

## GRAANSTINKLUIS

### AANBEVEELDE PROTOKOL VIR DIE RISIKO BESTUUR VAN GRAANSTINKLUIS (*Macchiademus diplopterus*) MET DIE OOG OP DIE BEPERKING VAN VRUGBESMETTINGS

#### 1. Maatreëls op die plaas en omringende omgewing:

- Probeer graanproduksie naby boorde voorkom sover as moontlik. Indien nie moontlik nie – moet graan baie vroeg (groen) platgesny en/of geoes word om migrasie van Graanstinkluis (GSL) te voorkom wanneer graan droog raak.
- Monitor graanlande asook enige ander landerye waar baie grasplante voorkom vir die teenwoordigheid van GSL. Migrasie vanaf oorsomerig skuilplekke vind plaas tydens die winter waartydens gasheerplante gekoloniseer word vir voortplanting. In koue areas soos die Koue Bokkeveld word die migrasie dikwels so laat as Augustus/September eers waargeneem. Hierdie areas moet een tot twee maal met Dimetootaat gespuit word tydens die reproduksie stadium. Alle grasplante in areas soos boorde, padskouers, woonbuurte ensovoorts moet sover moontlik vernietig/beheer word.
- Monitering in teiken boorde moet minstens 4 weke voor die oes van die vroegste kultivars begin. Vir die doel word riffelkarton bande (soortgelyk aan die wat vir kalender monitering gebruik word) aanbeveel. Hierdie lokvalle moet buite om die boorde geplaas word en weekliks nagegaan word. Al die GSL'e in die lokval moet getel en daarna verwyder word voordat die lokval weer in posisie geplaas word. Lokvalposises moet genommer word sodat rekordhouding van getalle ordelik kan geskied.
- Indien GSL aktiwiteit deur lokvalle gewys word tydens die oesperiode moet omliggende dele met Xterminator gedoen word elke oggend voor oes. Hierdie aksie moet voortgaan solank as wat GSL aktief is tydens die oesperiode.
- Merk kratte van GSL boorde duidelik op plase om apart te hanteer by pakhuis.
- Plukkratte by die laaiblad moet met hessian sakke bedek word om te voorkom dat GSL klaar ge-oeste vrugte besmet.
- Hou laaiblaaie skoon en netjies – daar moet geen pakmateriaal, ou kratte of onnodige materiaal rondle waar GSL kan skuil nie. Spuit ook Xterminator daagliks rondom laaiblaaie om GSL te beheer.

# FRESH NOTES

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## 2. Vervoer na Pakhuis:

- Alle vrugte moet van die plaas na die pakstoor vervoer word in 'tautliners' om te verseker dat krat/vrugkontaminasie nie tydens vervoer plaasvind nie.
- Vragmotors seile mag eers oopgemaak word by pakhuis by aflaaipunt.

## 3. Maatreëls by die pakstoor en omringende omgewing:

- Monitor die voorkoms van GSL in al vier windrigtings rondom die pakstoor op soortgelyke wyse soos hierbo beskryf vir boorde. Verseker dat rekordhouding van weeklikse tellings ordelik geskied.
- Plaas ruffelkarton stroke ( $3\text{m}^2$ ) teen mure van pakhuis en omringende geboue ten einde te dien as "mass trapping" lokvalle. Die idee is om hierdie valle so te plaas dat dit eerste in die pad van GSL sal wees sodat hulle daar skuiling vind en nie na pakhuisdeure en vragmotors migreer nie. Die aantal valle moet na gelang van die tereinuitleg beplan word.
- Alle pakhuisopeninge moet met gordyne verskans word vir die hele duur van die steenvrug –en peer verpakkingsperiode.
- Installeer 'n waaiër by die vervoerband waarop kratte leeggemaak word om GSL uit die pakhuis te blaas.
- Vrugte van plase wat gemerk is met GSL kratkaartjies word apart hanteer. Kratte word na ander pakhuis geneem en apart verpak en bemark om kontaminasie en afkeurings te voorkom.
- Werkers met tangetjies verwyder die stingels van die nektariens op die invoerband voor sorteertafels.
- Sorteerdere gebruik suig apparaat (geïnstalleer onder sorteertafels) om GSL op die vrugte te verwyder. GSL word in vakuumpomp vasgevang en vernietig.
- Geen nektariens met stingels word in 'n uitvoerkarton gepak nie.
- Sit ruffelkarton onder die sorteertafels om enige vry bewegende GSL op te vang en vervang dit weekliks.
  - Voordat die karton verwyder word, moet dit eers goed met Xterminator natgespuit word dan vernietig.

