nie, blootgestel word.
  - ❖ Moenie direk op kolonies of aktiewe bye spuit nie.
  - ❖ Spuit gedurende nag op gewasse in blom of waar 'n gewas binne 500 m van die area wat bespuit moet word, in blom is.
  - ❖ Laat minstens 'n periode van 3 ure tussen toediening en bye aktiwiteit toe.

Stel bure, byeboere asook plaaslike voorligters in kennis voordat in die nabyheid van gewasse in blom, toegedien word. **TRACER™ 480 SC** het slegs 'n geringe invloed op bye, nadat die spuitstof afgedroog het.

“Skadelik vir Parasiete”

“Veilig vir Predatormyte”

“Effens Skadelik vir Coccinellidae”

“Effens Skadelik vir Neuroptera”

Voordelige Insekte op Sitrus:

*Chilochorus nigritus* – Effens Skadelik

*Aphytis lingnanensis* – Skadelik

*Coccidoxenoides peregrinus* – Baie Skadelik

*Trichogrammatoidea cryptophlebiae* – Matig Skadelik

*Euseius citri* – Matig Skadelik.

\* Dit moet in aanmerking geneem word dat **TRACER™ 480 SC** nie 'n lang nawerking het nie en dus behoort daar nie 'n langdurige effek op die voordelige insekte onder boordtoestande te wees nie.

- Berg in 'n koel droë plek en verwyderd vanaf voedsel en veevoer.
- Hou buite bereik van kinders, oningeligte persone en diere.

#### **Herbetredingsperiode:**

Moenie 'n behandelde gebied betree alvorens bespuiting droog is nie, tensy beskermende klere gedra word nie.

**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 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 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 of dier of vir 'n gebrek aan prestasie van die betrokke middel as gevolg van die versuim van 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 in die geval van enige onsekerheid.**

## **VOORSORGMAATREËLS**

Berg altyd in die oorspronklike ge-etiketeeerde houer.

Vermy die inaseming van sproeinewel.

Was met water en seep in geval van toevallige kontak met vel.

Dra handskoene en 'n gesigskerm wanneer konsentraat hanteer word en gesigskerm tydens toediening.

Vermy vel- en oogkontaminasie. In geval van toevallige oogkontak, spoel oë met lopende water vir minstens 15 minute. Verkry mediese hulp indien oogirritasie nie sou opklaar nie.

Moenie eet, drink of rook terwyl gemeng of toegedien word nie.

Tydens vermenging of toediening moet die hande en gesig altyd gewas word voordat geëet, gedrink, gerook of die toilet besoek word.

Vermy wegdrywing van spuitnewel na aangrensende gewasse, weidings, riviere, damme en areas nie onder behandeling nie.

Maak toerusting skoon voordat vir ander middels gebruik word en gooi spoelwater weg waar dit nie gewasse, weiding, riviere, damme en waterbronne sal besoedel nie.

Spoel leë houer driekeer uit as volg: Keer leë houer om oor die meng- of spuittenk en dreineer vir minstens 30 sekondes nadat vloei tot 'n drup verminder het. Spoel die leë houer daarna drie maal uit met water gelykstaande aan ongeveer 10 % van die volume van die houer en voeg die spoelwater by die inhoud van die spuittenk. Vernietig die leë houer deur gate in te kap, plat te slaan en te begrawe. Moet nooit leë houers vir enige ander doel aanwend nie.

Voorkom die besoedeling van voedsel, voer, drinkwater en eetgerei tydens opberging, hantering en wegdoening.

### **Weerstandbestuur van insekmiddels**

Insekdoders word geklassifiseer op grond van hul werkingswyse. ("Mode of Action"). **TRACER 480 SC** is geklassifiseer as 'n spinosin (subgroep 5A) insekdoder.

Enige insekpopulasie mag individue met 'n natuurlike weerstand teen **TRACER™ 480 SC** of ander insekdoders binne dieselfde chemiese groep insluit. Indien **TRACER™ 480 SC**, of insekdoders van dieselfde chemiese groep, herhaaldelik oor lang periodes, of teen opeenvolgende generasies van insekte aangewend word, sal die weerstandbiedende individue uiteindelik oorheersend in die populasie voorkom. Hierdie weerstandbiedende insekte sal nie deur **TRACER™ 480 SC**, of ander insekdoders binne dieselfde chemiese groep, beheer word nie. Lokale kundiges moet oor 'n weerstandstrategie of oor aanbevelings in die verband geraadpleeg word. Dit is bekend dat weerstand van insekte en myte teen insek- en mytdoders ook kan ontstaan as gevolg van verhoogde metabolisme,

verlaagde penetrasie of veranderde gedragpatroon. Hierdie tipe weerstand hou nie verband met enige werkingswyse-klassifikasie nie, maar sal spesifiek wees tot 'n bepaalde middel of chemiese groepering. Ten spyte van bogenoemde, bly die afwisseling van middels tussen verskillende chemiese groepe steeds 'n lewensvatbare anti-weerstandstegniek.

Om insekweerstand te vertraag

- Vermy die eksklusiewe gebruik van insekdoders van dieselfde subgroep.
- Moenie insekdoders teen laer dosisse, as wat op die etiket voorgeskryf word, aanwend nie.
- Rig toedienings verkieslik en waar enigsins moontlik, teen die jonger larwale- of die eierstadium van 'n betrokke plaag.
- Sluit ook ander bewese landboukundige of biologiese beheerpraktyke by geïntegreerde plaagbestuursprogramme in.

### **Geïntegreerde Plaagbestuursprogram**

**TRACER™ 480 SC** kan in GPB programme van verskeie gewasse aanbeveel word, veral waar die voorkoms van plaegemonitor word en toedienings eers oorweeg word wanneer die ekonomiese drumpelwaarde vir die plaeg op die betrokke gewas bereik is.

Behalwe dat **TRACER™ 480 SC** die plaeg wat as voedselbron vir voordelige insekte dien, beheer, het **TRACER™ 480 SC**, wat binne GLP aangewend word, nie 'n beduidende nadelige invloed op parasitiese en predatoriese insekte en myte soos skilpadkewers, goudogies, roofwantse, predatoriese myte, ens. nie. Alhoewel **TRACER™ 480 SC** as "giftig" vir parasiete geklassifiseer word, het veldstudies getoon dat populasies weer vinnig na bespuiting herstel. Die voedingsaksies van natuurlike vyande dra gewoonlik ook by tot die beheer van sekere ander skadelike insekte en verminder die kans vir uitbrake van sekondêre plaeg waarvoor addisionele toedienings van insekdoders nodig mag wees.

