



Leafhopper alert

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Several incidents of leafhoppers outbreaks have been reported from various regions in the country. As many of these as possible have been followed up and it has indeed been confirmed to be leafhopper, including in regions which do not normally experience these pests. This includes both citrus leafhopper (brown) and green citrus leafhopper. There are indications that certain cultivars, particularly some mandarins, may be more susceptible than others. Growers are therefore urged to inspect their orchards as soon as possible.

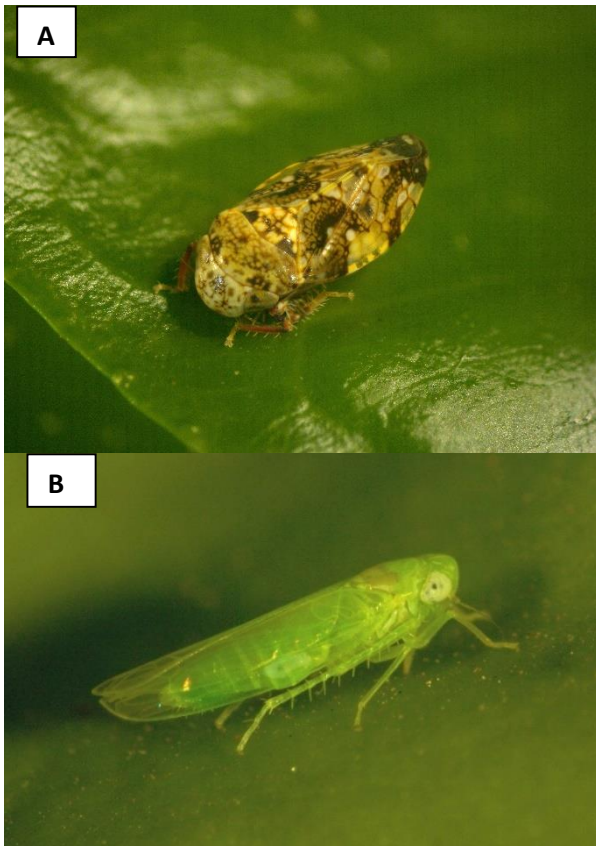


Figure 1. Citrus leafhopper (A) and green citrus leafhopper (B) (not to scale). (Photos: Peter Stephen)

Although, leafhoppers feed and oviposit on young leaves (particularly the late summer flush) and fruit, it is usually only damage to fruit that is a problem. The citrus leafhopper (brown) is usually present in citrus orchards during summer (December to March) whereas the green citrus leafhopper tends to arrive a bit later but will persist into autumn if not

controlled. Both can feed on green fruit, resulting in irregular shaped oleocellosis-type blemishes in the rind which have a diameter of 2 to 5 mm. Damage to immature fruit caused by citrus leafhopper (brown) is initially light green and usually fades at harvest but a few blemishes darken with age to become brown and can downgrade the fruit at harvest. Similarly, green citrus leafhopper damage to immature green fruit will remain pale and will not become a cull factor. However, green citrus leafhopper is most abundant in citrus trees as fruit begins to colour and a higher percentage of their blemishes will darken with time and result in a serious cull factor.



Figure 2. Leafhopper damage to fruit, showing some darkening of blemishes. (Photos: Peter Stephen and Isabel Sparks)



If infestation is exceptionally high, damage to young leaves (undulating, crinkled appearance and chlorotic yellow marks on leaf margins) can detrimentally affect the physiological processes in the tree. Very high levels of citrus leafhopper (brown) infestation can also lead to unacceptable levels of honeydew and sooty mould.

The factors which promote leafhopper attack are not yet well understood. However, the control of leafhopper-infested orchard weeds may promote the infestation of fruit. Mowing of adjacent lucerne fields or drying off of soybean plants will also cause green citrus leafhoppers to move into citrus.

Leafhoppers can be monitored using yellow card traps (approximately 3 per ha, diagonally dispersed). The recommended threshold for the citrus leafhopper (brown) is 90/trap/week while the treatment threshold for the green citrus leafhopper is 5/trap/week. Trap usage can be supplemented by conducting visual inspections for general presence on young leaves. Shaking of branches will indicate the presence of adults by making them take flight. The citrus leafhopper (brown) tends to occur inside the tree canopy and is therefore not easy to see, unless one deliberately searches for it. Although the green citrus leafhopper is more active on the new flush, its green colour is an effective camouflage.

Chess (pymetrozine) has recently been registered for the control of both citrus leafhopper and green citrus leafhopper at 40 g/ 100 L water with a preharvest interval of 42 days for the EU and RSA. However, it cannot be used after petal fall for most other markets. Additionally, Xterminator (from AgroOrganics) has an emergency registration for green citrus leafhopper control at 500 ml/100 L water as a light cover spray.

No other products are registered for the control of leafhoppers on citrus in South Africa but light cover sprays (approximately 1000 L/ha) of Lannate at 60 g/100 L or Mevinphos at 165 ml/100 L (Phosdrin – 50 ml/100 L) are effective against the citrus leafhopper (brown).

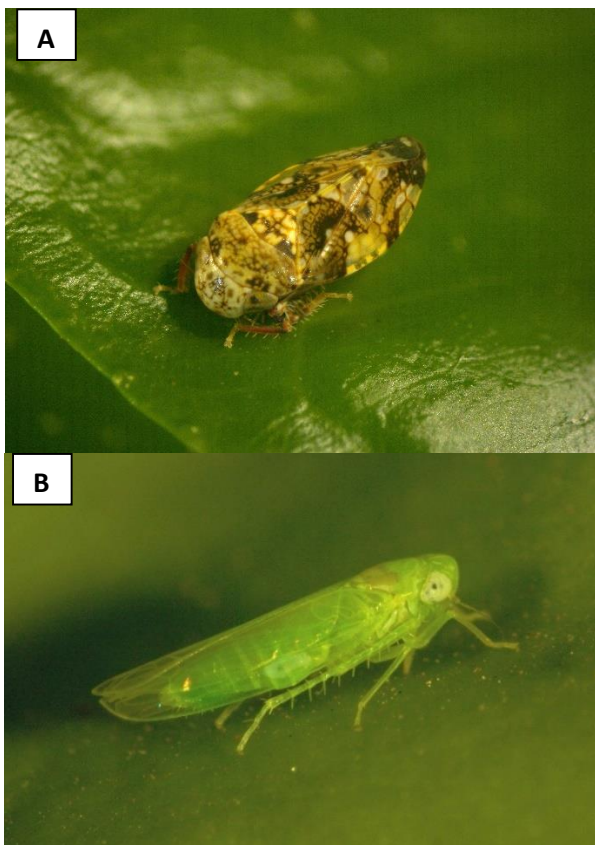
For more information on these leafhoppers, consult CRI's IPM Guidelines under Downloads on the CRI website (www.citrusres.com) or for any further queries contact Dr Sean Moore (seanmoore@cri.co.za), Dr Tim Grout (tj@cri.co.za) or Wayne Kirkman (waynek@cri.co.za).



Bladspringer waarskuwing

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Verskeie gevalle van bladspringer uitbrake is uit verskillende streke in die land gerapporteer. Soveel as moontlik hiervan is opgevolg en dit is inderdaad bevestig dat dit wel bladspringer is, insluitend in streke wat nie gewoonlik 'n probleem met hierdie plaë het nie. Hierdie sluit beide die sitrusbladspringer (bruin) en die groen sitrusbladspringer in. Produsente word dus aangemoedig om hulle boorde so gou as moontlik te ondersoek. Daar is aanduidings dat sekere kultivars, veral sommige mandaryne, meer vatbaar mag wees.



