BITRAD CYPERMETHRIN

Reg. No. L7014 (Act No. 36 of 1947)

Reg. Nr. L7014 (Wet Nr. 36 van 1947)

An emulsifiable concentrate contact and stomach insecticide for agricultural use on the crops as indicated.

'n Emulgeerbare konsentraat kontak- en maaginsekdoder vir landbou gebruik op die gewasse soos aangedui.

INSECTICIDE GROUP 3 INSEKDODER GROEP

ACTIVE INGREDIENT: / **AKTIEWE BESTANDDEEL:**

Cypermethrin (pyrethroid) .... 200 g/ℓ .... Sipermetrien (piretroïed)

NET VOLUME 1 ℓ NETTO VOLUME

GEREGISTREER DEUR:/
REGISTERED BY:
BITRAD CONSULTING (PTY) LTD
Co. Reg. No. 2002/025636/07
PO Box 51454
Wierda Park, 0149

DISTRIBUTED BY:/
VERSPREI DEUR:

UN No./Nr. 1993

BATCH NUMBER / LOTNOMMER

DATE MANUFACTURED / DATUM VERVAARDIG

SKADELIK
HARMFUL

021102

WAARSKUWINGS:

DIE VOLGENDE AANTAL DAE MOET VERSTRYK TUSSEN DIE LAASTE BESPUITING EN OES OF VOER/BEWEIDING (F):

Makadamias	30 dae
Druiwe, Sorghum, Katoen (F)	28 dae
Tafelperskes	28 dae
Appels, Pere, Mielies, Suikermielies, Lusern (F)	14 dae
Boontjies, Soja, Ertjies, Grondbone (Hooi F)	7 dae
Tamaties, Koolgewasse	4 dae
Inmaakperskes	3 dae

- Hanteer versigtig.
- Giftig indien ingesluk.
- Matig giftig deur velkontak of indien ingesluk of ingeasem word.
- Giftig vir visse en bye.
- Kan vel en oë irriteer.
- Matig giftig vir fauna
- VLAMBAAR - moet nie naby oop vlamme stoor of gebruik nie.
- Hou buite bereik van kinders, oningeligte persone en diere.
- Stoor in 'n koel plek weg van voedsel en voer.
- Herbetreding: Moet nie behandelde areas betree binne 1 dag na toediening nie.
- **INDIEN VERGIFTIGING VOORKOM, ONTBIED 'N GENEESHEER EN TOON HIERDIE ETIKET AAN HOM.**
- **Lugtoediening**: Stel alle inwoners van die gebied in kennis van die area wat bespuit gaan word en reik die nodige waarskuwings uit. Moenie oor water of aangrensende gebiede spuit nie, en verhoed besoedeling a.g.v. spuitstofwegdrywing.

Alhoewel hierdie middel omvattend onder 'n groot verskeidenheid toestande getoets is waarborg die registrasiehouer nie dat dit onder all toestande doeltreffend sal wees nie, aangesien die werking en effek daarvan beïnvloed kan word deur faktore soos abnormale grond-, 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, en omgewing of vir nadelige effek op mens of dier of vir 'n gebrek aan prestasie van die betrokke middel 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:

- Dra 'n hoed, gesigskerm, katoenoorpak en stewels tydens toediening.
- Wanneer die spuitmengsel voorberei word moet 'n beskermende bril, rubber handskoene en -stewels gedra word.
- Vermy velkontak en inaseming van spuitmis.
- Vermy kontak met oë.
- Was dadelik met seep en water na per abuise velkontak.
- Was oorpakke daagliks.
- Moenie eet, drink of rook terwyl met middel gewerk word of voordat hande en gesig gewas is nie.
- Spoel leë houer driekeer uit met 'n volume water gelykstaande aan 'n minimum van 10% van die houer. Gooi die spoelwater by die inhoud van die sputtenk voordat die houer op die voorgeskrewe wyse sikleer word.
- Vernietig leë houer d.m.v. perforasie en raak ontslae daarvan op 'n veilige en verantwoordelike wyse.
  Moenie houers vir enige ander doel gebruik nie.
- Maak toedienings apparaat skoon na gebruik - uitspoelwater moet nie gewasse, riviere of damme besoedel nie.
- Voorkom besoedeling van waterbronne, gebiede wat nie onder behandeling is nie, voedsel, voer en eetgerei.

SIMPTOME VAN VERGIFTIGING:

Ingeneem: Naarheid, braking en buikpyn kom gewoonlik binne 10 tot 60 minute voor vandat dit ingeneem is.
Inasem: Hipersensitiewe reaksies wat gekarakteriseer word deur viruspneumonie, hoes, asemnood, gehyg, borspyn en brongiale spasma mag voorkom. Uitsonderlike gevalle van asemhalingstaking en hartlong versaking.
Vel: Irriterend en kontak dermatitis mag ontwikkel. Huidrooiheid wat sonbrand naboots, het ook al voorgekom na aanhoudende en herhalende blootstelling.
Oë: 'n Verstopte, loperige neus en krapperige keel wat gevolg word deur inasem simptome.

NOODHULPBEHANDELING:

- VERKRY ALTYD ONMIDDELLIKE MEDIESE BEHANDELING EN TOON DIE ETIKET AAN DIE GENEESHEER.
- Verwyder persoon weg van bron van vergiftiging na ’n koel, goed geventileerde area.
- Stel pasient gerus en hou hom stil.
- Verwyder besoedelde klere en was die besmette liggaamsdele met baie seep en koue water. Moet nie die vel hard vryf nie.
- Besmette oë moet vir minstens 15 minute lank met skoon water uitgespoel word.
- In die geval van inname, MOET NIE braking veroorsaak nie. Braking moet onder die toesig van ’n geneesheer geskied a.g.v. moontlike longskade deur asemhaling van oplosmiddel.
- Neem die pasiënt onmiddellik na die naaste geneesheer.
- Pas kunsmatige asemhaling of geslote hartmassering toe indien nodig.
- MOET NIE direkte mond tot mond asemhaling toepas nie.
- Moet NOOIT iets per mond vir ’n bewustelose persoon toedien nie.

