



Celite® 610
MECHANICAL
INSECTICIDE





CELITE® 610 MECHANICAL INSECTICIDE

The agricultural industry almost exclusively relies on chemical pesticides to protect food and industrial crops from insect pests and mites.

Celite® 610 is a natural and reliable mechanical insecticide solution designed to provide a physical mode of action against insect pests and mites in crop production, and is a complimentary option for any conventional or organic integrated pest management program.

RELIABLE AND EFFECTIVE

The physical properties of Celite 610 are ideal for controlling insect pests when applied as a wettable powder using standard application equipment. Once applied and dry, a visible white residue will be noticeable on the crop and plant. Contact with an insect pest or mite results in a static transfer of a few particles of Celite 610, which absorbs the protective lipid layer necessary for their survival.

Celite 610 is especially suited to provide a physical, non-chemical mode of action that deters cross-chemical resistance development - insect pests will not become immune to the mode of action. There are more than 150 insect pests listed on the approved EPA label.

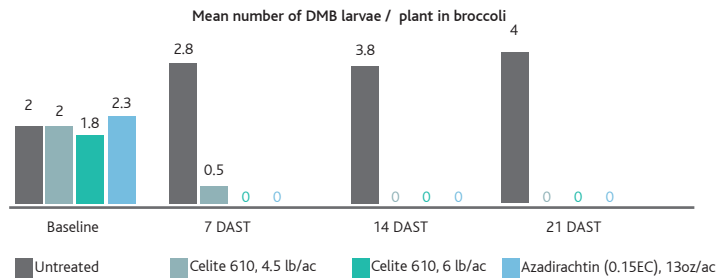
FEATURES AND BENEFITS

- Registered in all 50 states in the USA
- OMRI listed in the USA
- Zero Restricted Entry Intervals
- Zero Day Preharvest Interval
- Applied using standard equipment
- Alternate, physical mode of action
- Comparable efficacy to organic and conventional pesticides when used as a stand alone or in tank mix treatments
- Deters resistance development
- High potential for lipid absorption from epicuticle lipid layer
- Non-toxic to bees when administered by direct topical application



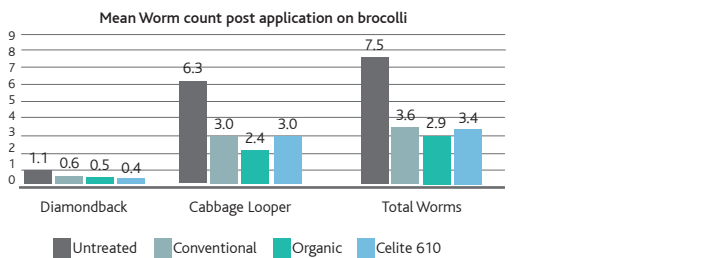
PROVEN PERFORMANCE

Results show (Graph 1) a single application field experiment on a broccoli crop from vegetative to early flower head formation stages targeting Diamondback Moth - (7 inches of rain were recorded during the trial period and the temperature range was 50° - 77°F). Celite® 610 did not cause any phytotoxicity on broccoli.



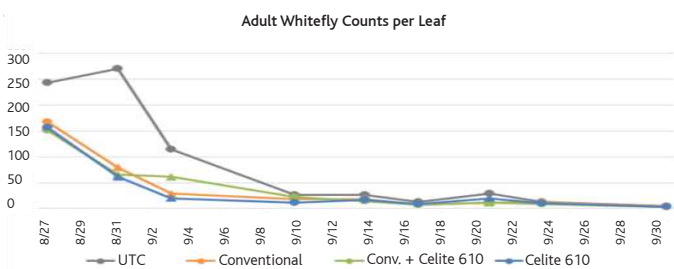
Graph 1: Effect of treatments on infestation of DBM on broccoli. DAST= Days After the Start of Treatment. Error bars show standard deviation.

The following (Graph 2) performance results are from trials conducted in Ventura County, CA over a 5 week period comparing three different insecticide programs' impact on Diamondback Moth and Cabbage Looper Larvae. These programs included Celite 610 (10lb/ac), organic (Bacillus thuringiensis tank mix with Pyrethrin and Azadirachtin) and conventional (Chlorantraniliprole + imidacloprid tank mix rotated with pyrethroid) treatments. Repeat treatments were conducted every 7 - 10 days. All three insecticide programs showed good control of both worm species throughout the trial period and there are no significant differences between the 3 treatments.

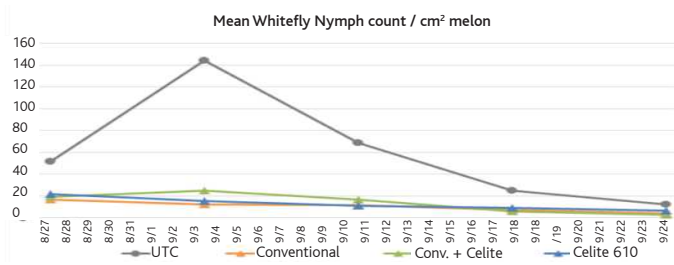


Graph 2: Effect of Celite 610 @ 10 lb/ac, organic and conventional treatments on DBM and CLL. Error bars show standard deviation.

