

## LIGHT BROWN APPLE MOTH MANAGEMENT – NON-TOXIC ALTERNATIVES

(Note: the LBAM is already controlled by natural predators, so no action is necessary)

<http://www.scoop.co.nz/stories/BU0710/S00033.htm>

Another element in Rolston's vineyard practices is a biological control for the main insect pest, the light brown apple moth caterpillar. Planting the **flowering species of buckwheat, phacelia and mustard** provides host material for parasitic wasps that prey on the caterpillars as well as attracting a myriad of other insects beneficial to the vineyard.

<http://www.vineyardshop.com.au/modules/news/newsview.aspx?NewsID=TVSN0337>



### Pests and diseases Wednesday, 19 September 2007 Buckwheat gives growers a biological advantage in Light Brown Apple Moth Battle

Following research trials in New Zealand, Adelaide Hills Vineyard Contractors (AHVC) is pioneering the use of buckwheat in Australia as an aid in the fight against the endemic pest, Light Brown Apple Moth (LBAM). The nectar of the flower from the buckwheat provides valuable sustenance for parasitic wasps and other predatory beneficial insects to destroy the LBAM caterpillars. With the nectar as a food source the expected lifespan of the wasp increases from a few days to up to 35 days, dramatically increasing its effectiveness.

AHVC Managing Director Tom Ayers is excited by the results and economic benefits of Australia's first trial which he conducted during the 2007 vintage.

When assessing the extensive research and trials conducted by Lincoln University in New Zealand, I was confident that it would work just as effectively in Australia, Tom says.

In October 2006 we sowed buckwheat in vineyards owned by AHVC. It worked so well that we will be using it on all AHVC managed sites for the 2008 vintage.

At the moment the cost<sup>1</sup> is cheaper than the cost of spraying against LBAM. Given the effect that LBAM can have on yields and the onset of botrytis, particularly in cool climate areas, means that growers have to act once the caterpillars have been detected on more than 5% of bunches.

Tom believes the buckwheat solution is a strong value add for any grapegrower.

When you have powerful international retailers like Tesco banning an increasing number of insecticides and clearly stating their preference for wines with grapes grown with minimal chemical assistance, you have to listen, Tom said. Which is why when a financially viable and effective biological control comes along, we always look to embrace it.

Timing is the key to ensuring that buckwheat has the desired effect according to Tom.

Depending on the climate of the region the buckwheat crop needs to be sown between Mid October and the start of November every year, he said. This is critical, as at this time the wasps are running out of other nectar sources and the LBAM caterpillars are beginning to attack the flowering vines. It only needs to be sown every ten rows<sup>2</sup>, based on the research by Lincoln University on the flight distances of the wasps.

The period from sowing to flowering is only five weeks and it doesn't require fertilisation or irrigation however if irrigation is available, one dose after sowing will help. It will work in low rainfall areas because it doesn't need to be a thick lush ground crop it is effective even if it's a bit patchy because it all has to do with the flowers and not the crop itself.

Adelaide Hills Vineyard Contractors encountered no negative outcomes as a result of their trial.

We didn't find any evidence of the buckwheat harbouring other dangerous pests, it died off naturally in the winter with the onset of frost and did a great job of helping the wasps control the LBAM caterpillars.

<sup>1</sup> The cost of sowing is comparable to the cost of a single spray application, including chemicals, in the control of LBAM

<sup>2</sup> Trial based on 2.6 metre rows

<http://dontspraycalifornia.org/USDA%20EIR%20Comments%20PDF%20-%20CASS.%20Roy%20Upton.PDF>

### Native LBAM Predators

As a generalist, LBAM is susceptible to a general and very large range of pests (HortNet 2008) including ants, beetles, bats, birds, earwigs, spiders, and viruses, all of which exist in California and throughout the US, and wasps, including at least two species of *Trichogramma* (*T. pretiosum*, *T. platneri*) that are native to California, and have already been demonstrated by CDFG to result in larval parasitization.



**BUG VACUUM** [http://ipm.ncsu.edu/cotton/InsectCorner/photos/images/Insect\\_vaccum.jpg](http://ipm.ncsu.edu/cotton/InsectCorner/photos/images/Insect_vaccum.jpg)

Numerous safe, non-chemical alternatives for managing the LBAM exist. Caterpillars are easy to **pick by hand or bug vacuum** at specific times of the year, and would be welcome work at a living wage for the state's many unemployed.

[www.DontSprayCalifornia.org](http://www.DontSprayCalifornia.org)