

READ THE LABEL BEFORE USE. KEEP OUT OF REACH OF CHILDREN AND ANIMALS. SHAKE THE BOTTLE WELL BEFORE USE.



Insecticide

# CORDIAL 200 SC

Reg. No. L 9501 Act No. 36 of 1947

3-18/01/2023– Oct2024

A suspension concentrate stomach and contact insecticide for the control of different insect pests in crops and orchards as indicated.

## ACTIVE INGREDIENT

chlorantraniliprole 200 g/l  
(anthranilic diamide)

GROUP

28

INSECTICIDE



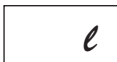
WARNING

### Hazard Statements:

Very toxic to aquatic life  
Very toxic to aquatic life with long lasting effects.

### Precautionary Statements:

Avoid release to the environment.  
Collect Spillage.  
Dispose of content/container to suitable landfill in accordance with local regulations.



UN Number: 3082

Registration holder: UNIVERSAL CROP PROTECTION (PTY) LTD.  
Co. Reg. No. 1983/008184/07  
65 Botes Road, Glen Marais, Kempton Park, 1619  
Tel. (011) 396 2233  
Website: [www.villacrop.co.za](http://www.villacrop.co.za)

IN CASE OF POISONING / 24 HR EMERGENCY NUMBERS:  
Griffon Poison Information Centre (National): +27 82 446 8946  
Poison Information Helpline (National): +27 861 555 777  
24 Hr Transport / Spill emergency no: (Hazcall24) +27 86 044 4411  
(Client: Villa Crop Protection)

REFER TO DETAILS AS PRINTED ON CONTAINER / BAG

DIRECTIONS FOR USE ENCLOSED

Batch Number:  
Date of Manufacture:

**CORDIAL 200 SC**

Reg. No. L 9501 Act No. 36 of 1947  
 IRAC INSECTICIDE GROUP CODE: 28

**ACTIVE INGREDIENT:**

chlorantraniliprole (anthranilic diamide).....200 g/l

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**UNIVERSAL CROP PROTECTION (PTY) LTD.**

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Tel. (011) 396 2233

**WARNINGS****Withholding periods:**

<b>Minimum time between the last application and harvest:</b>	
Canola	14 days
Cotton & Sorghum	14 days
Cruciferae	14 days
Maize (including grazing)	14 days
Maize (tank mixture with <b>Advance 150 SC</b> or <b>Lambda 50EC</b> )	56 days
Potatoes	1 day
Soybeans (including grazing)	7 days
Strawberries	1 day
Sugarcane	23 days
Tomatoes	1 day
Tree nuts (including Almonds, Cashews, Hazelnuts, Macadamias, Pecans, Pistachios & Walnuts)	10 days

**IMPORTANT - MAXIMUM RESIDUE LIMITS:**

**COMPLIANCE WITH THESE WITHHOLDING PERIODS WILL ENSURE THAT RESIDUES DO NOT EXCEED LOCAL MAXIMUM RESIDUE LIMITS, BUT THE IMPORT TOLERANCES OF OTHER COUNTRIES MIGHT POSSIBLY BE EXCEEDED. IF THE CROP TO BE TREATED IS INTENDED FOR EXPORT, CONSULT THE RELEVANT EXPORTING ORGANISATION REGARDING WITHHOLDING PERIODS.**

**Hazard statements:**

Very toxic to aquatic life.
Very toxic to aquatic life with long lasting effects

- Handle with care.
- This product is not likely to be hazardous by inhalation or skin contact.
- May irritate skin and eyes.
- Danger of serious damage to health by prolonged exposure if swallowed.
- Store in a cool, dry place away from food, feeds, fertilizers and other agricultural remedies.
- Keep out of reach of children, animals and uninformed persons.
- Use of this material in a manner or at a time other than in accordance with the directions may cause excessive residues or other undesirable results.
- Re-entry: 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 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 pests to the remedy concerned, as well as by the method, time and accuracy of application. The registration holder further does not accept responsibility for damage to crops, vegetation, and the environment or harm to man or animal or for lack of performance of the remedy concerned, due to failure of the user to follow the label instructions or to the occurrence of conditions, which could not have been foreseen in terms of the registration. Consult the supplier in event of any uncertainty.**

**PRECAUTIONS****Precautionary statements:**

Avoid release into the environment.
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Collect spillage.
Dispose of contents/container in accordance with local regulations.

