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D3730: *Schizaphis graminum* and *Rhopalosiphum maidis* control in maize by RNAi

Thursday, September 29, 2016
09:00 AM - 05:00 PM
Convention Center - West Hall C

Herbivorous insects are responsible for one fifth yield loss of crops in the world annually. Many efforts have been made to reduce the yield loss and cost of control, such as biological control, chemical insecticides, crop rotation and transgenic plants. However, over the past decades, we have witnessed development of field resistant populations in variety of insect species. RNA interference (RNAi) is a biological process, in which RNA molecules silence genes at post-transcriptional level and observed in many eukaryotes. Recently, researches have shown great potential for its application in pest management. In this study, an artificial diet and feeding system (for aphids, *Schizaphis graminum* and *Rhopalosiphum maidis*) were tested for their potential application in dsRNA delivery. The results showed that the RNAi could be achieved by oral feeding with this diet in lab conditions. Also the knock-down level of target genes varied greatly with the combination of different exposure time and concentrations of dsRNA. The result from this study will provide a baseline of a lab protocol to either explore the function of genes or screen the potential candidate genes which could be used to control these two aphids species by RNAi in future.

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