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- Alle pakmateriaal in die pakhuis moet toe wees. Dit geld ook vir die pakmateriaalstoor.
- Spuit vanaf dag een Xterminator op die vloere by die kratinvoerlyn, sorteerarea en paktafels. Hierdie bespuitings moet ten minste na elke skof geskied. GEEN Xterminator mag op vrugte of pakmateriaal in die pakhuis gespuit word nie.

*English version to follow on next page.*

## GRAIN CHINCH BUG

### RECOMMENDED PROTOCOL FOR RISK MANAGEMENT OF GRAIN CHINCH BUG (*Macchiademus diplopterus*) TOWARDS REDUCING FRUIT INFESTATION

#### 1. Measures on the farm and surrounding areas:

- Avoid grain production near orchards as far as possible. If not possible – grain must be cut and/or harvested very early (green) to prevent migration of grain chinch bug (GCB) when the grain starts to dry out.
- Monitor grain fields, as well as any other areas (eg. grazing lands) where grasses (host plants) occur, for the presence of GCB. Migration from aestivation shelter sites takes place during winter when grasses are colonized for feeding and reproduction. In cold areas, such as the Koue Bokkeveld, migration is often only observed as late as August/September. These areas must be sprayed with Dimethoate, one to two times during the reproduction stage. All grasses in areas such as orchards, roadsides, residential areas etc. must be destroyed/controlled as far as possible.
- Monitoring in target orchards must take place at least 4 weeks before harvest of the earliest cultivar begins. Corrugated cardboard bands (the same as used for snout beetle/weevil monitoring) are recommended for this purpose. These traps must be placed on the outskirts of the orchards and checked weekly. All the GCB in the traps must be collected and removed for counting, before the traps are replaced. Trap positions must be numbered for record keeping of GCB numbers per trap.
- If any GCB are found in traps during the harvest period, surrounding areas must be sprayed with Xterminator every morning before harvest. This action must continue as long as GCB is found to be present during the harvest period.
- Mark bins from GCB-infested orchards clearly on farms to ensure that they are handled separately at the packhouse.
- Full bins at the loading bay must be covered with hessian bags to prevent GCB from contaminating harvested fruit.
- Keep loading bays clean and neat – no packing material, old bins or unnecessary material should be left laying around where GCB can find shelter. Also spray Xterminator daily around loading bays to control GCB.

# FRESH NOTES

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## 2. Transport to the packhouse:

- All fruit must be transported from the farm to the packhouse in 'tautliners' to ensure that bin/fruit contamination does not take place during transport.
- Truck tarpaulins must only be opened at the packhouse at the offloading point.

## 3. Measures at the packhouse and surrounding areas:

- Monitor for the presence of GCB in all four wind directions around the packhouse, in the same manner as described above for orchards. Maintain records of weekly counts of GCB found in traps.
- Place corrugated cardboard strips (3m<sup>2</sup>) against walls of packhouses and surrounding buildings to serve as mass trapping sites. The idea is to place these traps in positions to be 'first in line' for GCB shelter sites, and reduce the numbers that can move further into the packhouse or onto trucks. The number of mass-trapping sites required depends on the layout of the packhouse and surrounding buildings.
- All packhouse openings must be equipped with curtains for the duration of the fruit packing period.
- Install a fan at the conveyor belt where bins are emptied to blow GCB out of the packhouse.
- Fruit from farms identified as being infested with GCB must be handled separately. Bins must be taken to other packhouses and packed and marketed separately to prevent contamination and rejections.
- Workers should use tweezers to remove stems from nectarines on the infeed belt before sorting tables.
- Sorters should use vacuum apparatus (installed under sorting tables) to remove GCB on fruit. GCB caught in the vacuum pump must be removed from the packhouse.
- No nectarines with stems should be packed into export cartons.
- Place corrugated cardboard under the sorting tables to catch any free moving GCB and replace it weekly.
  - Before the cardboard is removed, it must be sprayed with Xterminator and then destroyed.

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- All packing material in the packhouse must be closed/covered. This also applies to the packing material store.
- From day one, spray Xterminator onto floors at the bin intake point, sorting area and packing tables. These spray applications must take place at least after each shift. DO NOT apply Xterminator to any fruit or packing material in the packhouse.