NOTA VIR GENEESHEER:

Geen spesifieke teenmiddel is bekend nie. In die geval van inname, voer maagspoeling uit met sorg om asemhaling van oplosmiddel te voorkom. Behandel simptomies.

WEERSTANDWAARSKUWING:

CYPERMETHRIN is ’n groepkode 3 insekdoder. Enige populasie van ’n spesifieke insek mag individue insluit wat ’n natuurlike weerstand teen **CYPERMETHRIN**, of enige ander groepkode 3 insekdoder het. Indien hierdie insekdoders herhaaldelik aangewend word, kan die weerstandbiedende individue uiteindelik die insekpopulasie oorheers. Hierdie weerstandbiedende insekte sal waarskynlik nie deur **CYPERMETHRIN** of enige ander groepkode 3 insekdoder beheer word nie.

Om weerstand teen insekdoders te vertraag:

- Vermy eklusiewe herhaaldelike gebruik van insekdoders met dieselfde groepkode. Wissel af met, of gebruik tenkmengsels van insekdoders uit ander groepkodes.
- Integreer ander beheermaatreëls (chemies, verbouing, biologies) in insekdoder programme.

Vir spesifieke inligting oor weerstandbestuur, kontak die Verspreider van hierdie produk.

Weerstand van Amerikaanse bolwurm (*Helicoverpa armigera*) teen sintetiese piretroïede is bevestig.
KATOEN: Sintetiese piretroïede MOET SLEGS gedurende die periode 1 Januarie tot 28 Februarie op katoen toegedien word.
ALLE ANDER GEWASSE: Moet nie meer as twee toedienings per groeiseisoen toedien nie. As ’n piretroïedbespuiting swak beheer gee, MOET NIE met enige sintetiese piretroïed, selfs teen ’n korrektiewe dosis, herspuit nie. Gebruik ’n produk uit ’n ander chemiegroep.

LUGTOEDIENING:

CYPERMETHRIN kan slegs deur ’n geregistreerde Lugbespuitingsoperateur met ’n korrek gekalibreerde, geregistreerde vliegtuig volgens die instruksies van SANS 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 van 30 liter per ha 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 effek indien hierdie produk teen ’n laer volume, as hier bo aanbeveel, toegedien word nie.

Druppelbedekking:

30 tot 40 druppels per cm^2 moet op die teikenarea herwin word.

Druppelgrootte:

’n Druppelspektrum met ’n VMD van 250 tot 280 mikron word aanbeveel. Beperk die lewering van druppelskleiner as 150 mikron. (hoë drywing en verdampingspotensiaal) tot ’n minimum.

Vlieghoogte:

Handhaaf die hoogte van die spuitbalk bo die teiken op 3 tot 4 meter. Moet nie spuit wanneer dievliegtuig duik,uitklim of draai nie.
Gebruik geskikte **atomiseringsapparaat** wat die vereiste druppelgrootte en bedecking sal lewer, maar die minste verlies aan produk verseker. Die spuitstelsel moet ’n druppelspektrum met die kleinste moontlike Relatiewe span produseer. Plaas al die atomiseerders in die binneste 60 tot 75% van die vlerkspan om te verhoed dat druppels ingetrek word in die **vlerkpunt vortekse**. Die verskil in **temperatuur** tussen die nat- en

droêbol termometer van ’n swaaihigrometer, moet nie 8° Coorskry nie. Staak bespuitingindien die **windspoed** 15 km/h oorskry. Staak bespuiting tydens **turbulente,**
Onstabiele en droê toestande gedurende die hitte van die dag. Bespuiting onder temperatuur **inversie toestande** (deur bo of binne die inversielaag te spuit) en/of **hoê lugvogtoestande** (relatiewe humiditeit 80% en meer) mag tot volgende probleme aanleiding gee:

- verlaagde effektiwiteit, deurdat die druppels as’n wolk in die lug bly hangen moontlik verdamp (onvoldoende bedecking op teiken).
- skade aan nie-teiken gewasse of sensitiewe areas agv wegdrywing van die spuitnewel na nie-teiken gebiede.

Verseker dat die spuitoperateur presies weet watter lande bespuit moet word.
Verkry versekering van die Lugbespuitingsoperateur, dat aan al die bogenoemde vereistes voldoen sal word en dat data van belang in die logboek aangeteken sal word vir latere verwysing.

GEBRUIKSAANWYSINGS: GEBRUIK SLEGS SOOS AANGEDUI

Sien “WAARSKUWINGS” aangaande onthoudingsperiode, die tydperk wat moet verstryk tussen laaste toediening en oes van gewas.
VERENIGBAARHEID:

- Die doeltreffendheid van BITRAD CYPERMETHRIN mag verlaag word deur hoë pH spuitmiddels. Moet dus nie BITRAD CYPERMETHRIN meng met alkaliese stowwe nie.
- BITRAD CYPERMETHRIN is nie verenigbaar met spuitolies, verskeie bevorderingsmiddels en sommige plaagdoders nie. Die verenigbaarheid van BITRAD CYPERMETHRIN met ander produkte moet dus vooraf getoets word.
- BITRAD CYPERMETHRIN is mees stabiel by ongeveer pH4. Indien versuringsmiddel gebruik word om pH te verlaag moet dit eers met spuitwater gemeng word. Melasse versuur ook spuitmengsel en verhoed verdamping van spuitdruppels. Indien melasse bygevoeg word, word 10 % vir grondtoediening, en 20 % vir lugtoediening, aanbeveel.

MENGINSTRUKSIES:

1. Vul spuittenk $^1/_4$ tot $^1/_2$ vol met water.
2. Meet die verlangde hoeveelheid BITRAD CYPERMETHRIN af in ’n emmer met water en roer die mengsel.
3. Gooi dié mengsel in die spuittenk en vul die tenk en roer - ook terwyl gespuit word.
4. Moenie aangemaakte mengsel oornag laat nie.