- Do not inhale the spray mist.
- Avoid contact with eyes and prolonged or repeated skin contact.
- Persons in contact with the insecticide should wear protective clothing (long-sleeved shirts and long pants, shoes with socks and gloves).
- Wash contaminated clothing after use.
- Wash with soap and water after use or accidental skin contact.
- Do not eat, drink or smoke whilst mixing, applying the product or before washing hands and face or change of clothing.
- In case of ingestion call a physician or poison centre.
- Avoid drift of spray onto other crops, grazing, rivers, dams and areas not under treatment.
- Do not apply directly to and prevent drift onto other edible crops than indicated on the label, grazing, rivers, dams and areas not under treatment.
- Thoroughly clean spraying equipment directly after use and dispose of wash water where it will not contaminate food, grazing, boreholes, rivers or dams.
- **TRIPLE RINSE THE EMPTY CONTAINER AS FOLLOWS:** Invert the empty container over the spray or mixing tank and drain for at least 30 seconds after the flow has slowed down to dripping. Thereafter rinse the empty container three times in succession with one quarter of the container volume fresh water and decant the rinsate into the spray or mixing tank. Puncture the triple rinsed container and dispose of via an approved collector or recycler [www.croplife.co.za](http://www.croplife.co.za). Do not bury, burn, or donate the container to any other parties that may use it as a container for food or beverages.
- Prevent contamination of food, feeds, drinking water and eating utensils.

Relevant hazardous components	
Chlorantraniliprole	200 g/l
Polyethylene Glycol Mono (Tristyrylphenyl) Ether	< 10 g/l

#### **FIRST AID TREATMENT:**

- Remove the victim from the area of exposure. Wash off remaining material with plenty of water. In the event of any complaints or symptoms, avoid further exposure.
- **Inhalation:** Remove person from contaminated area to fresh air and assist breathing as needed. Seek medical attention if irritation occurs.
- **Skin:** Remove contaminated clothing and shoes. Gently wipe off excess chemical. Wash skin gently and thoroughly with water and non-abrasive soap. Obtain medical attention if irritation persists.
- **Eyes:** Flush eyes with clean water for at least 15 – 20 minutes. Lift eyelids to facilitate irrigation. If present, remove contact lenses after 5 minutes and continue rinsing. **Seek medical attention.**
- **Ingestion:** Seek medical attention or call a poison control centre for treatment advice. Do not induce vomiting unless instructed to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person. If the person is alert, rinse mouth thoroughly with water.

#### **RESISTANCE WARNING**

**CORDIAL 200 SC** is a group code 28 insecticide. Any insect population may contain individuals naturally resistant to **CORDIAL 200 SC** and other group code 28 insecticides. The resistant individuals can eventually dominate the insect population if these insecticides are used repeatedly. These resistant insects may not be controlled by **CORDIAL 200 SC** or any other group code 28 insecticide.

#### **To delay insecticide resistance:**

- avoid exclusive repeated use of insecticides from the same insecticide group code. Alternate with products from different insecticide group codes,
- integrate other control methods (chemical, cultural, biological) into insect control programmes.

For specific information on resistance management contact the registration holder of this product.

**Mode of Action:** Activates insect ryanodine receptors, leading to unregulated loss of internal calcium stores. Binding site is distinct from that of ryanodine

#### **Additional notes on RESISTANCE MANAGEMENT**

Certain insect species have developed resistance to commercially available insecticides with the result that the pest populations are not suppressed below economic thresholds at recommended dosage rates. Due to

its unique mode of action, **CORDIAL 200 SC** is useful where resistance management is important. Observe the following guidelines in order to delay the onset of insect resistance to chlorantraniliprole:

1. It is recommended to alternate **CORDIAL 200 SC** with compounds from different chemical classes (pyrethroids, organophosphates, neonicotinoids, spinosyns, diacylhydrazines or other insect growth regulators). **Do not exceed the maximum number of CORDIAL 200 SC applications per season as indicated under DIRECTIONS FOR USE on this label.**
2. Monitor pest populations and apply **CORDIAL 200 SC** according to the label instructions when locally determined economic thresholds are reached. Apply 2 to 3 consecutive **CORDIAL 200 SC** applications as a block-spray. Adhere to the label recommendations especially with regard to dosage rates, spray intervals and the optimum time to apply **CORDIAL 200 SC**.
3. **CORDIAL 200 SC** applications will not kill a large number of beneficial arthropods (parasitoids and predators). While these beneficial arthropods cannot be relied upon to control pest insects completely, they are of potential value and can be monitored along with pests in pest management programmes on these crops.
4. Attempt to avoid application of **CORDIAL 200 SC** when honeybees are actively foraging in orchards.

