

**SAMPLING POTATO PSYLLID (*BACTERICERA COCKERELLI*):  
AN ANALYSIS OF MULTIPLE MONITORING TECHNIQUES AND  
INTERACTIONS WITH CROP ENVIRONMENT**

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The potato psyllid, *Bactericera cockerelli* (Sûlc, 1909), is an agricultural pest that has been reported on over 20 families of plants. In potatoes, *Solanum tuberosum* L., the psyllid can cause feeding damage, but more importantly it can transmit a bacterium known as *Candidatus Liberibacter Solanacearum*, which causes Zebra Chip disease. Tubers affected by the disease are unacceptable for sale or consumption.

Growers, use various methods to monitor their fields for potato psyllids and often use that information to make management decisions. However, different monitoring techniques are not necessarily directly comparable and can lead to incorrect management decisions if not interpreted correctly. In this study, the numbers of potato psyllids collected with yellow sticky cards, inverted leaf blowers, leaf samples, and pheromone plus unbaited cards were compared in multiple crops.

Potato psyllids have been collected on wheat and corn, two non-host crops, but it is speculated that this occurrence is due to psyllids locating and feeding on volunteer potatoes in those crops. Therefore, in this study, the comparison of sampling techniques was made in diverse crop environments to elucidate any interactions between sampling method and crop. Potatoes, corn, wheat, and corn planted with volunteer potatoes, and wheat planted with volunteer potatoes were arranged in a Latin Square design. In each plot, psyllid adults were collected with inverted leaf blowers and sticky cards, while eggs and nymphs were collected with leaf samples. In a separate study, 10 pheromone lures (provided by Alpha Scents Inc.) and an unbaited control were tested in a randomized complete block design.

Results indicate that the highest mean psyllids were found in potato, although only significantly higher than corn (Fig. 1). These results provide evidence that volunteer potatoes have the potential to support populations of potato psyllids in other crops. No significant differences exist between inverted leaf blowers and yellow sticky cards; data from leaf samples will also be analyzed and presented. As for the pheromone trial, no lures were significantly more attractive than an unbaited control (Fig. 2-3). These results have the potential to lead to more effective sampling, and by extension, control of the potato psyllid.

Fig. 1

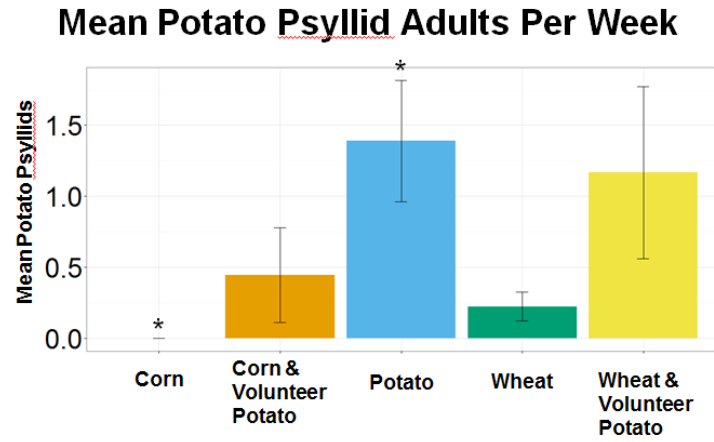


Fig. 2

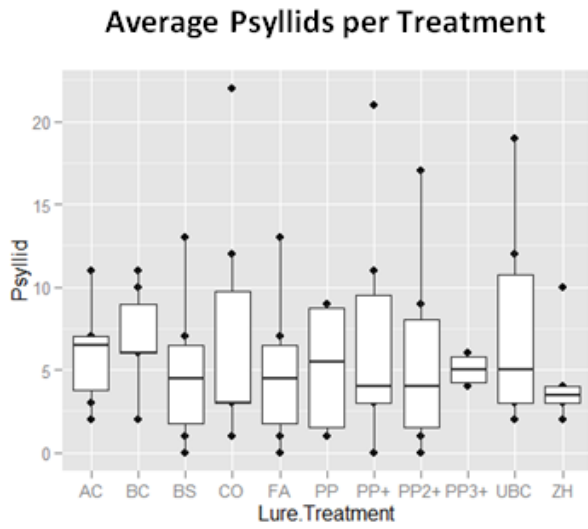


Fig. 3