TOEDIENINGSTABEL:

GEWAS/PLAAG	DOSIS	GEBRUIKSAANWYSINGS
APPELS EN PERE Gebande vrugtekalander (Snuitkewer)	10 mℓ/100 ℓ water 250 - 350 mℓ/ha	HV: 2 500 - 3 500 ℓ spuitmengsel/ha LV: $^1/_4$ - $^1/_8$ van die spuitmengsel volume as vir HV toediening toe. Dien twee keer toe: met 75 % blomblaarval en weer 4 weke later. ’n Derde bespuiting mag raadsaam wees middel Januarie om laatseisoen skade te voorkom. Sal ook Amerikaanse bolwurm en Kodlingmot aanvanklik beheer. NOTA: Giftig vir bye.
Kodlingmot, Blaarvreters	5mℓ/100ℓ water 125 - 175 mℓ/ha	Eerste bespuiting teen 75 % blomblaarval. Herhaal elke 14 dae waar hoë besmetting intensiewe maatreëls regverdig, of waar feromoonlokvalle so aandui. Herhaal elke 21 dae in boorde met lae besmetting. NOTA: Giftig vir bye.
Amerikaanse bolwurm	5 mℓ/100 ℓ water	Dien toe as ’n korrektiewe bespuiting, maar nie voor 75 % blomblaarval nie. NOTA: Giftig vir bye.
BOSBOU Dennepouoogmot	50 mℓ/ha	**Lugtoediening:** In 30 ℓ water/ha. Hierdie ruspes ontblaar denne, Eucalyptus en Protea
Wilgerpouoogmot	100 mℓ/ha	**Lugtoediening:** In 30 ℓ water/ha. Hierdie ruspes ontblaar wilger, Acacia, populier- en eikesoorte

ERTJIES Amerikaanse bolwurm Kleinkommandowurm	150 mℓ/ha	**Grondtoediening**: Dien in nie minder as 200 ℓ water/ha toe nie. **Lugtoediening:** Gebruik 30 ℓ water/ha
GRASPERKE Krieke	5 mℓ/10 ℓ water	Dien toe teen 0,5 ℓ spuitmengsel/10 m^2 en/of giet 50 mℓ van die mengsel in elke gat. Herhaal wanneer nodig.
Grasperkruspe	5 mℓ/10 ℓ water	’n Ligte dekbespuiting sodra skade opgemerk word. ’n Nat sak wat oornag op die grasperk gelaat word, sal die infestasie wys wanneer dit vroeg soggens weggeneem word.
Noordelike grasdraertermiet en egte miere	5 mℓ/10 ℓ water	Bespuit die grasperk teen 5 ℓ spuitmengsel/100 m^2. herhaal sodra bedrywighede weer begin. Alleenlik vir huistuine. In die geval van die grasdraertermiet mag tot 30 dae beheer verkry word.
Kommandowurm	5 mℓ/10 ℓ water	’n Ligte dekbespuiting oor die grasperk.
GRONDBONE EN BONE (Insluitende soja) Amerikaanse Bolwurm	150 mℓ/ha	Begin sodra eiers of ruspes op die plant gevind word. Herhaal met 14 dae tussenposes of soos na inspeksie raadsaam blyk. **Grondtoediening**: Moenie minder as 200 ℓ spuitmengsel/ha gebruik nie **Lugtoediening**: Dien in 30 ℓ water/ha toe.
KATOEN Alle soorte bolwurm: Amerikaanse (*Helicoverpa*) rooi, stekelrige asook vlekbessies	Weeklikse bespuiting 75 mℓ/100 ℓ water 75 of 150 mℓ/ha	Sien: Waarskuwing teen bestandheid onder “Waarskuwings” bo (die res van die inskrywings volg en verwys slegs na die weeklikse voorkomende dosisse. Om te voldoen aan die vereiste van plaagbestuur en integreerde beheermetodes, word BITRAD CYPERMETHRIN aanbeveel om gedurende hoofblom periode tot bolbarstyd gebruik te word dit wil sê van 10 - 22 weke na opkom van die saailinge. BITRAD CYPERMETHRIN word hoofsaaklik bedoel as voorkoming teen alle soorte bolwurmruspes gebaseer op gereelde weeklikse plantasieinspeksie, of op gereelde spuitprogram met 7 dae tussenposes. Gewoonlik begin ’n spuitprogram met begin blomstadium, dit wil sê omtrent 6 weke na opkom. Van dan af tot hoofblomperiode moet geregistreerde nie-piretroïed-middels gebruik word. Nadat die bolle begin bars gebruik soos nodig volgens inspeksie. Katoen plante ouer as 12 weke na opkom word as volwasse beskou. VOORKOMEND: Dien oordeelkundig toe volgens inspeksie, d.w.s. Amerikaanse bolwurm gemiddeld 0,5 eiers/plant: Rooibolwurm gemiddeld 0,25 eiers/plant; stekelrige bolwurm gemiddeld 2 of meer ruspes op 24 plante eweredig oor die hele akker tot 15 ha groot. Inspeksie behoort elke week vanaf blom tot bolbars uitgevoer te word. Sal ook Vlekbessies beheer. **Grondtoediening**: Met spuitbalk. Maak seker dat die plante deeglik benat word. Solank die plante onder 60 cm hoog is gebruik 100 ℓ spuitmengsel/ha. Vir groter plant vermeerder die hoeveelheid spuitmengsel geleidelik tot 200 ℓ/ha vir volwasse plante. Moenie minder as 150 mℓ BITRAD CYPERMETHRIN/ha op volwasse plante gebruik nie.

