Cotton Catchment Communities CRC
NSW DEPARTMENT OF PRIMARY INDUSTRIES

COTTON *TALES*

Gwydir Valley *"What's happening in the north west"*

2007/08
10
16/04/08

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Pale Cotton Stainer Bug (CSB) Preliminary Trial

Reports of infestations of Pale Cotton Stainer Bugs (CSB) have prompted a preliminary trial to be conducted using common chemicals to determine their efficacy.


Adult (15mm)


1st instar nymph (2 – 3mm)


3rd instar nymph (6 – 8mm)


4th instar nymph 9 – 11mm)

Researchers Moazzem Khan, Adam Quade (QLD DPI&F) & Murray Boshammer (Total Ag Services) ran a preliminary trial in dryland cotton assessing different control options.

Table 1. Treatments and rates used in the trial

Treatment	Formulation (g/L)	Rate (mL/ha)
Control	Untreated	0
Decis	Deltamethrin 27.5 EC	700
Decis	Deltamethrin 27.5 EC	400
Decis + Salt	Deltamethrin 27.5 EC + Table Salt	400 + 10g/L water
Steward	Indoxacarb 150 EC	850
Steward	Indoxacarb 150 EC	400
Steward + Salt	Indoxacarb 150 EC + Table Salt	400 + 10 g/L water
Regent	Fipronil 200 SC	125
Regent	Fipronil 200 SC	60
Regent + Salt	Fipronil 200 SC + Table Salt	60 + 10 g/L water

Pre- treatment CSB No's were moderate, ranging from 1 to 9/m (adults). The main beneficials present were spiders (59%) and brown smudge bug (BSB) (37%).

Trial – The treatments are presented above in Table 1. There were 3 treatments and 3 replicates. Application was with a ground rig. Pre-treatment counts (0 days after treatments (0 DAT)), were made the day before application. Post-treatment counts were made at 3 and 7 DAT.

Effect on Cotton Stainer Bugs

- **Decis** at full rate (700ml) and 400mL + salt reduced the numbers of CSB below 95% of the original population at 3 DAT and 100% after 7 days.
- **Steward** at 400mL + salt reduced CSB population by 71% and 98% at 3 and 7 DAT. Efficacy of Steward 400mL was considered poor and the full rate of Steward gave 64% reduction in CSB numbers at 7 DAT.
- **Regent** at full rate, 60mL and 60mL + salt gave 71, 63 and 73% reduction at 3 DAT and 74, 80 and 92% reduction at 7 DAT, respectively.

The results should be ***considered as a guide and not as a recommendation***. Currently the only products registered for CSB control are the synthetic pyrethroids lamdacyhalothrin (Karate Zeon®, Matador®) and gamma – cyhalothrin (Trojan®). The risk of flaring other secondary pests such as mites should be considered when using broad spectrum chemicals.

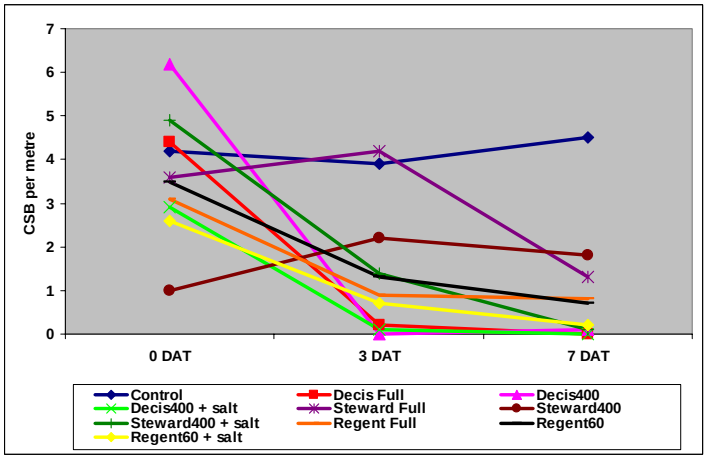

Figure 1: Effect of different chemicals on CSB showing % reduction (A) and reduction over time (B).

Please refer to the April edition of the Australian CottonGrower magazine for full trial results.

Pupae Destruction

Overwintering *Heliocoverpa* pupae contribute to the spring population, and may take with them resistance genes enabling them to tolerate conventional insecticides and the Bt transgenic toxins found in Bollgard II®.

Pupae destruction is the most effective method of preventing resistant *Helicoverpa* surviving and mating, hence minimising the risk of resistance. When carried out properly, pupae busting can reduce survival of overwintering pupae to less than 5%.

Full soil disturbance to a depth of 10cm is required for effective pupae busting. By shattering the soil to a depth of 10cm it is destroying the escape tunnel for pupae to emerge and they are effectively trapped and die beneath the soil surface.

Pupae busting is mandatory for all Bollgard II® fields; it is a requirement of the Bollgard II® licence. Some relaxation of pupae busting requirements has been introduced for conventional cotton fields. *Sprayed conventional cotton crops defoliated after* ***9 March are more likely to harbour insecticide resistant*** **H. armigera** *pupae and should be pupae busted as soon as possible after picking and no later than the end of August.*

Thanks to Dr Dave Dave Murray, Prinicipal Entomologist, QDPI for this article.

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