



SHAMDA 50 EC

Reg. No. L10258, Act No. 36 of 1947 | Reg. Nr. L10258, Wet Nr. 36 van 1947

An emulsifiable concentrate systemic and contact insecticide for the control of various insects on crops as listed.

'n Emulgeerbare konsentraat sistemiese- en kontakinsekdoder vir die beheer van verskeie insekte op gewasse soos vermeld.

IRAC Insecticide Group Code - 3

IRAC Insekdoder Groepkode - 3

ACTIVE INGREDIENT

Lambda-cyhalothrin (pyrethroid) 50 g/l

AKTIEWE BESTANDDEEL

Lambda-sihalotrin (piretroied) 50 g/l

Registered by | Geregistreer deur
Sharda International Africa (Pty) Ltd
Company Reg. No. 2010/002268/07
Maatskappy Reg. Nr.
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BATCH NUMBER LOT NOMMER	
DATE OF MANUFACTURE DATUM VAN VERVAARDIGING	

Net Volume /
Netto Volume

1ℓ

UN No./VN Nr. 3082



HARMFUL
SKADELIK



WARNINGS

- **Withholding Period:** The minimum number of days between the last application and harvest or grazing:

Green Beans	1 day
Tomatoes and Cruciferae	2 days
Onions, Potatoes and Canning Peaches	3 days
Dry Beans, Maize and Sweetcorn	7 days
Lucerne (grazing)	8 days
Apricots, Nectarines, Plums and Table Peaches	14 days
Sorghum, Soybeans (grazing),	28 days
Macadamias	82 days

NOTE: If the product is used according to the label recommendations, the maximum residue levels (MRL's) for South Africa will not be exceeded. However, when fruit is destined for the export market, contact local export marketing bodies, i.e. CAPESPAN before application to ascertain that the MRL's for the importing country are not exceeded.

- Handle with care.
- Harmful if swallowed, inhaled or absorbed through the skin.
- Can irritate skin and eyes.
- Toxic to fish and wildlife.
- If applying "SHAMDA 50 EC" at the label recommended dosage rates (up to 300 ml/ha) there is a very low risk to bees. If higher dosage rates are necessary, apply "SHAMDA 50 EC" during periods when the bees are not active.
- Do not direct spray towards bee hives or allow spray drift in their vicinity.
- Store under lock and key in a cool, dry place away from food and feed.
- Keep out of reach of children, uninformed persons and animals.
- **In case of poisoning contact a doctor and make this label available to him.**
- RE-ENTRY INTERVAL: Do not enter treated area within 1 day after treatment unless wearing protective clothing.
- AERIAL APPLICATION: Notify all inhabitants of the immediate area to be sprayed and issue the necessary warnings. Do not spray over or allow drift to contaminate adjacent areas, rivers, dams or other areas not under treatment.

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 user to follow the label instructions or to the occurrence of conditions which could not have been foreseen in terms of the registration. Consult the supplier in the event of any uncertainty.

PRECAUTIONS

- Do not inhale spray mist or fumes.
- Avoid contact with skin and eyes.
- Wear rubber gloves, boots and face shield when handling the concentrate.
- Do not eat, drink or smoke whilst mixing, applying or before washing hands and face and changing clothes.
- Wash with soap and cold water after use or in the event of accidental skin contact. In case of eye contact rinse immediately with running water for at least 15 minutes. If spilled on clothing change and wash it.
- Prevent contamination of food, feed, drinking water and eating utensils.
- Avoid spray drift onto other edible crops, grazing, rivers, dams and areas not under treatment.
- Clean applicator/aircraft thoroughly after use.
- Dispose of wash water where it will not contaminate other crops, grazing, rivers or dams.
- Do not contaminate grazing, crops not under treatment or water sources when calibrating the aircraft or clearing the hopper.
- Invert the empty container over the spray or mixing tank and allow it to drain for at least 30 seconds after the flow has slowed down to a drip. Thereafter rinse the container three times with a volume water equal to at least one tenth of that of the container and add the rinsings to the contents of the spray tank. Destroy the empty container by perforation and do not re-use it for any other purpose. Dispose of the container by burying or burning it.
- Change and wash your work clothes. Wash yourself.

SYMPTOMS OF POISONING

- Causes eye irritation.
- Mild skin irritant.
- May cause respiratory irritation.
- Swallowing can result in nausea, vomiting, diarrhoea, abdominal pain, ataxia, unsteady gait, hyper excitability, salivation, tremors and incontinence. Large doses can cause convulsions and loss of consciousness.