### **GENERAL INFORMATION**

- **CORDIAL 200 SC** is active through ingestion (stomach action) and cuticular absorption (contact action).
- **CORDIAL 200 SC** acts by means of impaired muscle regulation, paralysis and ultimately insect death. Although the pests die within 2 to 3 days, inhibition of insect movement and feeding occurs rapidly.
- **CORDIAL 200 SC** is very active against the larvae, less so against adults. It inhibits feeding activity and is egg curative. It also prevents further egg development in eggs already laid.
- **CORDIAL 200 SC** controls mainly Lepidoptera insect pests (larvae of moths and butterflies), but also some insect pests in other orders e.g. Coleoptera (beetles) and Diptera (flies). **CORDIAL 200 SC** applications have been proved as not harmful to many beneficial insects (predators, parasitoids and pollinators), as well as predatory mites and can therefore effectively be used in Integrated Pest Management (IPM) programmes.
- When used as instructed, most beneficial insects and predatory mites will not be affected by **CORDIAL 200 SC** applications.

### **RAINFASTNESS**

Once the spray mixture has dried on foliage and fruit on the target area, **CORDIAL 200 SC** will not be washed off by rainfall or sprinkler irrigation and the normal residual activity of the product should not be affected.

### **DIRECTIONS FOR USE: Only use as directed.**

#### **Compatibility:**

- **CORDIAL 200 SC** is compatible with the adjuvants, **Direct, Charge** or **Break-Thru® S240, Villa 51, INTERLOCK®** (L 10254 / W 130875 / N-AR 1856) or a Villa approved organosilicone surfactant as indicated on the label with regards to certain crops.
- **CORDIAL 200 SC** is compatible with the crop protection products, **Tempes 100 EC, Lambda 50EC** and **Advance 150 SC**. The compatibility of **CORDIAL 200 SC** with other agrichemicals has not been fully investigated. If tank mixtures with other products are made, first confirm compatibility by mixing small volumes of the products in the correct ratio with the appropriate quantity of water. Water quality and formulation properties of other products may influence compatibility.
- For more compatibility information, or in the event of uncertainty, contact your nearest Villa representative.

#### **Mixing instructions:**

- Ensure that the spray equipment is clean and free of previously applied pesticide residues before application of **CORDIAL 200 SC**.
- Fill the spray tank half with clean water and ensure agitation.
- Add the required volume of **CORDIAL 200 SC** directly to the tank and fill to the final application volume with water while agitation is maintained.

#### **Mixing sequence:**

- If **CORDIAL 200 SC** is tank mixed with other products, always first add the buffer/acidifier, followed by water soluble/dispersible granule formulations, followed by wettable powders, followed by suspension concentrates (e.g. **CORDIAL 200 SC**) to the spray tank, followed by other formulations (where applicable) in the following order:
  - water soluble concentrates,
  - oil-based suspension concentrates

- emulsifiable concentrates (EC's and EW's) and
- adjuvants such as surfactants and spray oils

Allow sufficient time for complete mixing and dispersion after addition of each product before the next product is added. Also refer to “**Compatibility**” statement above.

Where there is a danger of fine droplets drifting onto susceptible non target plants/crops, use low drift air-mix type or equivalent nozzles, or add a drift retardant adjuvant, such as **Interlock®**, when spraying.

## **CROP & PEST SPECIFIC INSTRUCTIONS**

### **1. Control of Tomato leafminer moth larvae (*Tuta absoluta*) in Tomatoes:**

- Regular scouting of tomato fields is important to determine the timing of the first (and follow-up treatments if necessary).
- Apply **CORDIAL 200 SC** in an 8 to 14-day interval programme under conditions of continuous re-infestation. Use the shorter interval early in the growth season when plants are growing actively.
- When **CORDIAL 200 SC** is applied in a 7-day spray interval program a 50 to 80 % reduction of American Leafminer (*Liriomyza trifolii*) can be expected under low to medium pest pressure conditions. Under high American Leaf Miner infestation pressure alternate **CORDIAL 200 SC** with a product specifically registered and effective against the pest.
- **Do not** exceed a total of three (3) treatments per season with **CORDIAL 200 SC**. The alternation of **CORDIAL 200 SC** with products from a different mode of action group (e.g. **Addition 150 SC**) is recommended. Apply a block application of 2 to 3 consecutive **CORDIAL 200 SC** treatments before switching to products with other modes of action e.g. **Addition 150 SC**).
- Most beneficial insects are unaffected by applications of **CORDIAL 200 SC**.
- The addition of a surfactant e.g. **Villa 51** is recommended to improve coverage.
- Do not apply more than 2.4 litres **CORDIAL 200 SC** in total per hectare per season in tomatoes.