KATOEN (vervolg) Alle soorte bolwurm: Amerikaanse (*Helicoverpa*) rooi, stekelrige asook vlekbessies Alle soorte bolwurms Blaarvreterruspes Valslandmeter (*Plusia* en *Spodoptera*)	87 of 175 mℓ/ha 175 of 350 mℓ/ha 250 mℓ/100 ℓ water 250 of 500 mℓ/ha 250 of 500 mℓ/ha	**Met Newelblaser:** Gebruik die lae dosis op katoen onder 60 cm hoog en die hoër dosis op die hoër plante. Moenie minder as 150 mℓ BITRAD CYPERMETHRIN/ha op volwasse katoenplante gebruik nie. **Lugtoediening**: Soos vir newelblasers, maar in 30 ℓ water/ha. KORREKTIEF: Dien as korrektiewe bespuiting toe om 'n bestaande infestasie te beheer, d.w.s. waar meer as 2 bolwurm ruspes per 24 plante tydens inspeksie gevind word of wanneer blaarvreters gevind word en die vreetskade toeneem. Verder ontwikkelde rooibolwurms in bolle word moontlik nie effektief beheer nie. Die sukses van behandeling hang af van toedieningstegniek, digtheid van lowe, stand van plante en van die ontwikkelingstadia van die ruspes. Laat 4 dae toe vir Cypermethrin om sy volle effek uit te oefen. Korrektiewe toediening moet as 'n noodmaatreël beskou word, en daarna moet met 'n gereelde program voortgegaan word, afgesien van die katoen se ontwikkelingstadium. **Grondtoediening**: Met spuitbalk. Benat die plante deeglik. Vir plante tot 60cm hoog, dien 100 ℓ spuitmengsel/ha toe. Vir hoër plante moet die volume geleidelik verhoog word tot 200ℓ/ha op volwasse katoen. Moenie minder as 500mℓ Cypermethrin/ha op volwasse katoen gebruik nie **Newelblaser**: Gebruik die laer dosis op katoen onder 60cm hoog en die hoër dosis op katoen bo 60cm hoog. Moenie minder as 500 mℓ Cypermethrin op volwasse katoen gebruik nie. **Lugtoediening:** Soos vir newelblasers, deur egter in 30ℓ water/ha toe te dien.
KOOLGEWASSE Amerikaanse bolwurm Ruspe van die ruitrugmot en Grootkoolmot Blaaspootjies	10 mℓ/100 ℓ water	Verseker goeie benatting deur 'n benatter by te voeg. Begin spuit by eerste tekens van die plaag en herhaal elke 10 - 14 dae. So 'n behandelingsprogram sal plantluise onderdruk.
LUSERN Lusernruspe	75 mℓ/ha	Grondtoediening: Volle dekspuiting. In 300 ℓ water/ha. Lugbespuiting: In 30 ℓ water/ha.
MAKADAMIAS Stinkbesies	20 mℓ/100 ℓ water	Volle dekbespuiting wanneer die neute albastergrootte is (Okt./Nov). Herhaal 4 weke later. 'n Derde toediening mag nodig wees 4 weke na die tweede.
MIELIES EN SUIKERMIELIES Snywurm Amerikaanse bolwurm	0,33 mℓ/100 m ry 100 mℓ/ha 100 mℓ/ha 1,5 mℓ/100 m ry 150 mℓ/ha	**Rybehandeling**: Dien na opkom van die saailinge toe sodra die plaag opgemerk word in ten minste 3 ℓ water per 100 m ry. Spuit 'n baan van ten minste 30 cm breed oor die ry. NB: Die grond moet vogtig wees to bo. Latere besmetting mag 'n tweede bespuiting vereis. **Algehele landbehandeling**: Grond toediening in 300 ℓ water/ha **Lugbespuiting**: In 30 ℓ water/ha. Die grond moet vogtig wees tot op oppervlak. **Grondtoediening:** Waar die rywydte dit toelaat, gebruik ten minste 3 ℓ water/100 m ry. Rig die spuitstraal na die koppe. **Lugtoediening:** In 30 ℓ water/ha. Spuit sodra die larwes opgemerk word, maar nie later dan 80 % baardverskyning nie.

MIELIES EN SUIKERMIELIES (vervolg) Stronkboorder (*Busseola fusca*)	3,5 mℓ/100 m ry 350 mℓ/ha	**Grondtoediening**:Voorkomende behandeling teen jong larwes, gebaseer op eierpakkietellings. Spuit 7 - 10 dae nadat op 5 % of meer van die plante eiers gevind is. Inspekteer elke week tussen 2 - 7 weke na ontkieming, deur ten minste 100 plante ewekansig per landery te ondersoek. Indien die eiers al uitgebroei het, spuit sodra eerste tekens van besmetting opgelet word. Spuit direk in die kelk in. Herhaal die toediening later in die seisoen, indien dit volgens inspeksie nodig is. Spuit in genoeg water, d.w.s. 3 ℓ/100 m ry. **Lugtoediening**: Dien in 30 ℓ water/ha toe volgens aanwysings vir grondtoediening.
Pienk Stronkboorder	1,5 mℓ/100 m ry 150 mℓ/ha	**Suikermielies:** Begin spuit 3 weke na plant en herhaal met 10 - 14 dae tussenposes tot dat die koppe verskyn het. Gebruik nie minder as 3 ℓ water/100 m ry. Sal ook *Busseola fusca* stamboorder, Amerikaanse bolwurm en Bladspringers onderdruk. **Lugtoediening**: Spuit soos bo in 30 ℓ water/ha.
PERSKES Vrugtevlieg	10 mℓ/100 ℓ water 150 - 350 mℓ/ha	Volle dekbespuiting met 14 dae tussenposes, vanaf agt weke voor oes. In die somer reënvalgebied moet nie later as die derde week van Desember begin word nie.
Valskodlingmot	5 mℓ/100 ℓ water 125 - 175 mℓ/ha	**Vroeë variëteite**: Volle dekbespuiting met 14 dae tussenposes vanaf 6 weke voor oes. **Laat variëteite**: Volle dekbespuiting met 14 dae tussenposes vanaf 8 weke voor oes. In die somerreënvalgebied moet nie later as die derde week van Desember begin word nie.
Kodlingmot	5 mℓ/100 ℓ water 125 - 175 mℓ/ha	Volle dekbespuiting teen 75 % blomblaarval. Herhaal met 14 - 21 dae tussenposes, afhangende van die infeksiedruk.
Amerikaanse bolwurm	5 mℓ/100 ℓ water 125 - 175 mℓ/ha	Volle dekbespuiting vanaf 75 % blomblaarval of wanneer die plaag opgemerk word.
Gebande vrugtekalander	10 mℓ/100 ℓ water 250 - 350 mℓ/ha	Bespuit sodra vreetskade opgelet word. Herhaal 4 weke later indien nodig.
SIERPLANTE EN BLOMME Plantluise	1 mℓ/10 ℓ water	Volle dektoediening wanneer die luise opgemerk word. Herhaal wanneer nodig. Alleenlik vir huistuine
Witluis en Australieseluis	1 mℓ/10 ℓ water	Volle dektoediening. Alleenlik vir huistuine. Mierbeheer sal baie help.
Blomkewers	1 mℓ/10 ℓ water	Direkte kontakbespuiting.
Lelieboorder	1 mℓ/10 ℓ water	Dien gereeld toe wanneer die mot bedrywig is.
Dennepouoogmot se ruspes (bv. op Proteas)	50 mℓ/ha	Lugtoedieing in 30 ℓ water/ha
Skildstinkbesies & Verwelkbesies	1 mℓ/10 ℓ water	Direkte kontakbespuiting: Alleenlik vir huistuine
Witvlieg	1 mℓ/10 ℓ water	Volle dekbespuiting veral ook na die onderkante van die blare. Alleenlik vir die huistuin.