FIRST AID

Eye contact: Flush eyes with plenty of clean water for at least 15 minutes. If irritation persists, obtain medical attention.
Skin contact: Remove contaminated clothing. Wash skin thoroughly with soap and water. Seek immediate medical advice should irritation persist.
Inhalation: Remove victim from exposure – avoid becoming a casualty. If breathing difficulty or irritation occurs and persists, obtain medical attention.
Ingestion: Harmful if swallowed. Administer medicinal charcoal with large quantities of water. Get immediate medical attention. Do not induce vomiting unless recommended by a doctor. Do not give anything by mouth to an unconscious or semi-conscious person.

NOTE TO PHYSICIAN: There is no specific antidote available. If ingested, consider gastric lavage, however prevent aspiration. This product contains material that may cause severe pneumonitis and pulmonary edema if aspirated. Observe patient for respiratory difficulty. Give artificial resuscitation if respiration is depressed. Treat skin irritation with fatty oil or cream. Treat symptomatically and supportively.

Resistance Warning: For resistance management, "SHAMDA 50 EC" is a group code 3 insecticide. Any insect population may contain individuals naturally resistant to "SHAMDA 50 EC" and other group code 3 insecticides. The resistant individuals can eventually dominate the insect population if these insecticides are used repeatedly. These resistant insects may not be controlled by "SHAMDA 50 EC" or any other group code 3 insecticides.

- To prevent insecticide resistance:
- Avoid excessive repeated use of insecticides from the same insecticide group code. Alternate or tank mix with registered products from different insecticide group codes.
 - Integrate other control methods (chemical, cultural, biological) into insect programmes.

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

- Resistance to lambda-cyhalothrin containing products has been observed in the following instances:
1. Resistance of African bollworm (*Helicoverpa armigera*) to synthetic pyrethroids has been confirmed.
 2. For all crops: Do NOT apply more than 2 (two) "SHAMDA 50 EC" applications per growing season. If more sprays are necessary, use a product from a different insecticide group code.
 3. In general if a synthetic pyrethroid gives poor performance, do NOT respray with ANY synthetic pyrethroid, even at a corrective dosage rate. Spray with a registered insecticide from a different insecticide group code.

DIRECTIONS FOR USE

- General use restrictions**
- Soil moisture influences the efficacy of "SHAMDA 50 EC" against cutworms. Because cutworms tend to feed sub-surface when the soil surface is dry, the pest will not come into contact with the product applied to the soil surface. Thus poor control of cutworms can be expected when planting in dry soil or if soil desiccates rapidly after planting. Ensure that the soil is moist to a depth of 5 cm at the time of application. If applied to dry soil, rain or irrigation within 3 days after application, must wet the soil to a depth of at least 5 cm.
 - When controlling cutworms, apply only before crop emergence or in the seedling stage.
 - Do not apply after rain or heavy dew.
 - When using conventional high volume sprayer, use hollow cone nozzles that give medium to fine droplets.
 - Use suitable equipment in good working condition that is correctly calibrated to ensure even distribution over the target area.
 - The use of drop arms on conventional booms is recommended when spraying crops such as tomatoes.

Compatibility

The compatibility of "SHAMDA 50 EC" with other agricultural remedies will be influenced by the formulation of tank mix product and the spray water quality. It is advisable to do a small scale compatibility test with any tank mix before a large scale application.

Mixing Instruction

Half fill the spray tank with clean water and add the required amount of "SHAMDA 50 EC". Fill up to the required volume with water. Ensure thorough agitation during mixing and spraying. Spray immediately after mixing and do not allow the spray mixture to stand for any length of time.

Aerial application

Aerial application of "SHAMDA 50 EC" may only be done 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 be met:
- **Volume:** A spray mixture volume of 30 l 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 aerially at a lower volume rate than recommended above.
 - **Droplet coverage:** 30 to 40 droplets per cm² must be recovered at the target area.
 - **Droplet size:** A droplet spectrum with a VMD of 280 to 300 microns is recommended. Limit the production of fine droplets less than 150 microns (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/h.
 - 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:
 - reduced efficacy due to suspension and evaporation of small droplets in the air (inadequate coverage).
 - 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.