The following two graphs (Graphs 3 - 4) show the results of 3 different insecticide treatments for the management of whitefly in cucumber grown in Georgia. All three treatments included a drip application of Imidacloprid at 2 leaf stage. The conventional program consisted of Buprofezin (9 fl oz/ac) rotated with Cyantraniliprole (13.5 fl oz/ac) applied at 10 day intervals. This same program was applied to another treatment where Celite 610 was tank mixed on every application at 5lb/ac. The final program was Celite 610 (10lb/ac) only at 7 day intervals.

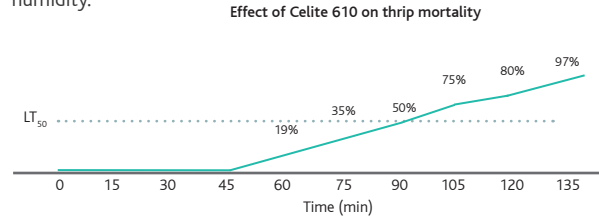


Graph 3: Effect of treatments on infestation of Adult Whitefly on cucumber. Points with different shape are statistically different.



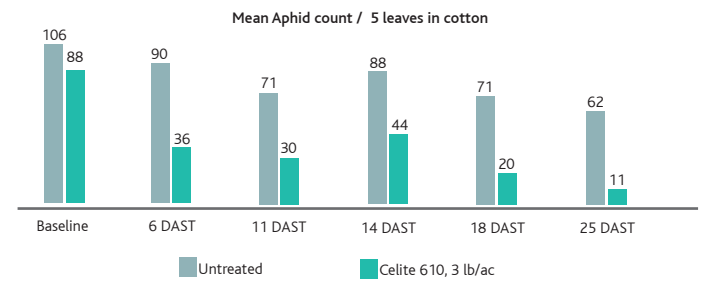
Graph 4: Effect of treatments on infestation of Whitefly eggs on cucumber. Points with different shape are statistically different.

In lab bioassays assessing the effect of Celite 610 on Tobacco Thrips (Graph 5), a dry (powder) application equivalent to 13lb/ac resulted in LT₅₀ (lethal time, 50% of population) of 90 minutes and LT₈₀ of 2hrs when tested at 90°F and 80% relative humidity.

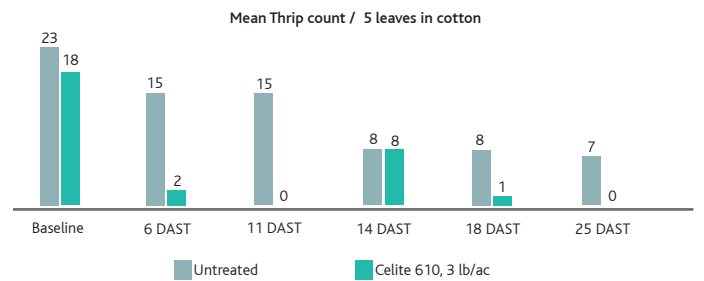


Graph 5: Effect of Celite 610 on Tobacco Thrips (equivalent 13 lb/ac, 90°F and 80% relative humidity).

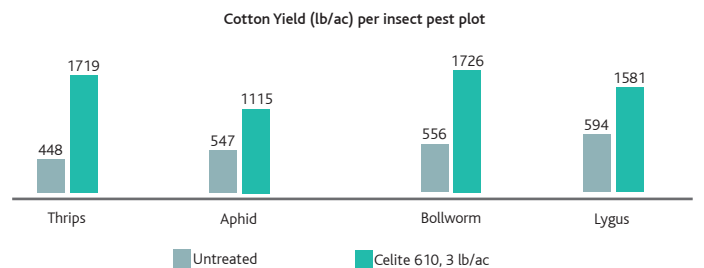
The results shown here (Graphs 6 - 7) are of a two application field experiment on cotton targeting Aphids and Thrips. The second application of Celite 610 was completed 14 days after the first application with untreated control. All similar experiments were conducted on Bollworm and Lygus. In all trials, a 3lb/ac treatment of Celite 610 applied every 2 weeks was sufficient to significantly reduce the population of these insect pests and resulted in significantly higher yields compared to the untreated control (Graph 8).



Graph 6: Effect of treatments on infestation of Aphids on cotton. DAST= Days After the Start of Treatment. 2nd treatment at 14 DAST.



Graph 7: Effect of treatments on infestation of Thrip on cotton. DAST= Days After the Start of Treatment. 2nd treatment at 14 DAST.



Graph 8: Average yield per cotton for major insects pests.

Celite® 610 instructions for use and mixing are approved by the Environmental Protection Agency - for all geographical regions, please always read and follow the product packaging label instructions.

For additional information about Celite 610, please contact us today or visit our website at www.imerys-performance-minerals.com

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