## **APPLICATION INSTRUCTIONS**

### **1. Ground application:**

Apply **CORDIAL 200 SC** as a high-volume full cover application with conventional spray equipment, which is correctly calibrated and in good working order, which will provide thorough coverage of the target crop and correct dosage rate per hectare.

### **2. Aerial Application instructions:**

Aerial application of **CORDIAL 200 SC** may only be performed by a registered aerial application operator using a correctly calibrated, registered aircraft according to the instructions of SANS Code 10118 (Aerial Application of Agricultural Pesticides). Ensure that the spray mixture is distributed evenly over the target area and that the loss of spray material during application is restricted to a minimum. It is therefore essential that the following criteria are met:

- **Volume:** A minimum spray mixture volume of 30 litres per hectare is recommended. As this product has not been evaluated at a reduced volume rate, the registration holder cannot guarantee efficacy, or be held responsible for any adverse effects if this product is applied aurally at a lower volume rate than recommended above.
- **Droplet coverage:** The following number of droplets per cm<sup>2</sup> must be recovered at the target area: 30 to 40 droplets per cm<sup>2</sup>.
- **Droplet size:** The following droplet spectra are recommended: VMD of 250 to 280 microns. Limit the production of fine droplets less than 150 micron (high drift and evaporation potential) to a minimum.
- **Flying height:** Maintain the height of the spray boom at 3 to 4 metres above the target. Do not spray when aircraft dives, is in a climb or when banking.
- Use suitable atomising equipment that will produce the desired droplet size and coverage, but which will ensure the minimum loss of product. The spraying system must produce a droplet spectrum with the lowest possible Relative Span.
- Position all the atomisers within the inner 60 to 75 % of the wingspan to prevent droplets from entering the wingtip vortices.
- The difference in temperature between the wet and dry bulb thermometers, of a whirling hygrometer, should not exceed 8°C.
- Stop spraying if the wind speed exceeds 15 km per hour.
- Stop spraying under turbulent, unstable and dry conditions during the heat of the day.
- Spraying under temperature inversion conditions (spraying in or above the inversion layer) and/or high humidity conditions (relative humidity 80 % and above) may lead to the following:

- a) Reduced efficacy due to suspension and evaporation of small droplets in the air (inadequate coverage),
- b) Damage to other sensitive crops and/or non-target areas through drifting of the suspended spray cloud away from the target field.
- Ensure that the aerial spray operator knows exactly which fields to spray.

Obtain an assurance from the aerial spray operator that the above requirements will be met and that relevant data will be compiled in a logbook and kept for future reference.

### **3. Pivot irrigation equipment instructions:**

- The system must have a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent contamination of the water source from back flow.
- The pesticide injection pipeline must have a functional automatic quick-closing check valve to prevent the flow of liquid back towards the injection pump.
- The pesticide injection line should also have a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn out of the supply tank when the irrigation system is either automatically or manually closed down.
- The system must have functioning interlocking controls to shut off the pesticide injector pump automatically when the water-pump motor stops.
- The irrigation line or water-pump must include a functional pressure switch, which will stop the water-pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- Do not apply when wind conditions favour drift beyond the area intended for treatment.
- **IMPORTANT**  
Use very clean water for pivot irrigation application. Water must be free of silt, clay and organic material, as these particles adversely affect the efficacy.