CROP/PEST	DOSAGE RATE	REMARKS
All row crops Cutworms (<i>Agrotis</i> spp.)		Apply either as a preventative, pre-emergence or corrective, post-emergence treatment. Apply to a well prepared seedbed, free of clods and excessive trash. See directions for "Reduced tillage practices" below. Soil moisture is important for satisfactory cutworm control. See the first note under "General use restrictions" above.
	70 ml/ha	Overall ground treatment: Apply in a minimum of 300 l water/ha.
	0,23 m ³ /100 m row length	Ground application: Row treatment: Apply in a minimum of 3 l water/100 meter row length in at least a 300 mm wide band over the row.
	70 ml/ha	Aerial application: Apply in 30 l water/ha. See notes under "Aerial application" above.
		Reduced tillage practices: Monitor the cutworm population carefully after the initial application on farms where reduced tillage practices are being used. This is because the fields usually have high cutworm populations under these conditions. A follow-up application may be necessary. Apply as an overall ground treatment at the recommended corrective dosage rate.
	Also refer to "General use restrictions" for conditions under which poor control of cutworms can be expected.	
Codling moth (<i>Cydia pomonella</i>)	10 ml/100 l water (250 - 350 ml/ha)	Apply as a high volume spray. Start application at 75 % petal drop and repeat every 14 - 18 days.
Plums, Nectarines, Table and Canning Peaches, Apricots African bollworm (<i>Helicoverpa armigera</i>)	10 ml/100 l water (250 - 350 ml/ha)	Apply "SHAMDA 50 EC" at the first signs of an infestation, but not before 75 % petal drop. Repeat application if necessary. See "Resistance Warning" above for more information regarding bollworm resistance.
Cruciferae Diamond back moth larvae (<i>Plutella xylostella</i>) and African bollworm	8 m ³ /100 l water	Apply as a high volume application in 500 - 1 000 l water/ha. Start application as soon as pest is noticed and repeat application every 10 - 14 days. Add a suitable wetter and ensure good spray coverage. See "Resistance Warning" above for more information regarding bollworm resistance.

CROP/PEST	DOSAGE RATE	REMARKS
Soybeans African bollworm	120 ml/ha	Ground application: Apply in 200 - 300 l water/ha and ensure good coverage of the plants. Apply as soon as infestation is noticed. Repeat if necessary. Aerial application: Apply in 30 l water/ha. See "Resistance Warning" for more information regarding bollworm resistance.
Tomatoes African bollworm and Semi-looper	7.5 m ³ /100 l water	Start application at first signs of an infestation or at flowering. For tomatoes up to 1 metre high, apply as a full cover spray in 500 - 1 000 litres water per hectare depending on plant size. Use a higher spray volume for plants taller than 1 metre, maintaining the same concentration. Repeat application every 7 - 10 days or as dictated by inspection of the crop. See "Resistance Warning" for more information regarding bollworm resistance.
Wheat and Sorghum African bollworm	100 ml/ha	Apply as soon as an infestation is noticed. Repeat if necessary. Ground application: Apply in 250 - 500 l water/ha and ensure thorough wetting of the crop. Aerial application: Apply at least 30 l water/ha. See "Resistance Warning" for more information regarding bollworm resistance.

CROP/PEST	DOSAGE RATE	REMARKS
Groundnuts, Dry Beans, Green Beans, Lucerne, Maize and Sweetcorn African bollworm	100 ml/ha	Ground application: Apply 250 - 500 l water/ha depending on plant size. Start scouting fields from flowering onwards at weekly intervals and start spraying as soon as pest is noticed. Continue scouting at weekly intervals. In case of rainfall, scout every 3 days. Repeat application if necessary. For optimum control, larvae should be sprayed when they are smaller than 1 cm, but definitely not bigger than 2 cm.
	100 ml/ha	Aerial application: (Groundnuts, Dry beans and Green beans only) Apply in 30 l water/ha. See "Resistance Warning" for more information regarding bollworm resistance.
Macadamias Stink bug (<i>Nezara viridula</i>)	10 ml/100 l water	Apply as a high volume application. Start monitoring the stinkbug numbers two weeks after flowering, using the "tree shake method". Apply first spray as soon as an average of 1,8 stinkbugs per tree are counted. It might be necessary to apply 2 - 3 applications per season.
Maize Stemborer <i>Chilo partellus</i> (First and second generation)	1.2 m ³ /100 m row	Ground application: Start application as soon as 10 % plants show damage. Direct spray into funnels. Apply a follow-up spray shortly before tasselling if necessary. A minimum of 3 l spray mixture must be applied per 100 m row.
	120 ml/ha	Aerial application: Apply as above in 30 l water/ha.
Onions Thrips <i>Thrips tabaci</i>	80 - 120 ml/ha	Start application at the first signs of damage on the onion leaves. Apply in a spray programme of 10 - 14 days. Use the lower dosage rate when thrip counts reach 0,6 thrips per plant. Apply a second spray at the higher dosage rate 10 - 14 days later. Do not use on spring onions.
Plums, Nectarines, Table and Canning Peaches, Apricots Banded fruit weevil (<i>Phytinus callosus</i>)	20 ml/100 l water (500 - 700 ml/ha)	Foliar application: Apply at the first signs of feeding damage. Repeat 3 to 4 weeks later if necessary. Applying either a single spray or a programme will also suppress or even control low populations of Red spider mite (Red and Two spotted strains).
	20 ml/100 l water (20 ml/ha)	Stem treatment: Scout for weevils from early October throughout the growing season. As soon as weevil activity is observed on the stem, apply as a preventive treatment. Apply in 1 000 l spray mixture per hectare (at least ± 0,5 litres per plant) up to a height of 1 metre. In the case of low growing vines (trees), spray up to the first lateral branches. Wet the stem thoroughly and allow excess spray mixture to run onto the soil surrounding the stem. Repeat application 3 - 4 weeks later if necessary. A dense canopy can serve as a hiding place for weevils and prevent them from migrating back to the stem during the day. In this case, apply a foliar application as stipulated below. Before applying a foliar spray, ensure that an infestation is present in the foliage.
Potatoes Potato tuber moth (larvae) and African bollworm	120 ml/ha	Ground application: Start application as soon as the pests are noticed. In case there is no infestation, start application when plants are one month old. Apply in 250 - 500 l water/ha depending on plant size. Repeat every 10 - 14 days and ridge at least twice during the growing season.
	132 ml/ha	Aerial application: Apply in a minimum of 30 l water/ha. Apply according to instructions for "Ground application" above.
		See "Resistance Warning" for more information regarding bollworm resistance.
Sorghum Maize stalkborer (<i>Busseola fusca</i>)	1 m ³ /100 m row	Ground application: Apply in 3 l water and direct application into funnel. Start application when 5 % of the plants show shot hole damage and borers have not yet migrated into the stalks. Will also control <i>Chilo partellus</i> if present at time of application.
	100 ml/ha	Aerial application: Apply in 30 l water/ha.

