



CM border strategies

Posted by [James Smith](#)

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[James Smith](#)

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May 07, 2021 08:44AM

Registered: 2 years ago

Posts: 57

I was recently (as in earlier this week when visited by the County Apple Police) introduced to the Washington State University (aka WSU, the creators of 'Cosmic Crisp') Decision Aid System, aka WSUDAS- Science for Crop Management. Among many features are articles and this one entitled 'Leafroller and Codling Moth Movement During the Season' caught my eye. It ended with:

"Impact of kaolin on CM migration

Our studies showed that a border spray of 3 rows with kaolin can reduce CM migration significantly, even in the face of high population pressure, as long as the coverage is thorough and without gaps. Kaolin works as a deterrent as females do not lay their eggs on surfaces covered with kaolin. We suggest to treat only border rows as the kaolin can flare spider mites and interferes with natural enemies (they spend more time cleaning themselves than attacking pest insects and mites). CM migration into an orchard from outside decreases sharply after the first few rows. In sloped orchards, however, CM may be able to fly over the top of the orchard border rows (instead of from tree to tree), thus migrating further than in flat orchards."

Spraying the perimeter would be much easier on the wallet than doing the entire orchard. Thoughts?

Washington Okanogan Valley

Zone 6b

Edited 1 time(s). Last edit at 05/07/2021 03:59PM by Michael Phillips.

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[Michael Phillips](#)

[Re: CM border strategies](#)

May 07, 2021 04:33PM

Moderator

Registered: 11 years ago

Posts: 621

Good clay coverage *up high* does confuse female codling moths whose tactile sense of where to lay an egg is waylaid by a kaolin-covered surface. This attribute of Surround works differently than what curculio and other crawling pests experience, namely minute clay particles becoming lodged in tender spots... causing these fruitlet pests to the switch from feeding and ovipositing to constant grooming... and subsequently wanting to go elsewhere. The "codling moth bit" has always been a slight bonus (maybe) here in the East given that we use clay primarily for curculio. Multiple layers of Surround applied to border rows next to an abandoned orchard and/or wild hedgerow trees may well prevent codling moth migration into a cropping orchard but I wonder if this is the most cost-effective approach. Western growers primarily use Surround to help prevent sunburn on exposed fruit in trellising systems, and those applications come after first generation CM.

This thread had been expanded to broaden this discussion to other strategies aimed at limiting codling moth migration. Light-weight summer oils applied to tree tops in border rows will have similar impact as the clay. Mating disruption lures are widely used in Washington (some 90% of apple/pear acreage) and here I'd consider going ultra high-tech. [CideTrak CMDA Combo MESO-A lures](#) have the pheromone confusion aspect coupled with DA kairomone. The latter enhances the effect of the codling moth pheromone on male mating disruption but most importantly, initiates behavior changes in the female resulting in oviposition disruption, less mating, higher virginity and lower damage. This in turn sets up greater success with neem oil disrupting the molting cycle of any larvae that breach a holistic orchard block. Keep in mind granulosis virus as well in years where codling moth seems to be making inroads.

Western growers dealing with multiple generations of CM need to chime in here.

[Lost Nation Orchard](#)

Zone 4b in New Hampshire

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