### **APPLICATION RATES**

<b><i>Crop / Pest</i></b>	<b><i>Dosage Rate</i></b>	<b><i>Remarks</i></b>
<b><u>Canola</u></b> Larvae of African bollworm ( <i>Helicoverpa armigera</i> )  Diamondback moth ( <i>Plutella xylostella</i> )	150 to 250 ml / ha	Apply at first signs of an infestation. Use the higher application rates for more severe infestations. A follow-up application can be made after 7 (seven) days.  Add a surfactant such as <b>Charge, Direct or Break-Thru® S240</b> .  <b>Do not exceed two (2) applications per season.</b>
<b><u>Cruciferae</u></b> (Cabbage group) Diamondback moth ( <i>Plutella xylostella</i> )  Cabbage webworm ( <i>Hellula undalis</i> )  Larvae of African bollworm ( <i>Helicoverpa armigera</i> )  Larvae of Tomato semi-looper ( <i>Chrysodeixis spp.</i> )  Army worms ( <i>Spodoptera spp.</i> )	250 ml / ha  <b>PLUS</b>  25 ml / 100 l water  <b>Charge</b>	Commence with treatments shortly after transplant before or when egg or first larvae are noticed. Repeat 10 days later.  Apply a 3 <sup>rd</sup> application 10 days later. Ensure complete coverage of the plant but without runoff. Use from 200 litres water per hectare on smaller plants and increase to 600 litres as plants grow bigger.  <b>Do not exceed three (3) applications per season.</b>

<b>Crop / Pest</b>	<b>Dosage Rate</b>	<b>Remarks</b>
<b>Cotton</b> Larvae of fall armyworm ( <i>Spodoptera frugiperda</i> )	150 to 200 ml / ha	Apply as a full cover spray in at least 200 to 400 litres of water per hectare, depending on plant size. Applications should be made as soon as the pest is noticed when larvae are not larger than 1 cm. A follow-up application should be made 14 days later. <b>Do not exceed two (2) applications per season.</b> If infestation persists, alternate with chemicals with a different mode of action.
<b>Maize</b> Larvae of African bollworm ( <i>Helicoverpa armigera</i> )	2.5 ml / 100 m row (250 ml / ha)  <b>PLUS</b>  100 ml / 100 l water <b>Charge</b>	<u>Ground application / funnel infestation:</u> Apply over the plant row, over the funnel of the plants and ensure thorough coverage of the foliage. To ensure optimum results, application must take place early in the morning when dew is present. Apply in at least 200 litres water per hectare at the first signs of infestation, as soon as feeding damage or caterpillars are observed. <u>Cob infestation:</u> Apply when first larvae are observed on the beard (silk) during cob formation. Apply when larvae are still outside the cobs as larvae inside cobs will not be controlled.
	250 ml / ha	Pivot irrigation equipment application: Refer to “ <b>Pivot Application instructions</b> ” under “ <b>APPLICATION INSTRUCTIONS</b> ” above.
<b>Maize &amp; Sweetcorn</b> Larvae of Fall armyworm ( <i>Spodoptera frugiperda</i> )	150 to 250 ml / ha  <b>PLUS</b>  100 ml / 100 l water <b>Charge</b>	Apply as a full cover spray in 450 litres of water per hectare. Apply as soon as the pest is noticed when larvae are not larger than 1 cm. A follow-up application should be made 14 days later. <b>Do not exceed two (2) applications per season.</b> If infestation persists, alternate with chemicals with a different mode of action.
Maize stalk borer ( <i>Busseola fusca</i> )  Sorghum stem borer ( <i>Chilo partellus</i> )	4 ml / 100 m row  <b>PLUS</b>  3 ml / 100 m row <b>Tempes 100 EC</b>  <b>OR</b>  0.6 ml / 100 m row <b>Lambda 50EC</b>  <b>OR</b>  2.5 ml / 100 m row <b>Advance 150 SC</b>  <b>PLUS</b>  25 ml / 100 l <b>Charge</b>	Apply as a full cover spray when eggs are found on 5 % of the plants or if 10 % of the plants show hail damage.  Apply a minimum of 3 litres of spray mixture per 100 m plant row.  Applications must be made early in the morning and spray should be directed into the funnels – ensure thorough coverage of the plant.  Apply a second application ten (10) days later.  <b>Do not exceed two (2) applications per season.</b>

Crop / Pest	Dosage Rate	Remarks
<p><b>Potatoes</b> American leaf miner (<i>Liriomyza trifolii</i>)</p> <p>Potato leafminer larvae <i>Liriomyza huidobrensis</i></p> <p>Tomato leafminer moth larvae <i>Tuta absoluta</i></p> <p>Fall armyworm <i>Spodoptera frugiperda</i></p>	<p><u>Tractor application</u> 150 to 200 ml / ha</p> <p><b>PLUS</b></p> <p>50 ml / 100 l water <b>Direct</b></p> <p><u>Knapsack application</u> 2.6 ml / 10 l water</p> <p><b>PLUS</b></p> <p>5 ml / 10 l water <b>Direct</b></p>	<p>For commercial tractor application, apply a full cover spray, between 500 to 1000 litres spray mixture per hectare, with the volume dependant on canopy density and ensure good coverage.</p> <p>For small scale application with a knapsack sprayer, apply as a full cover application and ensure good coverage of foliage through the canopy.</p> <p>For Leafminers, treatment should commence as soon as puncture marks are noticed on the leaves, especially at the bottom.</p> <p>For Fall armyworm, treatment should commence as soon as infestation is noticed, when no more than 5 % of the plants show signs of damage. Application is not recommended for control of larvae exceeding 1 cm length. Larvae that have tunnelled into stems and spuds will not be controlled.</p> <p>A 2<sup>nd</sup> and 3<sup>rd</sup> application can be applied in a 7-day interval spray programme, under conditions of continuous re-infestation. A shorter interval can be used early during the growth season.</p> <p><b>Apply a maximum of three (3) treatments in total per season.</b></p> <p>It is strongly recommended to alternate <b>CORDIAL 200 SC</b> with registered insecticides with a different mode of action. Two applications of <b>CORDIAL 200 SC</b> can be applied consecutively (i.e. block application), after which an effective, registered insecticides with a different mode of action can be applied.</p> <p><b>CORDIAL 200 SC</b> will also control African bollworm (<i>Helicoverpa armigera</i>) larvae (refer to the recommendations for African bollworm control in <u>Tomatoes</u> on this label).</p> <p>Potato crops are safe to harvest at any time following <b>CORDIAL 200 SC</b> applications.</p>



Crop / Pest	Dosage Rate	Remarks
<p><b>Potatoes</b>            Potato tuber moth (larvae)  <i>Phthorimaea operculella</i></p>	<p><u>Tractor application</u>            200 ml / ha</p> <p><b>PLUS</b></p> <p>50 ml / 100 l water  <b>Direct</b></p> <p><u>Knapsack application</u>            2.6 ml / 10 l water</p> <p><b>PLUS</b></p> <p>5 ml / 10 l water  <b>Direct)</b></p>	<p><b>Early corrective application:</b>            Timing of the first and subsequent applications should be based on regular scouting of potato fields. Commence application as soon as the first symptoms of infestation is noticed (mines) on leaves, or when moths are observed. The presence of moths within and around foliage is a good indication that an infestation is about to happen.</p> <p>For commercial tractor application, apply a full cover spray, between 500 to 1000 litres spray mixture per hectare, with the volume dependant on canopy density and ensure good coverage.</p> <p>For small scale application with a knapsack sprayer, apply as a full cover application and ensure good coverage of foliage through the canopy. Apply treatments at 8 to 14-day intervals under conditions of continuous infestation pressure. The shorter interval should be used when plants are actively growing early in the growing season. Apply a maximum of three (3) treatments per season including treatments for the control of Leafminer pests (see above). It is strongly recommended to alternate <b>CORDIAL 200 SC</b> with registered insecticides with a different mode of action.</p> <p><b>Apply at least two (2) CORDIAL 200 SC</b> applications consecutively (i.e. block application) before switching to products with different modes of action.</p> <p><b>CORDIAL 200 SC</b> will also control African bollworm (<i>Helicoverpa armigera</i>) larvae (refer to the recommendations for African bollworm control in Tomatoes on this label).</p> <p>Ridge at least twice during growing season. Late applications of <b>CORDIAL 200 SC</b>, when the potato crop's foliage is dying down/off, will not result in effective control of Potato tuber moth larvae. The addition of an adjuvant e.g. <b>Direct</b> is recommended to improve coverage. The potato crop can be harvested any time following <b>CORDIAL 200 SC</b> application.</p>
<p><b>Sorghum</b>            Larvae of fall armyworm  <i>(Spodoptera frugiperda)</i></p>	<p>150 ml / ha</p>	<p>Apply as a full cover spray in at least 250 to 400 litres of water per hectare. Applications should be made as soon as the pest is noticed when no more than 5% of plants have symptoms of scraped leaves and larvae are not larger than 1 cm. A follow-up application should be made 14 days later. <b>Do not exceed two (2) applications per season.</b> If infestation persists, alternate with chemicals with a different mode of action.</p>