WAARSKUWINGS

- **Onthoudingsperiode:** Die minimum aantal dae tussen die laaste toediening en oes of weiding:

Groenbone	1 dag
Tamaties en Koolgewasse	2 dae
Lie, Aartappels en Inmaakperskes	3 dae
Droëbone, Mielies en Suikermielies	7 dae
Lusern (weiding)	8 dae
Appelkose, Nektariens, Pruime en Tafelperskes	14 dae
Sorghum, Sojabone (weiding), Koring	28 dae
Makadamias	82 dae

NOTA: Indien die produk volgens die etiket aanwysings toegedien word, sal die maksimum residu vlakke (MRL'e) vir Suid-Afrika nie oorskry word nie. Alhoewel, as vrugte vir die uitvoermark bestem is, kontak uitvoer bemerkingsorganisasies bv. CAFESPAN vir bespuiting om seker te maak dat die MRL'e van die land(e) waarheen uitgevoer word, nie oorskry word nie.

- Hanteer versigtig.
- Skadelik indien ingesluk, ingesam of deur die vel geabsorbeer word.
- Kan die vel en oë irriter.
- Giftig vir vis en natuurlewe.
- Indien "SHAMDA 50 EC" teen die aanbevole dosisse op die etiket toegedien word (teen maksimum 300 ml/ha), is daar 'n baie lae risiko vir bye. Indien dit nodig is om 'n hoër dosis te gebruik, dien "SHAMDA 50 EC" toe gedurende periodes wanneer die bye onaktief is.
- Moet nie spuit in die rigting van byekorwe, of toelaat dat spuitstof in daardie rigting wegdryf nie.
- Bêre agter slot en grendel in 'n koel, droë plek weg van voedsel en voer.
- Bêre buite die bereik van kinders, oningelike persone en diere.
- In geval van vergiftiging ontbied 'n geneesheer en toon hierdie etiket aan hom/haar.
- HERBETREDING: Moenie die behandelde gebied(e) binne 1 dag na toediening betree nie, tensy beskermende oorklere gedra word.
- LUGTOEDIENING: Stel alle inwoners in die onmiddellike omgewing van die gebied wat bespuit gaan word in kennis en reik die nodige waarskuwings uit. Moet nie direk oor water spuit of toelaat dat spuitnewel oor omliggende gebiede of riviere, damme of ander gebiede wat nie behandel word waai nie.

Alhoewel hierdie insekdoder omtrentend 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 klimaat en bergingsstoestand; kwaliteit van verdundingswater, verenigbaarheid met ander stowwe wat nie op die etiket aangedui is nie en die voorkoms van weerstand van die insek teen die betrokke middel sowel as die metode, tyd en akkuraatheid van toediening. Verder aanvaar die registrasiehouer nie verantwoordelikhed vir skade aan gewasse, plantegroei, die omgewing of vir nadelige effek op mens of diër of vir 'n gebrek aan prestasie van die betrokke insekdoder as gevolg van die versum 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.

