2007 Western Bean Cutworm Monitoring

Purpose:

To monitor for the presence and early detection of a new invasive species, Western Bean Cutworm, *Striacosta albicosta* (Smith) in corn fields in Southern Ontario.

Methods:

Five locations in Southern Ontario were monitored for the presence of adult moths from June 15th until September 15th, 2007. One trap per location was set up according to trapping protocols developed by Iowa State University. Each trap was made from a one gallon plastic milk carton jug with 4 inch windows cut from each side (Figure 1). A two inch high floor was left at the bottom of the jug so that the trap could hold a 4:1 mixture of water and antifreeze. A few drops of dish soap were also added to the mixture each time the trap liquid was refreshed. A paper clip hung on the inside of the jug through a hole punctured at the top of the jug cap. A pheromone lure was punctured by the other end of the paper clip and hung inside the jug. The trap was secured to a post placed at the edge of a corn field and hung 5 feet from the ground. The liquid mixture was kept topped up and traps were inspected as frequently as required (at least once a week) to maintain liquid levels and to strain out incidental insects that were captured. The pheromone lure was changed every 4 weeks. Suspect moths found in the traps were collected in vials and brought back to the lab for proper identification. Sites identified as having adult western bean cutworm adults present would be scouted for eggs and larval infestations and management options would be investigated.

Figure 1. Example of a western bean cutworm trap. (Photo Credit: Marlin Rice, Iowa State University)

Results:

No western bean cutworm adults were captured at any of the five trap locations in 2007. Though four moths were captured at one of the sites, the moths were identified as being yellow-striped armyworm. Due to the absence of western bean cutworm at all trap locations in 2007, no field scouting for egg masses was done.

Summary:

Western bean cutworm has been spreading rapidly across the US Midwest causing economic damage in both corn fields and dry edible beans. Trapping results indicate the presence of adults in Michigan and Ohio in both 2006 and 2007. Damage in field corn was also reported in some counties in Michigan by the end of the summer in 2007. With Ontario at the current edge of the range of this invasive species, monitoring for the presence of adults we will enable us to respond quickly to potentially minimize the impact to Ontario's corn and edible beans. Also, by contributing to the trapping program currently established in the US, we are able to monitor what occurs in neighbouring states. Fortunately the trapping program conducted this year has not detected the presence of western bean cutworm adults in Ontario and no damage has been reported by growers or consultants in 2007.

Next Steps:

Monitoring for this pest in Ontario will be continued in 2008, with an increase in the number of sites monitored. Monitoring will be more intensive and will involve using pheromone traps at both corn and edible bean fields, as well as blacklight traps at key research stations across Southern Ontario. Trap results will be sent to the western bean cutworm trapping program website currently run by Iowa State University (www.ent.iastate.edu/trap/westernbeancutworm) to enable real time mapping of weekly trap results in Ontario that can be accessed by agricultural extension personnel, consultants and growers.

Acknowledgements:

We would like to thank our co-operators for providing us with the fields to set up traps for monitoring. Many thanks go to our OMAFRA summer technicians, Brittany MacAlpine, Cassie James and Cheryl Van Herk for monitoring and maintaining the traps this summer.

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Location of Project Final Report: