



February 22, 2015

Dr. Matthew Allen
New Zealand EPA
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Re: APP202142 - Modified reassessment (OPC substances): update and information request
REF:0084852. Arysta LifeScience response to the staff assessment of the trial report

Dear Mr. Allen,

Arysta LifeScience would like to take the opportunity to submit a non-confidential follow up of Laboratory Project ID 14080.4102 [*Non-GLP Translational Field-to-Lab Study to Assess the Residual Toxicity of Acephate Applied as a Foliar Application on Honey Bees (A. mellifera)*] in an effort to address the technical evaluation performed by New Zealand EPA and feedback on the assessment of the trial report by the project team and the issues identified in the E&R report relating to the study report.

Technical Evaluation Comments:

Non-GLP Translational Field-to-Lab Study to Assess the Residual Toxicity of Acephate Applied as a Foliar Application on Honey Bees (A. mellifera)

Point 1: Spray Oil

We have heard back from lemon growers and they have all confirmed that acephate is not used with a spray oil when controlling citrus flower moth. The primary reason for this is that they tank mix acephate with a fungicide (scab) control product and oil cannot be used, but also that efficacy is not affected and oil is not needed with acephate. Arysta designed the study to reflect these real world conditions and is willing to delete the claim for use of acephate with a spray oil.

Point 2: Maximum Application Rate

Consultation with the citrus industry concluded that the trials be tailored specifically to lemons with a maximum rate of 1600 g ai/ha. Our test was modified to represent the application on our target citrus crop which was lemon. The application rate of 1600 g FP/ha is a reasonable application rate when compared to the in-life use of acephate on lemons. The pre-flowering period would have only caused more effects, not less, but it was never meant to be 10 days – only the 7 days would be observed since that was what was being proposed in the new label. An extension of the exposure period also should have no impact because you can look at each stage to see mortality.

Point 3: Relevance of study



This does not appear to show validity against lemon labeling since lemons are not pollinated by honey bees, nor are most citrus varieties that do not want seeds. A possible compromise would be to allow normal application in groves that agree to use citrus mesh to cover their trees post-application. The blooms would still be pollinated but the bees would not have exposure (as done in CA).

Point 4: Application Rate reported in study

Initially we intended on using a formulated product (FP) containing Acephate 97% ai but had to use instead the 75SP formulation due to availability in the USA. The application is still 1600g FP and the ~20% difference in ai content should not affect the trend and outcome of the data.

Point 5: Observed Mortality

We do agree that there was interference, and providing a concrete explanation for it is challenging, but 7 days is not consistent with the mortality trend observed in the study. Mortality at 3 days was still significantly lower than 2 days.

Point 6: Conclusion on Acephate, Section 4.3. Need for longer data periods

1971 data versus 2014 data. Our data does show a definitive pattern for Day 2-4 so longer periods are not necessary.

Point 7: Section 4.4 Label claim for use of spray oil

Propose to EPA that application rate and absence of spray oil accurately reflects the real worlds use pattern on lemons and that Arysta is willing to amend the label to reflect this application.

Point 8: Section 4.5 Relevance of Dislodgeable Foliar Residue

We question the relevance of this data towards assessing the impact on honey bees on lemons. Bee fly from blossom to blossom and do not walk across foliage; thus the contact exposure is much much less than estimated by these types of numbers.

Point 9: Section 4.6 Proposed 7 day non-contact period

Arysta is confident that the recent study data shows a clear trend in decreasing mortality from days 2-5 following exposure and we feel that a revised non-contact period of 2 days would be sufficiently protective of honey bees in lemons.

Summary

Arysta would like to take this opportunity to thank the New Zealand EPA for considering new and relevant exposure data aimed at demonstrating an adequate non-contact period for honey bees in lemons. Arysta is confident that, based on the results of the reviewed study, if a bee were exposed to a flower sprayed two days before bloom with Orthene 75 WP at 1600g/ha, it could be expected to produce mortality in half of the bees that come into contact only after exposure for more than 2 days. This exposure is not realistic in a natural setting as the pollinating bees would not be exposed to the test material for a continuous 48-hour period. Therefore, an application of Orthene 75 WP two days



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before bloom should be sufficient timing to provide adequate protection to any foraging bees after bloom.

The trend observed in this new study suggests that a non-contact period of 7 days would be too restrictive for acephate and would be financially devastating to the NZ lemon growers. When the results of this study are taken into consideration along with the real world relevance in terms of spraying at night when blossoms are closed, proposed reduced rates on lemons, non-relevance of forced exposure on foliage data, and the need to control a significant pest (lemon moth) for New Zealand lemon growers.

We trust that you will find this response in order; however, should there be any questions please contact me at 919-678-4865 or via email at tim.wilson@arysta.com

Sincerely,

A handwritten signature in black ink, appearing to read "Timothy E Wilson".

Timothy E Wilson, Ph.D.
Global Regulatory Affairs Manager
Arysta LifeScience, LLC