<b>Crop / Pest</b>	<b>Dosage Rate</b>	<b>Remarks</b>
<p><b><u>Soybeans</u></b> Larvae of African bollworm (<i>Helicoverpa armigera</i>)</p> <p>Cabbage semi-looper (<i>Thysanoplusia orichalcea</i>)</p>	<p>200 ml / ha</p> <p><b>PLUS</b></p> <p>20 ml / 100 ℓ water</p> <p><b>Charge</b></p>	<p>Apply at first sign of infestation in at least 200 litres water per hectare. Ensure good coverage of the foliage.</p> <p><b>Apply two (2) applications at a 7-day interval.</b> If necessary, apply an alternative registered product from a different mode of action IRAC insecticide group.</p>
<p><b><u>Sugarcane</u></b> Sugarcane borer (<i>Eldana saccharina</i>)</p>	<p>200 ml / ha</p>	<p><b><u>Ground application:</u></b> Apply a full cover spray at 350 to 500 litres water per hectare, in August, with a second application made two (2) months later. An effective, registered insecticides with a different mode of action can be applied followed by applications of alternative non-Group 28 insecticides for a period of two (2) months. This extends the period of protection into February / March. During these months the borer is more active.</p> <p><b>CORDIAL 200 SC</b> has optimal translocation potential when the plants are not stressed. <b>Do not exceed two (2) CORDIAL 200 SC applications per season.</b></p> <p><b><u>Aerial application:</u></b> Follow recommendation for ground application as stipulated above. Apply in a minimum of 30 litres water per hectare. The addition of a wetter or spreader adjuvant such as <b>Villa 51</b> is recommended for optimal coverage. Where there is a danger of fine droplets drifting onto susceptible non target plants/crops, add a drift retardant adjuvant, such as <b>Interlock®</b>.</p>
<p>Larvae of Fall armyworm (<i>Spodoptera fugiper</i>)</p>	<p>200 ml / ha</p>	<p><b><u>Ground application:</u></b> Apply 350 to 500 litres water per hectare, when no more than 5 % of plants are infested with larvae smaller than 1 cm. <b>Do not</b> apply when larvae are larger than 1 cm as the product is not effective against larvae this size.</p> <p>Make two (2) consecutive applications at a 14-day interval. Thereafter, alternate with products with a different mode of action. Two (2) more <b>CORDIAL 200 SC</b> applications can be made 60 days after the last application of <b>CORDIAL 200 SC</b> was made.</p> <p><b>Do not exceed four (4) CORDIAL 200 SC applications per season.</b></p>
<p><b><u>Strawberries</u></b> African bollworm (<i>Helicoverpa armigera</i>)</p>	<p>5 to 15 ml / 100 ℓ water (0.5 to 1.5 ml / 10 ℓ water)</p> <p><b>PLUS</b></p> <p>20 ml / 100 ℓ water</p> <p><b>Charge</b></p>	<p>Commence spraying at the first signs of infestation, before or right after eggs have hatched. Ensure thorough coverage. Use the higher rate for more severe infestations. A follow-up application can be made 10 days later.</p> <p><b>Do not exceed two (2) applications per growing season.</b></p>

Crop / Pest	Dosage Rate	Remarks
<p><b>Tomatoes</b> Larvae of Potato tuber moth (<i>Phthorimaea operculella</i>)</p> <p>Larvae of Tomato semi-looper (<i>Chrysodeixis acuta</i>)</p>	<p>18 ml / 100 l water (1.8 ml / 10 l water)</p>	<p>Commence spraying when plants start flowering or at first signs of an infestation. Apply as a full cover spray in 500 to 1000 litres water per hectare depending on plant size for tomatoes up to 1 metre in height. For taller plants a higher spray volume should be used, maintaining the same concentration. Repeat application at 7 to 10-day intervals or as dictated by inspection of the crop.</p> <p>Thorough coverage is important to achieve optimum control.</p> <p><b>Do not exceed three (3) applications per season.</b></p>
<p>Larvae of Tomato leafminer (<i>Tuta absoluta</i>)</p>	<p>20 ml / 100 l water (2 ml / 10 l water)</p> <p><b>OR</b></p> <p>(200 ml / ha for concentrated mistblower applications)</p> <p><b>PLUS</b></p> <p><b>Villa 51</b> 50 ml / 100 l water</p>	<p><b>IMPORTANT: REFER TO “APPLICATION INSTRUCTIONS” ABOVE.</b></p> <p><u>Early corrective application:</u> Apply in 500 to 1500 litres water per hectare and ensure good coverage of all foliage.</p> <p>In case of mistblower reduced volume concentrated spray applications, apply at a dosage rate of 800 ml per hectare in a minimum spray volume of 500 litres water per hectare.</p> <p>To obtain most effective protection of foliage and fruit, apply <b>CORDIAL 200 SC</b> during egg-laying or when first damage symptoms are visible on younger leaves.</p> <p><b>Apply a maximum of three (3) consecutive applications per season.</b></p>
<p><b>Tomatoes</b> American leaf miner (<i>Liriomyza trifolii</i>)</p> <p>Larvae of African bollworm (<i>Helicoverpa armigera</i>)</p>	<p>18 ml / 100 l water (1.8 ml / 10 l water)</p> <p><b>PLUS</b></p> <p>20 ml / 100 l water <b>Charge</b></p>	<p>Apply as a full cover spray. Apply the first application as soon as an infestation is noticed.</p> <p>Apply <b>CORDIAL 200 SC</b> in a 7-day block-spray, spray programme.</p> <p>Use 2 to 3 consecutive sprays per block. Thereafter, alternate the product with other registered products with different modes of action (refer to IRAC Insecticide Group Code).</p> <p>Refer to the “<b>RESISTANCE WARNING</b>” above.</p> <p><b>Apply a maximum of three (3) applications per season.</b></p>