Indien **TRACER™ 480 SC** met ander insekdoders gemeng word, wat die selektiwiteit van **TRACER™ 480 SC** ten opsigte van die voordelige insekte benadeel, sal die voordeel van **TRACER™ 480 SC** in die GPB program nie ten volle benut kan word nie.

**GEBRUIKSAANWYSINGS:**                      **Gebruik slegs soos aangedui.**

**TRACER™ 480 SC** is 'n suspensiekonsentraat wat vooraf met water vermeng moet word om deur middel van konvensionele spuitapparaat as looftoedienings op plante toegedien te word.

### **Menginstruksies:**

#### **TRACER™ 480 SC alleen:**

Vul die spuittenk tot die helfte van die totale volume water benodig. Voeg die verlangde hoeveelheid **TRACER™ 480 SC** in die spuittenk terwyl die water aanhoudend geroer word en vul die tenk verder aan tot die verlangde volume. Handhaaf roering gedurende bespuiting om univorme verspreiding van die middel in die tenk te verseker. Vermy die terugvloei van water of spuitmengsel na die waterbron.

### Verenigbaarheid, pH en tenkvermenging:

Moenie **TRACER™ 480 SC** met modderige water vermeng nie. Alhoewel pH van spuitmengsels nie 'n invloed op die aanvanklike uitklopwerking van **TRACER™ 480 SC** het nie, sal spuitmengsels met 'n lae pH waarde (< pH 6) die residuele werking van **TRACER™ 480 SC** benadeel. Buffer-middels is oor die algemeen nie nodig nie. Versuringsmiddels of produkte wat die spuitmengsel tot onder pH 6 sal versuur (bv. Fosfonate, hoë konsentrasies van blaarvoedings, ens.) moet vermy word of terug gebuffer word tot pH 6 – 9. Optimum werking van **TRACER™ 480 SC** word by pH 6 – 9 verkry.

Voordat **TRACER™ 480 SC** met ander middels in die spuittenk vermeng word, moet daar eers 'n pH en verenigbaarheidstoets, op klein skaal en in die regte verhoudings, gedoen word alvorens die middels in die tenk gevoeg word.

In die geval van blaarvoedings moet 'n afsonderlike verenigbaarheidstoets vir elke lot, in die betrokke water gedoen word.

In die geval van tenkmengsels word hewige en deurlopende roering tydens vermenging, vulling en toediening vereis. Terugvloei-pype met sywaartse uitlate op die bodem van die tenk, verskaf normaalweg die mees doeltreffendste roering. Om die vorming van skuim te beperk, moet enige aksie wat die vermenging van lug met die spuitmengsel veroorsaak, voorkom word.

**Wanneer benattingsmiddels by spuitmengsels bygevoeg word, moet 'n verenigbaarheidstoets uitgevoer word.**

### Mengvolgorde vir Tenkmengsels:

Vul spuittenk tot ongeveer 'n kwart van totale volume spuitwater verlang. Terwyl die inhoud van die spuittenk geroer word, voeg die verskillende formulasiesoorte in volgorde soos hieronder genoem, by die spuitwater in die tenk. Na byvoeging van elke produk, laat voldoende tyd vir volledige vermenging en verspreiding toe, voordat die volgende produk bygevoeg word. Laat addisionele meng- en dispergeringstyd vir waterdispergeerbare produkte toe.

Meng verskillende formulase in die volgende volgorde:

1. Water dispergeerbare korrels (Na vooraf vermenging met water).
2. Benatbare poeiers (Na vooraf vermenging met water).
3. **TRACER™ 480 SC** en ander watersuspensies.



Terwyl voortdurend geroer word, vul die spuitenk tot driekwart van die totale volume verlang en voeg dan die ander formulasies soos volg by:

4. Emulgeerbare konsentrate.
5. Benattings of bevorderingsmiddels. (In die geval waar **TRACER™ 480 SC** saam met mineraal spuit-olie vermeng moet word, meng eers die **TRACER™ 480 SC** en die olie, voordat dit in die spuitenk gevoeg word).
6. Blaarvoedings.

Terwyl deurlopend geroer word, vul tenk tot verlangde volume. Hou die inhoud van die tenk in roering vir die volle duur van vermenging en bespuiting. In geval van 'n spuitonderbreking terwyl die tenk nog nie leeg is nie, moet die spuitmengsel eers weer deur deeglike roering in suspensie gebring word, voordat bespuiting hervat word. 'n Terugvloei pyp met sywaartse uitlate op die bodem van die spuitenk is baie geskik vir die doel.

### **Voorafvermenging**

Dispergeerbare korrel (WG) en benatbare poeier (WP) formulasies kan vooraf met water tot 'n pasta vermeng word en deur 'n 20 – 30 maas sif, by die spuitwater gevoeg word. Die prosedure verleen sodoende 'n goeie aanvanklike dispergering van die formulase soorte.

### **TOEDIENING**

Deur gebruik te maak van behoorlike toedieningstegnieke word verseker dat deeglike bedekking verkry word en die regte dosisse van **TRACER™ 480 SC** per ha toegedien word om optimum beheer van insekplae te verseker. Vir die doeltreffende toediening van **TRACER™ 480 SC** en goeie bedekking van die gewas, moet die volgende faktore in aanmerking geneem word: Grondspoed en kalibrasie, windspoed, plantgrootte en digtheid van die blaredek.

### **Toediening op Rygewasse:**

Gebruik konvensionele grondspuittoerusting wat gekalibreer is om deeglike bedekking van die teikengewas te verseker. Stel die spuitbalk en spuitkoppe so op dat univormige bedekking van die teikengewas verseker word. Om behoorlike bedekking van sekere gewasse te verseker, mag valarms nodig wees. Maak gebruik van holkeël spuitkoppe, gespaseer op die regte hoogte en spuitbalk tussenspasies vir optimale resultate. Volg die instruksies van spuitpompvervaardigers in die verband.

## Toediening op Vrugtebome:

Gebruik konvensionele boordspuit toerusting wat op korrekte wyse gekalibreer is om deeglike bedekking van die teikengewas en korrekte dosis per ha te verseker.

**Sagtevrugtebome: TRACER™ 480 SC** moet teen hoëvolume (HV) op sagtevrugtebome toegedien word. Die dosis per ha moet verkieslik volgens die formule vir HVB bereken word deur van “*Unrath se formule*” vir “*Boomry Volume*” (BRV) gebruik te maak.

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

\*(Boomhoogte en Boomwydte moet gedurende die somer, wanneer bome in volblad is, bepaal word.)

