2018 Research Report

Neonicotinoid alternatives for management of cucumber beetle in cucumber and squash

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Research Team:

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Highlights/Summary:

- The objective was to obtain efficacy data on neonicotinoid alternatives for cucumber beetle using in-furrow and foliar insecticides. In consultation with crop protection companies, the Group 28 diamide insecticides Coragen (chlorantraniliprole), Exirel (cyantraniliprole, foliar formulation), and Verimark (cyantraniliprole, soil formulation) were identified as potential solutions.
- *Foliar insecticides:* Untreated seed of the cucumber beetle attractive buttercup squash 'Burgess' was used. Insecticides were applied at first detection or one week after first detection. Cucumber beetle populations in the trial were low. Feeding damage one week after application of Matador or Exirel applied at first detection was lower than the control. This suggests activity of Exirel but not Coragen against cucumber beetle, but additional research is needed for confirmation. We based this first year of work off the experience of Dupont/FMC entomologists. However, cucumber beetle populations in that location is very high. In the future, applying the insecticides at the OMAFRA threshold of 0.5-1.0 may improve results, since populations will be higher at the time of application. Performing counts at the same time each day may also reduce variability.
- *In-furrow insecticides:* Untreated seed of cucumber 'Vlaspik' and the cucumber beetle attractive buttercup squash 'Burgess' was used. No differences in beetle populations or feeding damage were observed among treatments. Beetle populations were low. In the future, work should focus on 'Burgess', since cucumber beetle populations were higher in this trial. Populations in nearby control plots did not build until 5-6 weeks after insecticide application. In the future, a later planting date may improve results so that treatments evaluations occur soon after the insecticide application date. Performing counts at the same time each day may also reduce variability.

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