VOORSORGMATREËLS

- Moet nie dampe of spuitnewel inasem nie.
- Vermoë kontak met vel en oë.
- Dra rubberskoene, -slewels en gesigskerm wanneer die konsentraat hanteer word.
- Moet nie eet, drink, of rook as die produk gemeng of toegedien word of voordat hande en gesig gewas is en skoon klere aangetrek is nie.
- Was met seep en koue water na gebruik of as die produk per ongeluk in kontak met die vel kom. Indien die produk in die oë beland, spoel onmiddellik uit met lopende water vir ten minste 15 minute. Indien die produk op die klere gemors word, trek uit en was die klere.
- Voorkom besoedeling van voedsel, voer, drinkwater en eetgerei.
- Vermoë oorwaai van sproeiwater na gewasse, weiding, riviere, damme of gebiede wat nie onder behandeling is nie.
- Was spuittoerusting of vliegtuig deeglik skoon na gebruik.
- Raak ontslae van die waswater waar dit nie gewasse, weiding, riviere of damme sal besoedel nie.
- Moet nie weiding, gewasse wat nie behandel word nie of waterbronne besoedel wanneer die vliegtuig gekalibreer word of die hopper leeg gemaak word nie.
- Keer die lê houër oor die spuit- of mengtenk en dreineer vir ten minste 30 sekondes nadat die vloei tot 'n gedrup verminder het. Spoel lê houër drie keer uit met 'n volume water gelyk aan ten minste een tiende van die houër en voeg die spoelwater by die inhoud van die spuittenk. Vernietig die lê houër deur gelyk in te kap en moenie die houër vir enige ander doel hergebruik nie. Raak ontslae van die houers deur dit te begrawe of te verbrand.
- Trek werksklere uit en was dit. Was usef.

SIMPTOME VAN VERGIFTIGING

- Veroorsaak oog irritasie.
- Veroorsaak matige vel irritasie.
- Mag irritasie van die inasemingsstelsel veroorsaak.
- Indien ingesluk kan naarheid, braking, diarree, abdominale pyn, gebrekkige spierkoördinasie, wankelrigheid, oormatige prikkelbaarheid, oormatige speekselvloei, spierrillings en inkontinensie voorkom. Hoër dosisse mag stuiprekkings en bewusteloosheid veroorsaak.

NOODHULPBEHANDELING

In kontak met oë: Spoel oë uit met skoon water vir ten minste 15 minute. Ontbied mediese hulp indien irritasie voortduur.

In kontak met vel: Verwyder gekontamineerde klere. Was vel deeglik met seep en water. Ontbied mediese hulp indien irritasie voortduur.

Inaseming: Verwyder die pasiënt van die bron van vergiftiging en maak seker dat u nie self dampe of spuitnewel inasem nie. Indien asemhalingsprobleme of irritasie voorkom en voortduur, ontbied mediese hulp.

Ingestuk: Skadelik indien ingesluk word. Gee mediese steenkool met groot hoeveelhede water. Ontbied onmiddellik mediese hulp. Moet nie braking induseer nie tensy aanbeveel word deur 'n dokter. Moet nie enige iets per mond gee vir 'n bewustelose persoon nie.

NOTA AAN GENEESHEER: Geen teenniddel is beskikbaar nie. Indien ingesluk, oorweeg maagspoeling, maar voorkom aspirasie van die produk. Hierdie produk bevat bestanddele wat ernstige pneumonitis en long edeem kan veroorsaak indien ingesam word. Hou pasiënt onder observasie vir asemhalingsprobleme. Gee kunsmatige asemhaling as moeilik asemhaal. Behandel verlamtasie met vetterige saif of room. Behandel pasiënt simptome en ondersteunend.

Weerstandswaarskuwing: "SHAMDA 50 EC" is 'n groepkode 3 insekdoder. Enige populasie van 'n spesifieke insek mag individue insluit wat 'n natuurlike weerstand teen "SHAMDA 50 EC", of enige ander groepkode 3 insekdoder het. Indien hierdie insekdoder herhaaldelik aangewend word, kan die weerstandbiedende individue uiteindelik die insek populasie oorskeer. Hierdie weerstandbiedende insekte sal waarskynlik nie deur "SHAMDA 50 EC" of enige ander groepkode 3 insekdoder beheer word nie.

Om weerstand teen insekdoders te vertraag:

- Vermoë die eksklusiewe herhaaldelike gebruik van insekdoders met dieselfde groepkode. Wissel af met, of gebruik tenkingsels van produkte in verskillende insekdodergroepcodes.
 - Integreer ander beheermatreëls (chemies, verbouing, biologies) in die insekdoder programme.
- Vir spesifieke inligting oor weerstandsbetuur kontak die registrasiehouer van hierdie produk.

Weerstand teen lambda-cyhalothrin bevattende produkte is waargeneem in die volgende gevalle:

1. Weerstand van Afrika bolwurm (*Helicoverpa armigera*) teen sintetiese piretroid is bevestig.
2. Vir alle gewasse: Moet NIE "SHAMDA 50 EC" meer as 2 (twee) keer per groeiseisoen toedien nie. Indien meer bespuitings nodig is, gebruik 'n produk van 'n ander insekdoder groepkode.
3. As 'n sintetiese piretroid swak beheer gee, moet NIE met ENIGE ander sintetiese piretroid herspuit nie, selfs nie teen 'n korrekiewe dosis nie. Gebruik 'n geregistreerde insekdoder van 'n ander insekdoder groepkode.