Voorgestelde toedieningsvolumes (TV) by verskillende groeistadiums en die formule vir die berekening van dosis per ha, gebaseer op Hoëvolume Behoeftte (HVB)

Groeistadium	Toedieningsvolume
Bot tot Volblom	60 % x HVB
75 % Blomblaarval tot Een Maand Later (Midseisoen)	80 % x HVB
Midseisoen tot Na-oes, Voor Blaarval	100 % x HVB

$$\text{Dosis per ha} = \frac{\text{HVB (l/ha)} \times \text{Dosis} / 100\text{l}}{100}$$

## Toediening vir Tafeldruiwe:

**TRACER™ 480 SC** moet in hoë volume op tafeldruiwe toegedien word. Die hoeveelheid **TRACER™ 480 SC** per ha moet verkieslik volgens die hoë volume behoefte, vir 'n bepaalde groeistadium, bepaal word. Die volgende kan as riglyne dien:

Groeistadium	Voorgestelde Volume spuitstof per ha vir Hoëvolume Toediening
2,5 cm tot 25 cm Lootlengte	500 – 750 l
25 cm Lootlengte tot Net-voor-blom	750 – 1000 l
Blom tot Ertjekorrel Stadium	1000 – 1200 l
Ertjekorrel Stadium tot Oes	1200 – 1500 l

**WAARSKUWING:** Waar gewasse onder skadunet verbou word, mag die afbraak van spinosad langer vat. Sodoende sal die onthoudingsperiode dienooreenkomstig verleng word.

GEWAS/PLAAG	DOSIS/100 ℓ WATER	OPMERKINGS
<p><b>AARBEIE</b> Afrika Bolwurm (<i>Helicoverpa armigera</i>)</p> <p>Blaaspootjies Verskeie spp insluitend “Western Flower Thrips” – (<i>Frankliniella occidentalis</i>)</p>	<p>20 ml</p> <p>15 ml</p>	<p>Dien <b>TRACER™ 480 SC</b> as ‘n voldekbespuiting toe.</p> <p><b>Nota:</b> <b>TRACER™ 480 SC</b> as ‘n enkel- of korrektiewe bespuiting teen bolwurm is meer effektief teen jonger larwes.</p> <p>Begin met toediening sodra blaaspootjie waargeneem word. Dien toe as ‘n ligte dekbespuiting. Deeglike bedekking van die teikenarea is noodsaaklik. Herhaal toediening indien nodig.</p> <p><b>Weerstandsbestuur:</b> Moenie <b>TRACER™ 480 SC</b> meer as 3 (drie) maal per seisoen op Aarbeie toedien nie. Wissel die gebruik van <b>TRACER™ 480 SC</b> af met insekdoders wat ‘n ander werkingswyse het.</p>
<p><b>AARTAPPELS</b> Aartappelmot larf (<i>Phthorimaea operculella</i>)</p> <p>Aartappelblaarmyner (<i>Liriomyza huidobrensis</i>)</p> <p>Amerikaanse (Afrika) bolwurm (<i>Helicoverpa armigera</i>)</p> <p>Tamatieblaarmyner mot (<i>Tuta absoluta</i>)</p>	<p>30 ml (150 – 300 ml/ha)</p> <p>+</p> <p>150 – 250 ml ligte of medium smal bestek minerale olie</p> <p>OF</p> <p>‘n Geregistreerde benattingsmiddel teen die geregistreerde dosis vir gebruik op aartappels.</p>	<p>Dien toe in 'n spuitprogram as 'n volle dekbespuiting teen 500 - 1000 ℓ/ha spuitmengsel elke 7 – 10 dae.</p> <p>Begin toedien wanneer plaë vir die eerste maal opgemerk word of as opvolgbespuitings in 'n spuitprogram na nie-verwante insekdoders soos in anti-weerstandsprogramme vereis word. Dien 'n minimum van twee opeenvolgende bespuitings met <b>TRACER™ 480 SC</b> toe om doeltreffende beheer van plaë te verseker.</p> <p>Die volume spuitmengsel per ha word bepaal deur die plantgrootte en digtheid van die blaredek. Begin met ‘n minimum van 500 ℓ/ha spuitmengsel op jong plante en verhoog die volume tot ‘n maksimum van 1000 ℓ/ha namate die planthoogte en digtheid van die blaredek toeneem.</p>



GEWAS/PLAAG	DOSIS/100 ℓ WATER	OPMERKINGS
APPELS (verv.)		<p>Dien <b>TRACER™ 480 SC</b> gedurende blom as 'n hoë volume dekbespuiting toe wanneer die plaaggetalle die drempelwaarde bereik of oorskry. Afhangend van die duur van die blomperioede en die aanwesigheid van blaaspootjies mag 'n opvolgbespuiting binne 7 – 10 dae nodig wees, om voldoende beskerming teen blaaspootjies te verseker.</p> <p><b>Weerstandbestuur:</b> Vir die doeleindes van 'n <b>weerstandstrategie</b> moenie <b>TRACER™ 480 SC</b> in totaal, meer as vier maal per seisoen op appels toedien nie.</p>
<p><b>BLAARSLAAI</b>  Amerikaanse (Afrika)  Bolwurm  (<i>Helicoverpa armigera</i>)</p> <p>Tamatieblaarmyner mot  (<i>Tuta absoluta</i>)</p>	<p>20 mℓ  (100 – 200 mℓ/ha)  +  150 – 250 mℓ  ligte of medium  smal bestek  minerale olie  OF  'n Geregistreerde  benattingsmiddel  teen die  geregistreerde  dosis vir gebruik  op blaarslaai.</p> <p>30 mℓ  (150 – 300 mℓ/ha)  +  150 – 250 mℓ  ligte of medium  smal bestek  minerale olie  OF  'n Geregistreerde  benattingsmiddel  teen die  geregistreerde  dosis vir gebruik  op blaarslaai.</p>	<p>Dien toe in 'n spuitprogram as 'n volle dekbespuiting teen ten minste 500 ℓ/ha tot 1000 ℓ/ha spuitmengsel elke 7 – 10 dae.</p> <p>Begin toedien wanneer plaag vir die eerste maal opgemerk word of as opvolgbespuitings in 'n spuitprogram na nie-verwante insekdoders soos in anti-weerstandsprogramme vereis word. Dien 'n minimum van twee opeenvolgende bespuitings met <b>TRACER™ 480 SC</b> toe om doeltreffende beheer van plaag te verseker. Gebruik die korter tussenpose van 7 dae waar die populasiedruk hoog is of wanneer omgewingstoestande die plaag bevorder, bv. gedurende somermaande.</p> <p>Vir die doeleindes van 'n <b>weerstandstrategie</b>, moet <b>TRACER™ 480 SC</b> in nie meer as vier (4) opeenvolgende bespuitings, binne enige periode van 28 dae toegedien word nie. Wissel <b>TRACER™ 480 SC</b> in die spuitprogram af met nie-verwante insekdoders vir minstens die duur van een generasie van die plaag. Moenie <b>TRACER™ 480 SC</b> in meer as 'n totaal van ses (6) bespuitings per aanplanting aanwend nie.</p>