SORGHUM Snywurm	0,33 mℓ/100 m ry 100 mℓ/ha	**Rybehandeling**: Dien toe na saailings op is, sodra die plaag opgemerk word, in 3 l water/100 m ry. Spuit 'n baan ten minste 30 cm breed oor die ry. NB die grond moet tot bo klam wees. Latere besmetting mag 'n tweede bespuiting vereis. **Lugtoediening**: In 30 ℓ water/ha, onder bogenoemde voorwaardes
Amerikaanse bolwurm	1,5 mℓ/100 m ry	**Grondtoediening**: Gerigte bespuiting na die are in ten minste 2 ℓ water/100 m ry.
	150 mℓ/ha	**Lugtoediening**: In 30 ℓ water/ha spuit sodra die plaag opgemerk word. Waar die ruspes binne digte are versteek sit, mag die beheer minder effektief wees. Latere besmettings mag 'n tweede bespuiting benodig.
Stronkboorder (*Busseola fusca*)	3,5 mℓ/100 m ry 350 mℓ/ha	**Grondtoediening**: Dien toe in minstens 3 l/100 m ry. **Lugtoediening**: Soos vir mielies.
TAMATIES Amerikaanse bolwurm	15 ml/100 ℓ water	**Grondtoediening**: Dien toe as 'n volle dekbespuiting sodra 'n besmetting opgelet word. Herhaal elke 7 - 10 dae of soos inspeksie van gewas aandui. **Hoë volume**: Tot 500 ℓ spuitmengsel per ha vir plante tot 60 cm hoog, en 1000 ℓ/ha of meer vir plante hoër as 60 cm, bv. opgeleide tamaties. Moenie meer as 150 mℓ BITRAD CYPERMETHRIN/ha toedien nie.
	75 - 150 mℓ/ha	**Newelblasers**: 150 - 500 ℓ spuitmengsel/ha. Gebruik die laer dosis en volume vir plante tot 60 cm hoog en die hoër dosis en volume vir plante vanaf 60cm opwaarts bv. opgeleide tamaties. Moenie meer as 150 mℓ BITRAD CYPERMETHRIN/ha aanwend nie.
VERSKILLENDE GEWASSE Snywurm	0,33 mℓ/100 mℓ ry 100 mℓ/ha	**Rybehandeling**: Spuit alleenlik indien die grond se boonste 3 cm klam is. Spuit 'n baan ten minste 30 cm breed oor die ry na opkom in 3 ℓ water. Breedwerpige toediening in 300 ℓ water/ha vir grondtoediening of in 30 ℓ/ha by lugtoediening.
WEIDING Kommandowurm	150 mℓ/ha	'n Plaag alleenlik op grasse (veld, weiding en grasgewasse). Dien toe sodra plaag opgemerk word. Grond of lugtoediening. Dien toe in minstens 300 ℓ water/ha vir grondtoediening.
WATTELPLANTASIES Sakwurm	100 mℓ/ha	**Lugbespuiting**: In 30 ℓ water/ha. Begin spuit in Nov/Des wanneer die ruspes aktief voed.
WINGERD Kalanders	10 mℓ/10 ℓ 25 - 150 mℓ/ha	HV: 250 - 1 500 ℓ spuitmengsel/ha Volle dektoediening van alle dele van die wingerdstok. Begin sodra die eerste teken van beweging van kewers of vreetskade opgemerk word. Herhaal na 21 - 28 dae indien nodig. Die eerste voorkoms van kewers kan van area tot area varieer maar kom gewoonlik tussen middel Oktober tot middel November voor. NOTA: Giftig vir bye.

WARNINGS:

Allow the following number of days between last application and harvesting or feeding grazing (F):

Macadamias	30 days
Grapes, Sorghum, Cotton (F)	28 days
Table peaches	28 days
Apples, Pears, Maize, Sweetcorn, Lucerne (F)	14 days
Beans, Soya beans, Peas, Groundnuts (F Hay)	7 days
Tomatoes, Cruciferae	4 days
Canning peaches	3 days

- Handle with care
- Poisonous if swallowed and moderately toxic by skin contact.
- May cause skin and eye irritation.
- Toxic to fish and bees and moderately toxic to wild life.
- FLAMMABLE - Do not store or spray near open flames.
- Keep out of reach of children, uninformed persons people and animals.
- Store away from food and feedstuff in a cool place.
- Re-entry: Do not enter treated areas within 1 day after application.
- **IN CASE OF POISONING CALL A DOCTOR AND MAKE THIS LABEL AVAILABLE TO HIM.**
- **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 water or adjacent areas.

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 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 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:

- Wear a hat, face shield, cotton overalls and boots when applying spray mixture.
- When preparing the spray mixture wear a face shield, rubber gloves and boots.
- Avoid skin contact, and inhalation of the spray mist. Avoid eye splashes.
- Wash with soap and water immediately after accidental skin contact.
- Wash overalls daily.
- Do not eat, drink or smoke while using or before having washed hands or face.
- Rinse empty container three times with a volume of water equal to a minimum of 10% of that of the container. Add the rinsing to the contents of the spray tank before recycling the container in the prescribed manner.
- Destroy empty container by perforation and dispose it in a safe and responsible way. Do not re-use for any other purpose.
- Clean applicator after use and dispose of wash water where it will not contaminate crops, grazing, rivers or dams.
- Avoid pollution of water sources, areas not under treatment, food, feedstuffs and eating utensils.

SYMPTOMS OF HUMAN POISONING:

Ingestion: Nausea, vomiting and abdominal pain commonly occur and develop within 10 to 60 minutes following ingestion.

Inhalation: Hypersensitivity reactions characterized by pneumonitis, cough, dyspnea, wheezing, chest pain, and bronchospasm may occur. Rare cases of respiratory failure and cardiopulmonary arrest have been reported.

Skin: Irritant and contact dermatitis may develop. Erythema which mimics sunburn has also been noted after prolonged repeated exposure.

Eyes: A stuffy, runny nose and scratchy throat following inhalational exposure may be noted.

FIRST AID TREATMENT:

- ALWAYS OBTAIN IMMEDIATE MEDICAL TREATMENT AND SHOW THIS LABEL TO PHYSICIAN.

- Remove patient from source of poisoning to a cool, well-ventilated area.
- Keep patient quiet and reassured.
- Remove contaminated clothing and wash contaminated body area thoroughly with plenty of soap and cold water. Do not rub skin.
- Contaminated eyes must be flushed with clean water for at least 15 minutes.
- In case of ingestion, DO NOT induce vomiting. Vomiting to be supervised by a physician because of possible pulmonary damage by aspiration of solvent.
- Take the patient immediately to the nearest physician.
- Administer artificial respiration or closed chest cardiac massage if necessary.
- DO NOT apply direct mouth-to-mouth respiration.
- NEVER give anything by mouth to an unconscious person.

NOTE TO PHYSICIAN:
No specific antidote is known. In case of ingestion, carry out gastric lavage with care to prevent aspiration of solvent.

RESISTANCE WARNING:
For resistance management **CYPERMETHRIN** is group code 3 insecticide. Any insect population may contain individuals naturally resistant to **CYPERMETHRIN** 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 **CYPERMETHRIN** or any other group code 3 insecticide.

- Avoid exclusive repeated use of insecticides from the same insecticide group code. Alternate or tank mix with products from different insecticide group codes.
- Integrate the control methods (chemical, growing practices, biological) into insect control programmes.

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

Resistance of American bollworm (*Helicoverpa armigera*) to synthetic pyrethroÏds has been confirmed.
COTTON: synthetic pyrethroÏds must ONLY be applied between to cotton during the period 1 st January to 28 February.
ALL OTHER CROPS: DO NOT apply more than two applications per growing season. If a pyrethroÏd gives poor performance, DO NOT apply respray with any pyrethroÏd, even ata corrective dosage rate. Use a product from a different chemical group.

AERIAL APPLICATION:
Aerial application of **CYPERMETHRIN** may only be done by a registered Aerial Application Operator using a correctly calibrated, registered aircraft according to the instructions of SANS 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 litre per ha 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 effect if this product is applied aerially at a lower volume rate than recommended above.

Droplet coverage:
30 to 40 droplets per cm^2 must be recovered at the target area.

Droplet size:
A droplet spectrum with a VMD of 250 to 280 micron is recommended. Limit the delivery 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 been sucked into the **wingtip vortices**.
The difference in **temperature** between the wet and dry bulb thermometersof the whirling hygrometer, should not exceed 8° C. Stop spraying if the **wind** 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 area.

Ensure that the Aerial Spray Operator knows exactly which fields to spray.
Obtain assurance from the Aerial Spray Operator that the above requirements will be met and that relevant data will be recorded in the logbook for future reference.

DIRECTIONS FOR USE: USE ONLY AS DIRECTED

See "WARNINGS" on withholding periods i.e. period between last application and harvest of crop.
COMPATIBILITY:

- High pH spray mixtures may reduce the efficacy of BITRAD CYPERMETHRIN. Thus do not mix BITRAD CYPERMETHRIN with alkaline materials.
- BITRAD CYPERMETHRIN is not compatible with spray oils, several adjuvants and some pesticides. The compatibility of BITRAD CYPERMETHRIN with other products must be tested beforehand.
- BITRAD CYPERMETHRIN is most stable at approximately pH4. If an acidifying agent is used to lower pH, it should be added first to the spray water. Molasses also acidifies the spray mixture and prevents evaporation of spray droplets. If molasses is added, a 10 % for ground application and 20 % for aerial application, is recommended.

MIXING INSTRUCTIONS:

1. Fill spray tank $^1/_4$ to $^1/_2$ full with water
2. Measure the required BITRAD CYPERMETHRIN into a bucket with water and stir the mixture.
3. Pour the mixture in the spray tank and fill up whilst stirring - also during application.
4. Do not leave spray mixture overnight.

APPLICATION TABLE:

CROP/PEST	DOSAGE	DIRECTIONS FOR APPLICATION
APPLES AND PEARS		
Banded fruit weevil (Snout beetle)	10 mℓ/100 ℓ water 250 - 350 mℓ/ha	HV: 2 500 - 3 500 ℓ spray mix/ha LV: Apply $^1/_4$ - $^1/_8$ of the spray mix volume as for HV application. Apply two sprays. The first at 75 % petal fall and the second four weeks later. A third spray can be applied in mid-January to prevent late season damage. Initially this treatment will also control American bollworm and Codling moth. NOTE: Toxic to bees
Codling moth, Leaf eaters	5 mℓ/100 ℓ water 125 - 175 mℓ/ha	Apply the first spray at 75 % petal drop. Repeat every 14 days in orchards where high infestation warrants intensive control or where pheromone traps dictate applications. Repeat every 21 days in orchards when low infestations are experienced. NOTE: Toxic to bees
American bollworm	5 ml/100 ℓ water	Apply as a corrective spray. Do not apply before 75 % petal drop. NOTE: Toxic to bees
COTTON All bollworms: i.e. American (*Helicoverpa*), Red and Spiny bollworm Stainers		See Warning on resistance under "Warnings" above (rest of remarks follows and refers only to the weekly preventive dosage). In order to comply with the principles of pest management and integrated control measures, BITRAD CYPERMETHRIN is intended to be used during the period of fruiting from peak flowering until boll split, e.g. approximately 10 - 22 weeks after plant emergence. BITRAD CYPERMETHRIN is primarily intended for use as a preventative control measure against all bollworm larvae based on weekly scouting, or a regular spray programme applied at 7 day intervals. Normally a bollworm spray programme will commence at the beginning of flowering, i.e. about 6 weeks after emergence. From then until peak flowering use registered non-pyrethroid remedies. After boll split use as recommended on scouting data. Cotton plants older than 12 weeks after emergence is considered mature.