GEWASPLAAG

- Grondvog beïnvloed die doeltreffendheid van "SHAMDA 50 EC" teen snywurms. Omdat snywurms onder die grondoppervlak voed as die grond droog is, sal die insekte nie in kontak kom met die produk as dit op die grondoppervlak gespuit word nie. Dus swak beheer van snywurms kan verag word as saailinge in droë grond geplant word of as die grond vinnig uitdroog na plant. Maak seker dat die grond nat is tot op 'n diepte van 5 cm wanneer die produk toegedien word. Indien toegedien word op droë grond, moet binne 3 dae na toediening natgemaak word met reën of besproeiingswater tot op 'n diepte van ten minste 5 cm.
- Indien snywurms wil beheer, dien slegs toe voordat die gewas opkom of in die saailing stadium.
- Moet nie toedien na reën of swaar doue nie.
- As konvensionele hoë volume spuitapparaat gebruik word, gebruik holkeëlsputkoppe wat 'n medium tot fyn druppelgrootte lewer.
- Gebruik geskikte spuitapparaat in goeie werkende toestand, wat korrek gekalibreer is om egalige verspreiding oor die teikenarea te verseker.
- Die gebruik van valarms op konvensionele spuitbalke word aanbeveel wanneer gewasse soos tamaties gespuit word.

Verenigbaarheid: Die verenigbaarheid van "SHAMDA 50 EC" met ander landboumiddels sal beïnvloed word deur die spesifieke formulering van die produk wat in die tenk mengsel gebruik word sowel as die kwaliteit van die spuitwater. Dit word aanbeveel dat 'n verenigbaarheidstoets op 'n klein skaal gedoen word voor 'n grootskaalse toediening.

Menginstruksies: Vul die spuittenk halfvol met skoon water en voeg die benodigde hoeveelheid "SHAMDA 50 EC" by. Vul die spuittenk verder met water tot die verlangde volume. Maak seker dat die spuittenk inhoud deeglik geroor word terwyl gemeng en gespuit word. Spuit onmiddellik nadat gemeng is en moet nie toelaat dat die spuitmengsel vir enige bepaalde tydperk, bv. oornag, in die spuittenk gelaat word nie.

Lugtoediening: "SHAMDA 50 EC" kan slegs deur 'n geregistreerde Lugbespuitingsoperateur met 'n korrek gekalibreerde, geregistreerde vliegtuig volgens die instruksies van SABS Kode 10118 (Aerial Application of Agricultural Pesticides) uit die lug bespuit word. Verseker dat die spuitmengsel eweredig oor die teikenarea versprei word, en die verlies aan spuitmengsel tydens toediening tot 'n minimum beperk word. Dit is daarom belangrik om aan die volgende vereistes te voldoen:

- **Volume:** 'n Spuitmengsel volume van 30 tot 35 liter per hektaar word aanbeveel. Hierdie produk is nie teen 'n verlaagde volume getoets nie. Die registrasiehouer kan nie effektiwiteit waarborg, of verantwoordelik gehou word vir enige nadelige effekte indien hierdie produk teen 'n laer volume, as hierbo aanbeveel, toegedien word nie.
- **Druppelbedekking:** 30 tot 40 druppels per cm² moet op die teikenarea herwin word.
- **Druppelgrootte:** 'n Druppelspektrum met 'n VMD van 280 tot 300 mikrons word aanbeveel. Beperk die produksie van druppels kleiner as 150 mikrons (hoë drywing en verdampingspotensiaal) tot 'n minimum.
- **Vlieg hoogte:** Handhaaf die hoogte van die spuitbalke by teiken op 3 tot 4 meter. Moet nie spuit wanneer die vliegtuig duik, uitklm of draag nie.
- Gebruik geskikte atomiseringsapparaat wat die vereiste druppelgrootte en bedekking sal produseer, maar die minste verlies van produk verseker. Die spuitstelsel moet 'n druppelspektrum met die kleinste moontlike Relatiewe Span produseer.
- Plaas al die atomiseerders in die binste 60 tot 75% van die vlerkspan om te verhoed dat druppels binne-in die vlerkpuntvorteks beweeg.
- Die verskil in temperatuur tussen die nat- en droëboltermometer van 'n swaaihgrometer, moet nie 8°C oorskry nie.
- Stop bespuiting indien die windspeed 15 km/uur oorskry.
- Stop bespuiting tydens turbulente, onstabiele en droë toestande gedurende die hitte van die dag.
- Bespuiting onder temperatuur **inversie toestande** (deur bo of binne die inversie laag te spuit) en/of **hoë lugvog toestande** (relatiewe humiditeit 80% en meer) mag tot die volgende probleme aanleiding gee:
 - verlaagde effektiwiteit aangesien die druppels as 'n wolk in die lug bly hang en moontlik verdamp (onvoldoende bedekking op teiken).
 - skade aan nie-teiken gewasse of sensitiewe areas as gevolg van wegdrywing van die spuitwolk na nie-teiken area.
- Verseker dat die Lugbespuitingsoperateur presies weet water lands bespuit moet word.
- Dit is noodsaaklik om 'n versekering van die Lugbespuitingsoperateur te verkry dat aan al die bogenoemde vereistes voldoen sal word en dat data van belang in 'n logboek saamgevat is vir toekomstige verwysing.