GEWAS/PLAAG	DOSIS/100 ℓ WATER	OPMERKINGS
<p><b>BLOUBESSIES, BRAAMBESSIES, APPELLIEFIES EN BOYSENBESSIES</b> Amerikaanse (Afrika) Bolwurm (<i>Helicoverpa armigera</i>)</p> <p>Blaaspootjies (Verskeie spesies insluitend “Western Flower Thrip” - WFT - <i>Frankliniella occidentalis</i>)</p>	<p>20 ml</p> <p>15 ml</p>	<p>Dien <b>TRACER™ 480 SC</b> as 'n hoë volume dekbespuiting toe wanneer erkende verkenningmetodes aantoon dat die plaaggetalle die voorgeskrewe drempelwaarde bereik of oorskry. Nota: <b>TRACER™ 480 SC</b> as enkel of korrektiewe bespuiting teen bolwurms, is meer effektief teen jonger larwes.</p> <p>Vroeë blaaspootjieskade word normaalweg gedurende vroeë blom tot kort na blom en laat skade word na-oes op die nuwe groei veroorsaak. Warm weerstoestande bevoordeel blaaspootjie-aktiwiteit. Voorgeskrewe verkenningmetodes moet gevolg word om die aanwesigheid en omvang van die plaag te bepaal veral gedurende die gevoelige periode.</p> <p>Dien <b>TRACER™ 480 SC</b> gedurende blom sowel as na-oes wanneer nuwe groei aangeval word, as 'n hoë volume dekbespuiting toe wanneer die plaaggetalle die drempelwaarde bereik of oorskry. Afhangend van die duur van die blomperiode en die aanwesigheid van blaaspootjies mag 'n opvolgbespuiting binne 7 – 10 dae nodig wees, om voldoende beskerming teen blaaspootjies te verseker.</p> <p>Weerstandbestuur: Vir die doeleindes van 'n weerstandstrategie moenie <b>TRACER™ 480 SC</b> in totaal, meer as drie maal per seisoen op bloubessies toedien nie.</p>

GEWAS/PLAAG	DOSIS/100 ℓ WATER	OPMERKINGS
<p><b>ERTJIES en GROENBONE</b>  <b>Slegs ertjies wat uitgedop word</b>  Aartappelblaarmyner  (<i>Liriomyza huidobrensis</i>)</p>	<p>30 mℓ  (150 – 300 mℓ/ha)  +  150 – 250 mℓ  ligte of medium  smal bestek  minerale olie</p> <p>OF</p> <p>‘n Geregistreerde  benattingsmiddel  teen die  geregistreerde dosis  vir gebruik op  ertjies.</p>	<p>Dien toe in 'n spuitprogram as 'n volle dekbespuiting teen 500 – 1000 ℓ/ha spuitmengsel elke 7 – 10 dae.</p> <p>Begin toedien wanneer plaag vir die eerste maal opgemerk word of as opvolgbespuitings in 'n spuitprogram na nie-verwante insekdoders soos in anti-weerstandsprogramme vereis word. Dien 'n minimum van twee opeenvolgende bespuitings met <b>TRACER™ 480 SC</b> toe om doeltreffende beheer van plaag te verseker.</p> <p>Die volume spuitmengsel per ha word bepaal deur die plantgrootte en digtheid van die blaredek. Begin met 'n minimum van 500 ℓ/ha spuitmengsel op jong plante en verhoog die volume tot 'n maksimum van 1000 ℓ/ha namate die planthoogte en digtheid van die blaredek toeneem.</p> <p>Gebruik die korter interval van 7 dae waar die populasiedruk hoog is of wanneer omgewingstoestande die plaag bevorder, bv. gedurende somermaande of waar natuurlike vyande totaal afwesig is.</p> <p>Vir die doeleindes van 'n <b>weerstandstrategie</b>, moet <b>TRACER™ 480 SC</b> in nie meer as vier (4) opeenvolgende bespuitings, binne enige periode van 28 dae toegedien word nie. Wissel <b>TRACER™ 480 SC</b> in die spuitprogram af met nie-verwante insekdoders vir minstens die duur van een generasie van die plaag. Moenie <b>TRACER™ 480 SC</b> in meer as 'n totaal van ses (6) bespuitings per aanplanting aanwend nie.</p> <p><b>Nota:</b> Moet nie plantmateriaal na oes vir veevoer of weiding gebruik nie.</p>

GEWAS/PLAAG	DOSIS/100 ℓ WATER	OPMERKINGS
<p><b>FRAMBOOS</b> Amerikaanse (Afrika) Bolwurm (<i>Helicoverpa armigera</i>)</p> <p>Blaaspootjies (Verskeie spesies insluitend “Western Flower Thrip” - WFT - <i>Frankliniella occidentalis</i>)</p>	<p>20 ml</p> <p>15 ml</p>	<p>Dien <b>TRACER™ 480 SC</b> as 'n hoë volume dekbespuiting toe wanneer erkende verkenningmetodes aantoon dat die plaaggetalle die voorgeskrewe drempelwaarde bereik of oorskry. Nota: <b>TRACER™ 480 SC</b> as enkel of korrektiewe bespuiting teen bolwurms, is meer effektief teen jonger larwes.</p> <p>Vroeë blaaspootjieskade word normaalweg gedurende vroeë blom tot kort na blom en laat skade word na-oes op die nuwe groei veroorsaak. Warm weerstoestande bevoordeel blaaspootjie-aktiwiteite. Voorgeskrewe verkenningmetodes moet gevolg word om die aanwesigheid en omvang van die plaag te bepaal veral gedurende die gevoelige periode.</p> <p>Dien <b>TRACER™ 480 SC</b> gedurende blom sowel as na-oes wanneer nuwe groei aangeval word, as 'n hoë volume dekbespuiting toe wanneer die plaaggetalle die drempelwaarde bereik of oorskry. Afhangend van die duur van die blomperiode en die aanwesigheid van blaaspootjies mag 'n opvolgbespuiting binne 7 – 10 dae nodig wees, om voldoende beskerming teen blaaspootjies te verseker.</p> <p>Weerstandbestuur: Vir die doeleindes van 'n weerstandstrategie moenie <b>TRACER™ 480 SC</b> in totaal, meer as drie maal per seisoen op Frambose toedien nie.</p>
<p><b>GRASPERKE</b> Grasperkruspe</p>	<p>2 ml/10 ℓ water (10 ℓ spuitmengsel/ 20 m<sup>2</sup>)</p>	<p>Dien 10 ℓ spuitmengsel per 20 m<sup>2</sup> grasoppervlakte as 'n grond deurdrenking toe met 'n gieter met 'n fyn rooskop sodra die grasperkruspes opgemerk word. Herhaal die toediening sodra 'n nuwe generasie verskyn.</p>