COTTON (cont) All bollworms: i.e. American (*Helicoverpa*), Red and Spiny bollworm Stainers.	Weekly spraying 75 mℓ/100 ℓ water	PREVENTIVE: apply as determined by scouting for eggs i.e. for American bollworm an average of 0,5 eggs per plant; red bollworm an average of 0,25 eggs/plant; spiny bollworm when two or more larvae are found during scouting, after scouting 24 plants at random in lands up to 15 ha in size. Scouting should be done at weekly intervals from flowering until boll split. Stainers will be controlled during regular applications for control of bollworm. Ground application: With boom and nozzles. Ensure thorough coverage of the plants. For plants smaller than 60 cm apply 100 ℓ spray mixture/ha. For taller plants increase the volume of spray mixture to 200 ℓ/ha for mature cotton. Do not use less than 150 mℓ BITRAD CYPERMETHRIN/ha on mature cotton.
	75 or 150 mℓ/ha	**Mistblower:** Use the lower dosage on cotton less than 60 cm high and the higher dosage rate on cotton taller than 60 cm. Do not use less than 150mℓ BITRAD CYPERMETHRIN/ha on mature cotton.
	87 or 175 mℓ/ha	**Aerial application**: As for mistblower application, by applying 30 ℓ water/ha.
All bollworms and Leaf eaters Semi-looper (*Plusia* and *Spodoptera*)	175 or 350 mℓ/ha	CORRECTIVE: Apply as corrective spray to control an established infestation, i.e. when more than 2 bollworms per 24 plants are found during scouting or when leaf eaters are found and damage to leaves is increasing. Later instar red bollworms established inside bolls might not be controlled successfully. Success of treatment can be related to application, density of crop foliage, stand and instar of caterpillars. Allow up to 4 days for Cypermethrin to achieve its full effect. A corrective application is to be considered an emergency measure and thereafter a regular programme must be resumed irrespective of the crop stage.
	250 mℓ/100 ℓ water	**Ground application**: With boom and nozzles. Ensure thorough coverage of the plants. For plants smaller than 60 cm apply 100 ℓ spray mixture/ha. For taller plants increase volume of spray mixture/ha gradually to 200 ℓ/ha for mature cotton. Do not use less than 500 mℓ Cypermethrin/on mature cotton.
	250 or 500mℓ/ha	**Mistblower**: Use the lower dosage on cotton less than 60 cm high and the higher dosage rate on cotton taller than 60 cm. Do not use less than 500 mℓ Cypermethrin on mature cotton.
	250 or 500 mℓ/ha	**Aerial application:** As for mistblower application, by applying 30 ℓ water/ha.
CRUCIFERAE American bollworm Caterpillars of the diamond back moth and greater Cabbage moth Thrips	10 mℓ/100 ℓ water	Ensure good wetting of the plant by adding a wetting agent. Commence spraying at the first signs of the pest and repeat sprays every 10-14 days. This treatment will suppress aphids in a programme spray.
FORESTRY Pine Emperor moth	50 mℓ/ha	**Aerial application:** In 30 ℓ water/ha. This caterpillar defoliates Pines, Eucalyptus en Proteas.
Willow Tree Emperor moth	100 mℓ/ha	**Aerial application:** In 30 ℓ water/ha. This caterpillar defoliates Willows, Acacias, Poplars and Oaks.

GRAPE VINES Weevils (Snout beetles)	10 mℓ/10 ℓ 25 - 150 mℓ/ha	HV: 250 – 1500 ℓ spray mixture/ha Apply as a full cover application ensuring thorough coverage of all parts of the plant. Apply first spray when the first signs of movement and/or feeding of snout beetles are detected. Repeat within 21 - 28 days as necessary. The first occurrence of weevils varies from area to area but can be expected from mid-October to mid-November. NOTE: Toxic to bees.
GRAZING Army worm	150 mℓ/ha	A pest of grasses only (veldt, grazing and grass crops). Apply when pest occurs. Ground or aerial application. Apply a minimum of 300 ℓ/ha for ground application.
GROUNDNUTS EN BEANS (Including soya beans) American bollworm	150 mℓ/ha	Commence application as soon as eggs or larvae are noticed on the plants. Repeat the application at 14 day intervals or as directed by inspection of the crop. **Ground application**: Apply not less than 200 ℓ mix/ha. **Aerial application**: Apply in 30 ℓ water/ha.
LAWNS Crickets	5 mℓ/10 ℓ water	Apply at the rate of 0,5 ℓ spray mixture/10 m^2 and/or pour 50 mℓ of the mixture into each hole. Repeat when necessary.
Lawn caterpillar	5 mℓ/10 ℓ water	Apply when damage is noticed. Light full cover application. A damp sack left on the lawn overnight will reveal infestation when removed early in the morning.
Northern harvester Termite and ants	5 mℓ/10 ℓ water	Apply onto lawns at 5 ℓ spray mixture/100 m^2. Repeat application when activity is noticed again. Home garden only. In case of Northern harvester termite up to 30 days control may be expected.
Army worm	5 mℓ/10 ℓ water	Spray as an overall light cover onto the lawn.
PEAS American bollworm Lesser Army worm	150 mℓ/ha	**Ground application**: Apply in not less than 200 ℓ water/ha. **Aerial application:** Apply 30 ℓ water/ha
LUCERNE Caterpillar	75 mℓ/ha	Aerial application: Apply in 30 ℓ water/ha. Ground application: Full cover spray in 300 ℓ water/ha.
MACADAMIAS Stink bug	20 mℓ/100 ℓ water	Apply as high volume spray when the nuts are marble size (Oct./Nov.) Repeat 4 weeks later. A third application may be necessary 4 weeks after the second.
MAIZE AND SWEETCORN Cut worm	0,33 mℓ/100 m row	**Row treatment:** Apply post emergence to the crop as soon as pest is noticed in at least 3 ℓ water/ 100 m row. Apply in a band at least 30 cm wide over the row. Ensure that soil is moist right to the surface at time of application. Later infestation may require a second application.

