

CHESS[®] - Improved aphid Management



syngenta.

Aphids and whiteflies are two of the most destructive pests encountered by vegetable growers. These insects not only cause physical damage and are efficient vectors for virus transmission, they excrete honeydew a sugary substance that can promote the growth of sooty moulds; this can affect the marketability of vegetables.

In aphids, CHESS is active on all mobile forms (nymphs, apterous morphs, winged morphs). CHESS acts by ingestion as well as by contact. CHESS binds to neuronal receptors in aphids creating a nervous inhibition of feeding. First symptoms are visible within 15 minutes, feeding stops within 1 hour and death by starvation occurs within 3 days.

CHESS Benefits

Unique mode of action

- No cross-resistance with existing solutions
- An important rotational insecticide for resistance management

Excellent xylem mobility

- CHESS exhibits excellent translaminar and locally systemic activity
- CHESS quickly enters leaf tissues and creates a reservoir of material that continues to be active against target insects for up to two weeks
- CHESS reaches both sides of the leaves making it effective against hidden targets not reached with spray

Excellent efficacy against the target insect

- Reduces reliance of OP's, Carbamates, Pyrethroids and Neo-nicotinoids

Immediate, irreversible feeding stop

- Within 1 hour of feeding giving fast protection of crops and reduced losses to virus infections

Highly selective of beneficials

- Compatible with Integrated Pest Management programs – minimal impact on beneficial insects.

Best Use Guidelines

- Apply when labeled pests first appear, before populations build to damaging levels
- Two applications may be needed to control persistent populations
- Apply in sufficient water to ensure good coverage
- Add a suitable non-ionic surfactant at the recommended rate
- Allow at least 7 days between applications for vegetables



Green peach aphid. Photo: D.A. Ironside



Green peach aphid - *Myzus persicae*



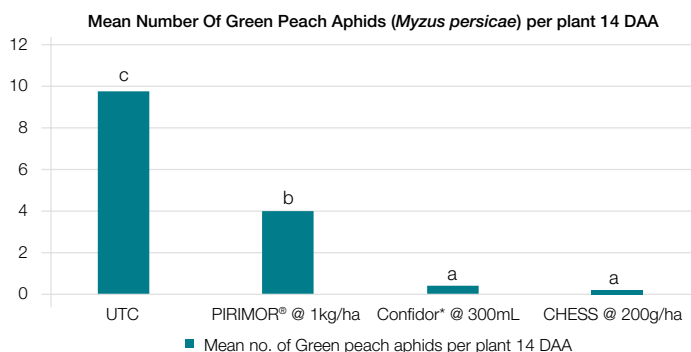
Whitefly

CHES Insect Spectrum

| CROP | INSECT |
|---|--|
| Brassica vegetables (including Broccoli, Brussels sprouts, Cabbage, Cauliflowers) | Cabbage aphid (<i>Brevicoryne brassicae</i>), Green peach aphid (<i>Myzus persicae</i>) Suppression of: Silverleaf whitefly (<i>Bemisia tabaci</i>) |
| Tomatoes, eggplants and capsicums (including open field and protected cropping) | Potato aphid (<i>Macrosiphum euphorbiae</i>), Green peach aphid (<i>Myzus persicae</i>) Suppression of: Silverleaf whitefly (<i>Bemisia tabaci</i>), Greenhouse whitefly (<i>Trialeurodes vaporariorum</i>) |
| Sweet corn | Corn aphid (<i>Rhopalosiphum maidis</i>) |
| Lettuce (all types, including open field and protected cropping) | Brown sowthistle aphid (<i>Uroleucon sonchi</i>), Green peach aphid (<i>Myzus persicae</i>), Currant lettuce aphid (<i>Nasonovia ribisnigri</i>) Suppression of: Silverleaf whitefly (<i>Bemisia tabaci</i>) |
| Endive, chicory, radicchio | Currant lettuce aphid (<i>Nasonovia ribisnigri</i>) |
| Leafy vegetables (including spinach, silver beet, kale, endive, mustard, cress, chard, rocket, Asian leafy greens and Chinese cabbage. Including open field and protected cropping) | Potato aphid (<i>Macrosiphum euphorbiae</i>), Melon aphid (<i>Aphis gossypii</i>), Green peach aphid (<i>Myzus persicae</i>) |
| Cucurbits (including open field and protected cropping) | Melon aphid (<i>Aphis gossypii</i>), Green peach aphid (<i>Myzus persicae</i>), Potato aphid (<i>Macrosiphum euphorbiae</i>), Cowpea aphid (<i>Aphis craccivora</i>) Suppression of: Silverleaf whitefly (<i>Bemisia tabaci</i>), Greenhouse whitefly (<i>Trialeurodes vaporariorum</i>) |
| Potatoes | Green peach aphid (<i>Myzus persicae</i>) |
| Beetroot | Potato aphid (<i>Macrosiphum euphorbiae</i>), Green peach aphid (<i>Myzus persicae</i>) |
| Celery | Aphids |

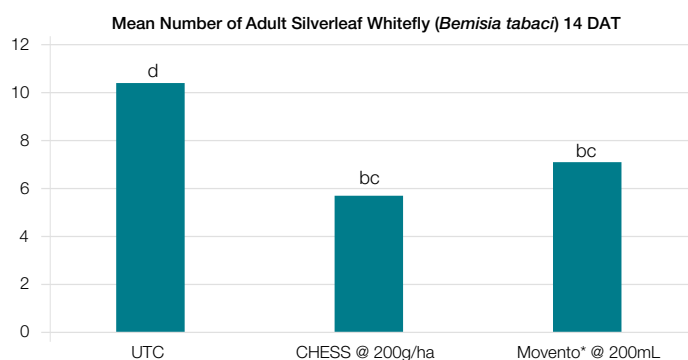
Australian Trial Results

Over recent years Syngenta Australia has conducted trials with CHES which has again shown the excellent control of aphid and suppression of whitefly populations that CHES offers growers.

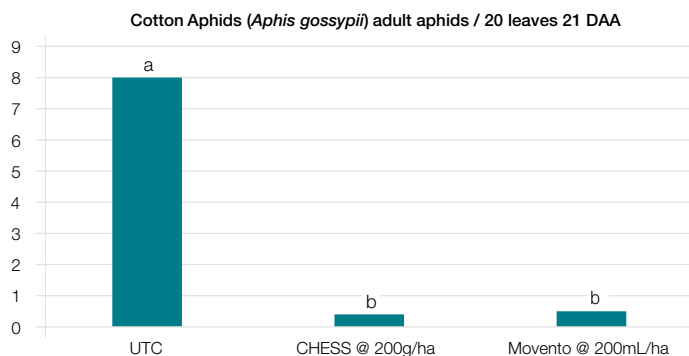


Mean number of wingless green peach aphids (*Myzus persicae*) on capsicum plants following a single insecticide application, cv. Toledo, Bowen, QLD, August/September 2001.

Insecticide treatments were applied with a motorised knapsack sprayer with AGRAL® at 18mL/100L in a spray volume of 250L/ha.



Watermelons, Royal Armada. Eurofins Agrisearch Summary of Results - Condobolin, New South Wales. Insecticide applications were made at 283L/ha.



AllSweet Watermelon. Living Farm Trial No: LF140448B, Kununurra, WA. Insecticide applications were made at 283L/ha.

Means in a column followed by different letters are significantly different at P < 0.05 (LSD Test). DAA = days after application.



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