GEWAS/PLAAG	DOSIS/100 ℓ WATER	OPMERKINGS
<p><b>GRASUIE (CHIVES)</b> Blaaspootjies (<i>Thrips tabaci</i>)</p>	<p>15 mℓ (75 – 150 mℓ/ha) + 150 – 250 mℓ ligte of medium small bestek minerale olie.</p> <p>OF</p> <p>‘n Geregistreerde benattingsmiddel teen die geregistreerde dosis vir gebruik op grasuie.</p>	<p>Dien in ‘n spuitprogram as ‘n volle dekbespuiting teen 500 – 1000 ℓ/ha toe, verseker dat plante deeglik benat word. Herhaal toedienings elke 7 – 10 dae.</p> <p>Begin toedien wanneer plaag vir die eerste maal opgemerk word of as opvolgbespuitings in ‘n spuitprogram na nie-verwante insekdoders soos in anti-weerstandsprogramme vereis word. Dien ‘n minimum van twee opeenvolgende bespuitings met <b>TRACER™ 480 SC</b> toe om doeltreffende beheer van plaag te verseker. Gebruik die korter tussenpose van 7 dae waar die populasiedruk hoog is of wanneer omgewingstoestande die plaag bevorder, bv. gedurende somermaande. Nieteenstaande beheermaatreëls mag blaaspootjie skade voorkom.</p> <p>Vir die doeleindes van ‘n <b>weerstandstrategie</b>, moet <b>TRACER™ 480 SC</b> in nie meer as vier (4) opeenvolgende bespuitings, binne enige periode van 28 dae toegedien word nie. Wissel <b>TRACER™ 480 SC</b> in die spuitprogram af met nie-verwante insekdoders vir minstens die duur van een generasie van die plaag. Moenie <b>TRACER™ 480 SC</b> in meer as ‘n totaal van ses (6) bespuitings per aanplanting aanwend nie.</p>
<p><b>KERSIES</b> Afrika Bolwurm (<i>Helicoverpa armigera</i>)</p>	<p>20 mℓ</p>	<p>Dien <b>TRACER™ 480 SC</b> as ‘n voldekbepuiting toe.</p> <p><b>Nota:</b> <b>TRACER™ 480 SC</b> as ‘n enkel- of korrektiewe bespuiting teen bolwurm is meer effektief teen jonger larwes.</p>

GEWAS/PLAAG	DOSIS/100 ℓ WATER	OPMERKINGS
<b>KERSIES (verv.)</b> Blaaspootjie Verskeie spesies insluitend	15 mℓ	<p>Begin met toediening sodra Blaaspootjie waargeneem word. Dien toe as 'n ligte dekbespuiting. Deeglike bedekking van die teikenarea is noodsaaklik. Herhaal toediening indien nodig.</p> <p><b>Weerstandsbestuur:</b> Moenie <b>TRACER™ 480 SC</b> meer as 3 (drie) maal per seisoen op Kersies toedien nie. Wissel die gebruik van <b>TRACER™ 480 SC</b> af met insekdoders wat 'n ander werkingswyse het.</p>
<b>KOPKOOL</b> Ruitrugmot larwes ( <i>Plutella xylostella</i> )  Tamatieblaarmyner mot ( <i>Tuta absoluta</i> )	30 mℓ (150 - 300 mℓ/ha) + 150 – 250 mℓ ligte of medium smal bestek minerale olie  OF  'n Geregistreeerde benattingsmiddel teen die geregistreeerde dosis vir gebruik op kopkool.	<p>Dien toe in 'n spuitprogram as 'n volle dekbespuiting teen ten minste 500 ℓ/ha spuitmengsel elke 7 – 10 dae.</p> <p>Begin toedien wanneer plaag vir die eerste maal opgemerk word of as opvolgbespuitings in 'n spuitprogram na nie-verwante insekdoders soos in anti-weerstandsprogramme vereis word. Dien 'n minimum van twee opeenvolgende bespuitings met <b>TRACER™ 480 SC</b> toe om doeltreffende beheer van plaag te verseker. Gebruik die korter tussenpose van 7 dae waar die populasiedruk hoog is of wanneer omgewingstoestande die plaag bevorder, bv. gedurende somermaande.</p> <p>Vir die doeleindes van 'n <b>weerstandstrategie</b>, moet <b>TRACER™ 480 SC</b> in nie meer as vier (4) opeenvolgende bespuitings, binne enige periode van 28 dae toegedien word nie. Wissel <b>TRACER™ 480 SC</b> in die spuitprogram af met nie-verwante insekdoders vir minstens die duur van een generasie van die plaag. Moenie <b>TRACER™ 480 SC</b> in meer as 'n totaal van ses (6) bespuitings per aanplanting aanwend nie.</p>



GEWAS/PLAAG	DOSIS/100 ℓ WATER	OPMERKINGS
<p><b>PAMPOENGWASSE (verv.)</b>  Amerikaanse Bladmyner (<i>Liriomyza trifolii</i>)</p> <p>Tamatieblaarmyner mot (<i>Tuta absoluta</i>)</p>	<p>30 mℓ  (150 – 300 mℓ/ha)  +  150 – 250 mℓ  ligte of medium  smal bestek  minerale olie (bv.  Soos wat vir gebruik  by sitrus  geregistreer is)</p> <p>OF</p> <p>‘n Geregistreerde  benattingsmiddel  teen die  geregistreerde dosis  vir gebruik op  pampoengewasse.</p>	
<p><b>PERSIMMON</b>  Amerikaanse (Afrika)  Bolwurm  (<i>Helicoverpa armigera</i>)</p> <p>Blaaspootjies  (Verskeie spesies,  insluitend “Western  Flower Thrip” - WFT -  <i>Frankliniella occidentalis</i>)</p>	<p>20 mℓ</p> <p>15 mℓ</p>	<p>Dien <b>TRACER™ 480 SC</b> as ‘n hoë volume dekbespuiting toe wanneer erkende verkenningmetodes aantoon dat die plaaggetalle die voorgeskrewe drempelwaarde bereik of oorskry.  Nota: <b>TRACER™ 480 SC</b> as enkel of korrektiewe bespuiting teen bolwurm, is meer effektief teen jonger larwes.</p> <p>Vroeë blaaspootjieskade word normaalweg gedurende, vroeë blom tot kort na-blom, veroorsaak. Warm weerstoestande bevoordeel blaaspootjie-aktiwiteit. Voorgeskrewe verkenningmetodes moet gevolg word om die aanwesigheid en omvang van die plaag te bepaal.</p>