Figuur 1. Sitrusbladspringer (A) en groen sitrusbladspringer (B) (nie volgens skaal nie). (Fotos: Peter Stephen)

Alhoewel bladspringers op jong blare en vrugte voed en eiers lê (veral die later somer groei), is dit gewoonlik net skade op die vrugte wat 'n probleem is. Die sitrusbladspringer (bruin) kom gewoonlik in die somer (Desember tot Maart) in sitrusboorde voor en die groen sitrusbladspringer is geneig om 'n bietjie later in te kom, maar sal tot in die herfs teenwoordig wees as dit nie beheer word nie. Albei

kan op groen vrugte voed, wat kan lei tot onreëlmatige oleosellose-tipe letsels met 'n deursnee van 2 tot 5 mm, in die skil. Skade op onvolwasse vrugte deur sitrusbladspringer (bruin) is gewoonlik liggroen en verbleik teen oestyd. 'n Paar letsels word egter soms donkerder en bruin met ouderdom en kan lei tot afgradering van vrugte teen oestyd. Groen sitrusbladspringerskade op groen vrugte sal gewoonlik bleek bly en nie tot uitskot lei nie. Groen sitrusbladspringer is egter meer volop in sitrusbome as vrugte begin opkleur en 'n hoër persentasie van hulle letsels sal met tyd verdonker en 'n erge uitskotfaktor word.



Figuur 2. Bladspringer skade op vrugte; letsels is besig om te verdonker. (Fotos: Peter Stephen en Isabel Sparks)

As besmetting besonders hoog is kan skade aan die jong blare (golwende, gekrinkelde voorkoms en



chlorotiese geel letsels op die rante van blare) die fisiologiese prosesse in die boom benadeel. Baie hoë vlakke van sitrusbladspringer (bruin) besmetting kan ook tot onaanvaarbare vlakke van heuningdou en roetskimmel lei.

Die faktore wat aanvalle deur bladspringer bevorder is nog nie duidelik bekend nie. Die beheer van bladspringerbesmette boord-onkruid mag tot besmetting van vrugte lei. Sny van aangrensende lusernlande, of uitdroging van sojaboon plante sal ook tot migrasie van bladspringers na sitrusboorde lei.

Bladspringers kan gemonitor word deur die gebruik van geelkaartlokvalle (ongeveer 3 per ha, diagonaal versprei). Die aanbevole drempelwaarde vir die sitrusbladspringer (bruin) is 90/lokval/week terwyl die behandelings drempelwaarde vir die groen sitrusbladspringer 5/lokval/week is. Die gebruik van lokvalle kan aangevul word deur visuele inspeksie vir algemene voorkoms op jong blare. Takke wat geskud word sal die teenwoordigheid van volwassenes aandui, aangesien hulle sal opvlieg. Die sitrusbladspringer (bruin) is geneig om binne die blaardak voor te kom en is daarom nie maklik te sien nie, behalwe as doelgerig daarvoor gesoek word. Alhoewel die groen sitrusbladspringer meer aktief op die nuwe groei is, is hy teen die groen van die blare doeltreffend gekamoefleer.

Chess (pymetrozine) is onlangs vir beheer van albei sitrusbladspringer en groen sitrusbladspringer teen 40 g per 100 L water geregistreer met 'n vooroes onthoudingstydperk van 42 dae vir die EU en RSA. Dit kan egter vir meeste ander markte nie na blomblaarval gebruik word nie. Daarbenewens het Xterminator (van AgroOrganics) 'n noodregistrasie vir die beheer van groen sitrusbladspringer, toegedien teen 500 ml/100 L water as 'n ligte dekbespuiting.

Geen ander produkte is vir beheer van bladspringers op sitrus in Suid-Afrika geregistreer nie, maar 'n ligte dekbespuiting (ongeveer 1000 L/ha) van Lannate teen 60 g/100 L of Mevinphos teen 165 ml/100 L (Phosdrin – 50 ml/100 L) is doeltreffend teen die sitrusbladspringer (bruin).

Vir meer inligting oor hierdie bladspringers raadpleeg CRI se IPM Riglyne onder “Downloads” op die CRI webblad (www.citrusres.com) of vir enige verdere navrae kontak vir Dr Sean Moore (seanmoore@cri.co.za), Dr Tim Grout (tg@cri.co.za) of Wayne Kirkman (waynek@cri.co.za).