GEWAS/PLAAG	DOSIS	OPMERKINGS
Alle gewasse Snywurms (Agrotis spp.)		Dien of as 'n voorkomende vooropkoms behandeling of as 'n korrekiewe, naopkoms behandeling toe. Berei die saadbeddings deeglik voor – daar moet geen kluitte of oortollige plantreste wees nie. Sien aanwysings vir "Minimum bewerkingspraktike" hieronder. Grondvog is belangrik vir gewenste snywurm beheer. Sien eerste nota onder "Algemene gebruiksbepoerings" hierbo.
	70 ml/ha	Algehele grondtoediening: Dien toe in 'n minimum van 300 l water/ha.
	0,23 ml/100 m ry	Grondtoediening: Ry behandeling: Dien toe in 'n minimum van 3 l water/100 meter ry, in ten minste 'n 300 mm wye strook oor die ry.
	70 ml/ha	Lugtoediening: Dien toe in 30 l water/ha. Sien notas onder "Lugtoediening" hierbo.
		Minimum bewerkingspraktike: Monitor die snywurm populasie noukeurig na die aanvanklike toediening op plase waar minimum bewerkingspraktike gebruik word. Dit is omdat daar gewoonlik hoë snywurm getalle voorkom onder sulke toestande. 'n Opvolg bespuiting mag nodig wees. Dien toe as 'n algehele grondtoediening teen die aanbevole korrekiewe dosis.
		Verwys ook na die "Algemene gebruiksbepoerings" vir toestande waaronder swak beheer van snywurms vermag kan word.
Pruime, Nektariens, Tafel- en Inmaakperskes, Appelkose Afrika bolwurm (Helicoverpa armigera)	10 ml/100 l water (250 - 350 ml/ha)	Dien "SHAMDA 50 EC" toe met die eerste tekens van infestatie, maar nie voor 75 % blomblaarval nie. Herhaal indien nodig. Sien "Weerstandswaarskuwing" hierbo vir meer inligting oor bolwurm bestandheid.

GEWAS/PLAAG	DOSIS	OPMERKINGS
Koolgewasse Ruitrugmot larve (Plutella xylostella) en Afrika bolwurm	8 ml/100 l water	Dien as 'n hoë volume bespuiting toe in 500 – 1 000 l water/ha. Begin bespuiting met die eerste tekens van infestatie en herhaal elke 10 – 14 dae. Voeg 'n geskikte benatter by die spuitmengsel en verseker deeglike benetting van die plante. Sien "Weerstandswaarskuwing" hierbo vir meer inligting oor bolwurm bestandheid.
Grondbone, Droëbone, Groenbone, Lusern, Mielies en Suikermielies Afrika bolwurm	100 ml/ha	Grondtoediening: Dien 250 – 500 l water/ha toe afhange van die plant grootte. Begin om lande te verken vanaf blomstadium met weeklikse intervalle en begin bespuiting sodra infestatie opgemerk word. Hou aan om velde weekliks te verken. As dit reën, verken lande elke 3 dae. Herhaal bespuiting indien nodig. Vir optimale beheer moet larwes gespuit word as dit kleiner as 1 cm is, maar definitief nie groter as 2 cm nie.
	100 ml/ha	Lugtoediening: (slegs Grondbone, Droëbone en Groenbone). Dien toe in 30 l water/ha.
		Sien "Weerstandswaarskuwing" vir meer inligting oor bolwurm bestandheid.

Makadamias (Sintbesie (Ninkzaba (Nezarea viridula)	10 ml/100 l water	Dien toe as 'n hoë volume bespuiting. Begin om stinkbesie getalle te monitor twee weke na blom, deur die "booms kud metode" te gebruik. Dien eerste bespuiting toe sodra 'n gemiddeld van 18 stinkbesies per boom getel word. Dit mag nodig wees om 2 – 3 bespuitings per seisoen toe te dien.
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Mielies Stamboorder (Chilo partellus (Eerste en tweede generasies)	1.2 ml/100 m ry	Grondtoediening: Begin bespuiting sodra 10 % plante skade toon. Rig bespuiting in die kelk in. Dien 'n opvolg bespuiting toe net voor pluimverskyning indien nodig. 'n Minimum van 3 l spuitmengsel moet per 100 m ry toegedien word.
	120 ml/ha	Lugtoediening: Dien toe soos hierbo beskryf in 30 l water/ha.