GEWAS/PLAAG	DOSIS/100 ℓ WATER	OPMERKINGS
PERSIMMON (verv.)		<p>Dien <b>TRACER™ 480 SC</b> gedurende blom as 'n hoë volume dekbespuiting toe wanneer die plaaggetalle die drempelwaarde bereik of oorskry. Afhangend van die duur van die blomperiode en die aanwesigheid van blaaspootjies mag 'n opvolgbespuiting binne 7 – 10 dae nodig wees om voldoende beskerming teen blaaspootjies te verseker.</p> <p><b>Weerstandbestuur:</b> Vir die doeleindes van 'n <b>weerstandstrategie</b>, moenie <b>TRACER™ 480 SC</b> in meer as twee opeenvolgende bespuitings binne 'n periode van 21 dae toedien nie. Vir enige opvolgbespuitings moet daar minstens 28 dae vanaf die laaste toediening verloop. Moenie <b>TRACER™ 480 SC</b> in totaal, meer as vier maal per seisoen, op Persimmons toedien nie.</p>
<b>PERSKES ingesluit</b> <b>NEKTARIENS</b> Amerikaanse (Afrika) Bolwurm (Helicoverpa armigera)	20 ml	<p>Dien <b>TRACER™ 480 SC</b> as 'n hoë volume dekbespuiting toe wanneer erkende verkenningmetodes aantoon dat die plaaggetalle die voorgeskrewe drempelwaarde bereik of oorskry.</p> <p>Nota: <b>TRACER™ 480 SC</b> as enkel of korrektiewe bespuiting teen bolwurm, is meer effektief teen jonger larwes.</p>

GEWAS/PLAAG	DOSIS/100 ℓ WATER	OPMERKINGS
<p><b>SLEGS NEKTARIENS</b> Blaaspootjies (Verskeie spesies, insluitend “Western Flower Thrip” - WFT - <i>Frankliniella occidentalis</i>)</p> <p>Vroeë skade</p> <p>Versilwering (voorkoming)</p>	<p>15 ml</p> <p>15 ml</p>	<p>Vroeë blaaspootjieskade word normaalweg gedurende vroeë blom tot kort na blom, veroorsaak. Skade wat deur “WFT” veroorsaak word, kan so laat as, kort voor oes, voorkom. (Sien “versilwering”). Warm weerstoestande bevoordeel blaaspootjie-aktiwiteite. Voorgeskrewe verkenningsmetodes moet gevolg word om die aanwesigheid en omvang van die plaag te bepaal.</p> <p>Dien <b>TRACER™ 480 SC</b> gedurende blom as 'n hoë volume dekbespuiting toe wanneer die plaaggetalle die drempelwaarde bereik of oorskry. Afhangend van die duur van die blomperiode en die aanwesigheid van blaaspootjies, mag 'n opvolgbespuiting binne 7 – 10 dae nodig wees om voldoende beskerming teen blaaspootjies te verseker.</p> <p>Dien <b>TRACER™ 480 SC</b> as 'n hoë volume dekbespuiting toe wanneer die eerste blaaspootjie-aktiwiteite, wat versilwering tot gevolg mag hê, opgemerk word. Moenie nader as 7 dae aan oes toedien nie.</p> <p><b>Weerstandbestuur:</b> Vir die doeleindes van 'n <b>weerstandstrategie</b>, moenie <b>TRACER™ 480 SC</b> in totaal, meer as vier maal per seisoen, op Nektariens toedien nie.</p>

GEWAS/PLAAG	DOSIS/100 ℓ WATER	OPMERKINGS
<p><b>PERE</b> Amerikaanse (Afrika) bolwurm (<i>Helicoverpa armigera</i>)</p>	<p>20 mℓ</p>	<p>Dien <b>TRACER™ 480 SC</b> as 'n hoë volume dekbespuiting toe wanneer erkende verkenningmetodes aantoon dat die plaaggetalle die voorgeskrewe drempelwaarde bereik of oorskry.</p> <p><b>Nota:</b> <b>TRACER™ 480 SC</b> as enkel- of korrektiewe bespuiting teen bolwurm, is meer effektief teen jong larwes.</p> <p><b>Weerstandbestuur:</b> Vir die doeleindes van 'n weerstandstrategie moenie <b>TRACER™ 480 SC</b> in totaal, meer as vier maal per seisoen op Pere toedien nie.</p>
<p><b>PREIE</b> Blaaspootjies (<i>Thrips tabaci</i>)</p>	<p>15 mℓ (75 – 150 mℓ/ha) + 150 – 250 mℓ ligte of medium smal bestek minerale olie</p> <p>OF</p> <p>'n Geregistreerde benattingsmiddel teen die geregistreerde dosis vir gebruik op uie.</p>	<p>Dien in 'n spuitprogram as 'n volle dekbespuiting teen 500 – 1000 ℓ/ha toe, verseker dat plante deeglik benat word. Herhaal toedienings elke 7 – 10 dae.</p> <p>Begin toedien wanneer plaag vir die eerste maal opgemerk word of as opvolgbespuitings in 'n spuitprogram na nie- verwante insekdoders soos in anti- weerstandsprogramme vereis word. Dien 'n minimum van twee opeenvolgende bespuitings met <b>TRACER™ 480 SC</b> toe om doeltreffende beheer van plaag te verseker. Gebruik die korter tussenpose van 7 dae waar die populasiedruk hoog is of wanneer omgewingstoestande die plaag bevorder, bv. gedurende somermaande. Nieteenstaande beheermaatreëls mag blaaspootjieskade voorkom.</p>