<b>Crop / Pest</b>	<b>Dosage Rate</b>	<b>Remarks</b>
<b>Tree nuts</b> (including Almonds, Cashews, Hazelnuts, Macadamias, Pecans, Pistachios & Walnuts)  Larvae of False Codling moth ( <i>Thaumatotibia</i> <i>leucotetra</i> = <i>Cryptoplebia leucotetra</i> )	17.5 ml / 100 ℓ spray mixture (1.75 ml / 10 ℓ spray mixture)	Apply 2000 to 4000 litres spray mixture per hectare, with enough liquid to ensure that the foliage, as well as the developing fruit are covered. Treatment should commence as soon as False codling moths are observed in moth pheromone traps or preventatively at the onset of fruit ripening. <b>Technibuff Super</b> , a pH buffer with wetting and spreading properties, can be used in conjunction with <b>CORDIAL 200 SC</b> which may enhance the insect control potential. <b>Do not</b> exceed two (2) <b>CORDIAL 200 SC</b> applications per season.
Larvae of Macadamia nut borer ( <i>Thaumatotibia</i> <i>batrachopa</i> )	20 ml / 100 ℓ water	Apply as a preventative spray programme commencing when the majority of fruit are 15 mm in diameter. Apply as a full cover application in at least 3000 litres of water, ensuring thorough coverage of the fruit. Follow-up applications should be made at 28-day intervals. <b>Do not exceed four (4) applications per season.</b>

The following products mentioned in this label may be replaced with equivalent products:

- **ADVANCE 150 SC** (L 9147 / W 130689) = **ADDITION 150 SC** (L 9146 / N-AR 1508) (**Indoxacarb**),
- **TEMPES 100 EC** (L 9946) = **RAMBA 100 EC** (L 9899) (**Bifenthrin**),
- **LAMBDA 50EC** (L 7787) = **JUDO 50 EC** (L 7785 / N-AR 1104) (**Lambda-cyhalothrin**),
- **DIRECT** (L 8680) = **LINK** (L 8675),
- **VILLA 51** (L 8050 / W 130454 / N-AR 1090) = **WEN 51** (L 8315) and
- **BREAK-THRU® S240** (L 6764 / N-AR 1146 / W 130517) = **CHARGE** (L 9100) = **TECHNIWET SUPER** (L 9239).

**ADDITION 150 SC, CHARGE, VILLA 51, WEN 51, TECHNIWET SUPER, RAMBA 100 EC, JUDO 100 EC, LINK, DIRECT** and are registered products of **VILLA CROP PROTECTION (PTY) LTD.**

**ADVANCE 150 SC, TEMPES 100 EC, LAMBDA 50EC** and are registered products of **UNIVERSAL CROP PROTECTION (PTY) LTD.**

**MADEX®** is a registered product of **MADUMBI SUSTAINABLE AGRICULTURE.**

**BREAK-THRU® S240** is a registered trademark of **EVONIK DEGUSSA AFRICA (PTY) LTD.**

**INTERLOCK®** is a registered trademark of **WINFIELD SOLUTIONS REGISTRATION HOLDINGS (PTY) LTD.**