MAIZE AND SWEETCORN (cont) Cut worm	100 mℓ/ha	**Overall application:** Ground application in 300 ℓ water/ha.
	100 mℓ/ha	**Aerial application**: In 30 ℓ water/ha. Soil must be moist up to surface.
American bollworm	1,5 mℓ/100 m row	**Ground application:** If the row width allows ground application use not less than 3 ℓ water/ 100 m. Direct nozzles towards the heads.
	150 mℓ/ha	**Aerial application:** Apply in 30 ℓ water/ha. Apply when pest is noticed, but not later than 80 % beard emergence.
Stalk borer (*Busseola fusca*)	3,5 mℓ/100 m row	**Ground application**: Preventive treatment against young caterpillars based on scouting for eggs on plants. Apply 7 - 10 days after 5 % or more plants are found to be infested with eggs. Do weekly scouting from 2 - 7 weeks after crop emergence by inspecting at least 100 plants at random per field. If eggs have hatched, spray at the first signs of infestation. Direct spray into the funnel. Repeat application when scouting shows this to be necessary later in the season. Apply in sufficient water, i.e. 3 ℓ/100 m row. This will result in the use of 350 mℓ/ha on 1m row width and 175 mℓ/ha on 2 m row width.
Pink Stalk borer	350 mℓ/ha	**Aerial application**: Apply in 30 ℓ water/ha according to the directions above for ground application.
	1,5 mℓ/100 m row	**Sweet corn:** Start spraying 3 weeks after planting and repeat with 10 - 14 day intervals until ears appear. Use in not less than 3 ℓ water/100 m row. Will suppress *Busseola fusca* stalk borer, American bollworm and leafhoppers.
	150 mℓ/ha	**Aerial application**: Apply as above in 30 ℓ water/ha.
ORNAMENTALS AND FLOWERS Aphids	1 mℓ/10 ℓ water	Apply when pest is noticed. Repeat when necessary. Full cover application. Only for home garden.
Mealy bug, Australian bug	1 mℓ/10 ℓ water	Full cover application. Only for home garden. Ant control will materially assist with control.
Flower beetles	1 mℓ/10 ℓ water	Direct contact spray.
Lily borer	1 mℓ/10 ℓ water	Apply regularly when the pest is about.
Pine emperor moth, Caterpillars (eg. on Proteas)	50 mℓ/ha	Apply by air in 30 ℓ water/ha
Shield bug and Twig wilters	1 mℓ/10 ℓ water	Direct contact spraying in home garden only.
White fly	1 mℓ/10 ℓ water	Full cover application. Pay particular attention to the underside of the leaves. Home garden use only.
PEACHES Fruit flies	10 mℓ/100 ℓ water 150 - 350 mℓ/ha	Full cover spray at 14 day intervals, beginning 8 weeks prior to harvest. in the summer rainfall region, application should commence not later than third week in December.

PEACHES (cont) False Codling moth	5 mℓ/100 ℓ water 125 - 175 mℓ/ha	**Early cultivars:** Full cover spray at 14 day intervals, beginning 6 weeks prior to harvest. **Late cultivars:** Full cover spray at 14 day intervals beginning 8 weeks prior to harvest. In summer rainfall region application should commence not later than third week of December.
Codling moth	5 mℓ/100 ℓ water 125 - 175 mℓ/ha	Full cover spray at 75 % petal drop. Repeat at 14 -21 day intervals, depending on level of infestation.
American bollworm	5 mℓ/100 ℓ water 125 - 175 mℓ/ha	Full cover application from 75 % petal drop or when pest is noticed.
Banded fruit weevil (Snout beetle)	10 mℓ/100 ℓ water 250 - 350 mℓ/ha	Apply as soon as damage is noticed. Repeat 4 weeks later if necessary.
SORGHUM Cutworm	0,33 mℓ/100 m row	**Row treatment**: Apply post emergence to the crop as soon as pest is noticed in at least 3 ℓ water/ 100 m row. Apply in a band at least 30 cm wide over the row. Ensure that soil is moist right to the surface at time of application. Later infestation may require a second application.
	100 mℓ/ha	**Aerial application**: Apply according to the above conditions in 30 ℓ water/ha.
American bollworm	1,5 mℓ/100 m row	**Ground application**: Direct application onto ears. Apply in not less than 2 ℓ water/100 m row.
	150 mℓ/ha	**Aerial application**: Apply in 30 ℓ water/ha. Apply when pest is noticed. If Bollworm is concealed in the ear, control may be less effective. Later infestation may require a second application.
Stalk borer (*Busseola fusca*)	3,5 mℓ/100 m row	**Ground application**: Apply in not less than 3 ℓ/100 m row.
	350 mℓ/ha	**Aerial application**: As for maize.
TOMATOES American bollworm	15 mℓ/100 ℓ water	**Ground application**: Apply as a full cover spray at the first signs of an infestation. Repeat application every 7 - 10 days or as directed by inspection of the crop. **High volume**: Apply up to 500 ℓ spray mixture/ha to plants up to 60 cm high, and 1000 ℓ/h or more to plants higher than 60 cm e.g. trellised tomatoes. Do not use more than 150 mℓ BITRAD CYPERMETHRIN/ha.
	75 - 150 mℓ/ha	**Mistblowers**: Apply in 150 - 500 ℓ water. Use the lower rate and volume for plants up to 60 cm high and the higher rate and volume for plants higher than 60 cm e.g. trellised tomatoes. Do not use more than 150 mℓ BITRAD CYPERMETHRIN/ha.
VARIOUS CROPS Cutworm	0,33 mℓ/100 m row	**Row treatment**: Apply only if the top 3 cm of soil is moist. Post emergence over the row in 3 ℓ water as a 30 cm wide band.
	100 mℓ/ha	Overall application in 300 ℓ water/ha for ground application or aerial application in 30 ℓ water/ha.
WATTEL PLANTATIONS Wattle Bagworm	100 mℓ/ha	Aerial application: Commence spraying in Nov/Dec when Wattle Bagworm is most active. Apply in 30 ℓ water/ha.