GEWAS/PLAAG	DOSIS/100 ℓ WATER	OPMERKINGS
PREIE (verv.)		Vir die doeleindes van 'n <b>weerstandstrategie</b> , moet <b>TRACER™ 480 SC</b> in nie meer as vier (4) opeenvolgende bespuitings, binne enige periode van 28 dae toegedien word nie. Wissel <b>TRACER™ 480 SC</b> in die spuitprogram af met nie-verwante insekdoders vir minstens die duur van een generasie van die plaag. Moenie <b>TRACER™ 480 SC</b> in meer as 'n totaal van ses (6) bespuitings per aanplanting aanwend nie.
<p><b>PRUIME</b> Amerikaanse (Afrika) Bolwurm (<i>Helicoverpa armigera</i>)</p> <p>Blaaspootjies (Verskeie spesies, insluitend "Western Flower Thrip" - WFT - <i>Frankliniella occidentalis</i>)</p>	<p>20 mℓ</p> <p>15 mℓ</p>	<p>Dien <b>TRACER™ 480 SC</b> as 'n hoë volume dekbespuiting toe wanneer erkende verkenningmetodes aantoon dat die plaaggetalle die voorgeskrewe drempelwaarde bereik of oorskry. <b>Nota:</b> <b>TRACER™ 480 SC</b> as enkel of korrektiewe bespuiting teen bolwurms, is meer effektief teen jonger larwes.</p> <p>Vroeë blaaspootjieskade word normaalweg gedurende, vroeë blom tot kort na-blom, veroorsaak. Warm weerstoestande bevoordeel blaaspootjie-aktiwiteit. Voorgeskrewe verkenningmetodes moet gevolg word om die aanwesigheid en omvang van die plaag te bepaal.</p> <p>Dien <b>TRACER™ 480 SC</b> gedurende blom as 'n hoë volume dekbespuiting toe wanneer die plaaggetalle die drempelwaarde bereik of oorskry. Afhangend van die duur van die blomperiode en die aanwesigheid van blaaspootjies mag 'n opvolgbespuiting binne 7 – 10 dae nodig wees om voldoende beskerming teen blaaspootjies te verseker.</p> <p><b>Weerstandbestuur:</b> Vir die doeleindes van 'n <b>weerstandstrategie</b> moenie <b>TRACER™ 480 SC</b> in totaal, meer as vier maal per seisoen, op pruime toedien nie.</p>



GEWAS/PLAAG	DOSIS/100 ℓ WATER	OPMERKINGS
<b>SIERPLANTE EN ROSE</b> "Western Flower Thrip" ( <i>Frankliniella occidentalis</i> )	5 ml/10 ℓ water	<p><b><u>Korrektiewe bespuiting:</u></b>            Verwyder alle oop blomme voor bespuiting as blaaspootjies teenwoordig is op Rose. Nie nodig op ander plante nie, maar dit kan effektiwiteit verbeter. Dien as 'n volle dekbespuiting toe oor die blare, oop blomme en blomknoppe.</p> <p><b><u>Voorkomende bespuiting:</u></b>            Dien as 'n volle dekbespuiting weekliks toe voordat blomknoppe open. 'n Minimum van drie bespuitings elke 7 dae behoort effektiewe beheer te gee.</p>
<b>SPINASIE</b> Blaaspootjie spp.	15 ml (75 – 150 ml/ha) + 150 – 250 ml ligte of medium smal bestek minerale olie  OF  'n Geregistreerde benattingsmiddel teen die geregistreerde dosis vir gebruik op spinasie.	<p>Dien toe in 'n spuitprogram as 'n volle dekbespuiting teen ten minste 500 ℓ/ha tot 1000 ℓ/ha spuitmengsel elke 7 – 10 dae.</p> <p>Begin toedien wanneer plaag vir die eerste maal opgemerk word of as opvolgbespuitings in 'n spuitprogram na nie- verwante insekdoders soos in anti- weerstandsprogramme vereis word. Dien 'n minimum van twee opeenvolgende bespuitings met <b>TRACER™ 480 SC</b> toe om doeltreffende beheer van plaag te verseker. Gebruik die korter tussenpose van 7 dae waar die populasiedruk hoog is of wanneer omgewingstoestande die plaag bevorder, bv. gedurende somermaande.</p>

GEWAS/PLAAG	DOSIS/100 ℓ WATER	OPMERKINGS
<p><b>SPINASIE (verv.)</b>  Amerikaanse (Afrika)  Bolwurm  (<i>Helicoverpa armigera</i>)</p> <p>Amerikaanse Bladmyner  (<i>Liriomyza trifolii</i>)</p> <p>Tamatieblaarmyner mot  (<i>Tuta absoluta</i>)</p>	<p>20 mℓ  (100 – 200 mℓ/ha)  +  150 – 250 mℓ  ligte of medium  smal bestek  minerale olie</p> <p>OF</p> <p>‘n Geregistreerde  benattingsmiddel  teen die  geregistreerde dosis  vir gebruik op  spinasië.</p> <p>30 mℓ  (150 - 300 mℓ/ha)  +  150 – 250 mℓ  ligte of medium  smal bestek  minerale olie</p> <p>OF</p> <p>‘n Geregistreerde  benattingsmiddel  teen die  geregistreerde dosis  vir gebruik op  spinasië.</p>	<p>Vir die doeleindes van ‘n <b>weerstandstrategie</b>, moet <b>TRACER™ 480 SC</b> in nie meer as vier (4) opeenvolgende bespuitings, binne enige periode van 28 dae toegedien word nie. Wissel <b>TRACER™ 480 SC</b> in die spuitprogram af met nie-verwante insekdoders vir minstens die duur van een generasie van die plaag. Moenie <b>TRACER™ 480 SC</b> in meer as ‘n totaal van ses (6) bespuitings per aanplanting aanwend nie.</p>