Uie Blaaspootjie (Thrips tabaci)	80 - 120 ml/ha	Begin bespuiting met die eerste tekens van skade op die uielobbe. Dien toe in 'n spuitprogram van 10 – 14 dae. Gebruik die laer dosis wanneer 0,6 blaaspootjies per plant getel word. Dien 'n tweede bespuiting toe teen die hoër dosis 10 – 14 dae later. Moet nie gebruik op spruituitie nie.
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Pruime, Nektariens, Tafel- en Inmaakperskes, Appelkose Gebande vrugteklander (Phyctinus callosus)	20 ml/100 l water (500 - 700 ml/ha)	Blaarbespuiting: Dien toe met eerste tekens van voedingskade. Herhaal 3 tot 4 weke later indien nodig. 'n Enkel bespuiting of 'n spuitprogram sal lae populasies van Rooispmint (Rooi- en Tweekol-populasies) onderdruk of selfs beheer.
	20 ml/100 l water (20 ml/ha)	Stambelhandeling: Monitor vir kalenders van vroeg Oktober tot die einde van die groeiseisoen. Sodra kalender aktiwiteit op die stam waargeneem word, dien as 'n voorkomende behandeling toe. Dien toe in 1 000 l spuitmengsel per hektaar (ten minste ± 0.5 liter per plant) tot op 'n hoogte van 1 meter. In die geval van laaggroeiende wingerd (borne), spuit tot by die eerste sytakke. Verseker deeglike benetting van die stam en laat die oortollige spuitmengsel toe om af te loop tot op die grond rondom die stam. Herhaal behandeling 3 – 4 weke later indien nodig.

'n Digte blaaredak kan as 'n wegkruipplek dien vir kalenders en verhoed dat hulle terug beweeg na die stam gedurende die dag. In hierdie geval, dien 'n blaarbespuiting toe soos hieronder aanbeveel. Maak seker daar is 'n infestatie in die blaie is voordat dit gespuit word.

Aartappels Aartappelwortel (larf) en Afrika bolwurm	120 ml/ha	Grondtoediening: Begin bespuiting sodra die infestatie opgemerk word. Indien daar geen infestatie is nie, begin toediening wanneer plante een maand oud is. Dien toe in 250 – 500 l water/ha afhange van plantgrootte. Herhaal elke 10 – 14 dae en erd ten minste twee keer op gedurende die groeiseisoen.
	132 ml/ha	Lugtoediening: Dien toe in 'n minimum van 30 l water/ha. Dien toe volgens instruksies vir "Grondtoediening" hierbo.
		Sien "Weerstandswaarskuwing" vir meer inligting oor bolwurm bestandheid.

GEWAS/PLAAG	DOSIS	OPMERKINGS
Sorghum Mielestronkboorder (Busseola fusca)	1 ml/100 m ry	Grondtoediening: Dien in 3 l water toe en rig bespuiting in die kelk in. Begin bespuiting as 5 % van die plante halskade simptome toon en larwes nog nie die stam binnegedring het nie. Sal ook Chilo partellus beheer as dit teenwoordig is tydens bespuiting.
	100 ml/ha	Lugtoediening: Dien toe in 30 l water/ha.

Sojabone Afrika bolwurm	120 ml/ha	Grondtoediening: Dien toe in 200 - 300 l water/ha en verseker dat plante deeglik benat word. Dien toe sodra die infestatie opgemerk word. Herhaal indien nodig.
		Lugtoediening: Dien toe in 30 l water/ha.
		Sien "Weerstandswaarskuwing" vir meer inligting oor bolwurm bestandheid.

Tamaties Afrika bolwurm en Valslandmeter	7.5 ml/100 l water	Begin bespuiting met eerste tekens van 'n infestatie of met blom. Vir tamaties tot 1 meter hoog, dien toe as 'n volle dekbespuiting in 500 – 1 000 l water per hektaar, afhange van plantgrootte. Gebruik 'n hoër spuitvolume vir plante groter as 1 meter, maar handhaaf dieselfde konsentrasie. Herhaal bespuiting elke 7 – 10 dae of soos benodig na inspeksie van die gewas.
		Sien "Weerstandswaarskuwing" vir meer inligting oor bolwurm bestandheid.

Koring en Sorghum Afrika bolwurm	100 ml/ha	Dien toe sodra infestatie opgemerk word. Herhaal indien nodig.
		Grondtoediening: Dien toe in 250 – 500 l water/ha en maak seker dat die gewas deeglik benat is.
		Lugtoediening: Dien toe in ten minste 30 l water/ha.
		Sien "Weerstandswaarskuwing" vir meer inligting oor bolwurm bestandheid.