GEWAS/PLAAG	DOSIS/100 ℓ WATER	OPMERKINGS
<p><b>SITRUS</b> Amerikaanse (Afrika) Bolwurm (<i>Helicoverpa armigera</i>)</p> <p>Sitrus blaaspootjie (<i>Scirtothrips aurantii</i>)</p>	<p>20 ml</p> <p>15 ml + 300 ml van 'n geregistreerde ligte of medium smal bestek minerale olie</p>	<p>Dien <b>TRACER™ 480 SC</b> as 'n hoë volume dekbespuiting toe wanneer erkende verkenningmetodes aantoon dat die plaaggetalle die voorgeskrewe drempelwaarde bereik of oorskry. <b>Nota: TRACER™ 480 SC</b> as enkel of korrektiewe bespuiting teen bolwurm, is meer effektief teen jonger larwes.</p> <p>Begin toedien na 90 % blomblaarval sodra blaaspootjie waargeneem word. Herhaal toediening indien nodig. Dien toe as 'n ligte dekbespuiting tot voor afloop. Moet nie <b>TRACER™ 480 SC</b> meer as vier keer per seisoen toedien nie. Vir die doeleindes van 'n <b>weerstandstrategie</b> wissel af met 'n nie-verwante blaaspootjie middel.</p>
<p><b>TAFELDRUIWE</b> Amerikaanse (Afrika) Bolwurm (<i>Helicoverpa armigera</i>)</p> <p>Blaaspootjies (Verskeie spesies insluitend “Western Flower Thrip” <i>Frankliniella occidentalis</i>)</p>	<p>20 ml</p> <p>15 ml</p>	<p>Dien <b>TRACER™ 480 SC</b> as 'n hoë volume dekbespuiting toe wanneer erkende verkenningmetodes aantoon dat die plaaggetalle die voorgeskrewe drempelwaarde bereik of oorskry. <b>Nota: TRACER™ 480 SC</b> as enkel of korrektiewe bespuiting teen bolwurm, is meer effektief teen jonger larwes.</p> <p>Blaaspootjies en gepaardgaande skade by tafeldruiwe kom normaalweg gedurende die blomperiode tot kort daarna voor. In sommige areas en onder sekere toestande (bv. langdurige warm en droë toestande) mag blaaspootjies egter later in die seisoen voorkom. Die aanwesigheid van blaaspootjies moet op 'n gereelde basis gemonitor word en beheermaatreëls moet oorweeg word wanneer die infestasië drempelwaarde bereik of oorskry.</p>

GEWAS/PLAAG	DOSIS/100 ℓ WATER	OPMERKINGS
<b>TAFELDRUIWE (verv.)</b>		<p>Dien <b>TRACER™ 480 SC</b> as 'n hoë volume dekbespuiting toe. Afhangend van die duur van die blomperiod of aanwesigheid van blaaspootjies mag 'n opvolgbespuiting binne 5 – 7 dae nodig wees, om voldoende beskerming teen blaaspootjies te verseker.</p> <p>Moenie <b>TRACER™ 480 SC</b> in meer as twee (2) opeenvolgende bespuitings per seisoen toedien nie. (Let op onthoudingsperiodes).</p>
<p><b>TAMATIES</b> Amerikaanse blaarmyner (<i>Liriomyza trifolii</i>)</p> <p>Amerikaanse (Afrika) bolwurm (<i>Helicoverpa armigera</i>)</p> <p>Tamatie Vals-landmeter (<i>Chrysodeixis acuta</i>)</p> <p>Tamatieblaarmyner mot (<i>Tuta absoluta</i>)</p>	<p>30 mℓ (150 – 300 mℓ/ha) +</p> <p>150 – 250 mℓ ligte of medium smal bestek minerale olie</p> <p>OF</p> <p>'n Geregistreeerde benattingsmiddel teen die geregistreeerde dosis vir gebruik op tamaties.</p>	<p>Dien in 'n spuitprogram as 'n volle dekbespuiting teen 500 tot 1000 ℓ/ha spuitmengsel elke 7 – 10 dae toe.</p> <p>Begin toedien wanneer plaë vir die eerste maal opgemerk word of as opvolgbespuitings in 'n spuitprogram na nie- verwante insekdoders soos in anti- bestandsheidsprogramme vereis word. Dien 'n minimum van twee opeenvolgende bespuitings met <b>TRACER™ 480 SC</b> toe om doeltreffende beheer van plaë te verseker.</p> <p>Die volume spuitmengsel per ha word bepaal deur die plantgrootte en digtheid van die blaredek. Begin met 'n minimum van 500 ℓ/ha spuitmengsel op jong plante en verhoog die volume tot 'n maksimum van 1000 ℓ/ha namate die planthoogte en digtheid van die blaredek toeneem.</p> <p>Gebruik die korter interval van 7 dae waar die populasiedruk hoog is of wanneer omgewingstoestande die plaag bevorder, bv. gedurende somermaande of waar natuurlike vyande totaal afwesig is.</p>

GEWAS/PLAAG	DOSIS/ 100 ℓ WATER	OPMERKINGS
TAMATIES (verv.)		Vir doeleindes van 'n <b>weerstandstrategie</b> , moet <b>TRACER™ 480 SC</b> nie in meer as vier (4) opeenvolgende bespuitings binne enige periode van 28 dae, toegedien word nie. Wissel <b>TRACER™ 480 SC</b> in die spuitprogram af met nie-verwante insekdoders vir minstens die duur van een generasie van die plaag. Moenie <b>TRACER™ 480 SC</b> in meer as 'n totaal van ses (6) bespuitings per aanplanting aanwend nie.
<b>UIE</b> Blaaspootjies ( <i>Thrips tabaci</i> )	15 mℓ (75 – 150 mℓ/ha) + 150 – 250 mℓ ligte of medium smal bestek minerale olie  OF  'n Geregistreeerde benattingsmiddel teen die geregistreeerde dosis vir gebruik op uie.	Dien in 'n spuitprogram as 'n volle dekbespuiting teen 500 – 1000 ℓ/ha toe, verseker dat plante deeglik benat word. Herhaal toedienings elke 7 – 10 dae.  Begin toedien wanneer plaag vir die eerste maal opgemerk word of as opvolgbespuitings in 'n spuitprogram na nie-verwante insekdoders soos in anti-weerstandsprogramme vereis word. Dien 'n minimum van twee opeenvolgende bespuitings met <b>TRACER™ 480 SC</b> toe om doeltreffende beheer van plaag te verseker. Gebruik die korter tussenpose van 7 dae waar die populasiedruk hoog is of wanneer omgewingstoestande die plaag bevorder, bv. gedurende somermaande. Nieteenstaande beheermaatreëls mag blaaspootjie skade voorkom.

GEWAS/PLAAG	DOSIS/ 100 ℓ WATER	OPMERKINGS
UIE (verv.)		Vir die doeleindes van 'n <b>weerstandstrategie</b> , moet <b>TRACER™ 480 SC</b> in nie meer as vier (4) opeenvolgende bespuitings, binne enige periode van 28 dae toegedien word nie. Wissel <b>TRACER™ 480 SC</b> in die spuitprogram af met nie-verwante insekdoders vir minstens die duur van een generasie van die plaag. Moenie <b>TRACER™ 480 SC</b> in meer as 'n totaal van ses (6) bespuitings per aanplanting aanwend nie.

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