

9 Characterizing larval movement of western bean cutworm in field maize

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Abstract: Western bean cutworm (WBC) is a major maize pest in the US and Canada. Understanding larval dispersal of this species will contribute significantly to IPM and IRM management strategies. The objective of this study was to evaluate WBC larval movement in the field during three critical movement periods. Moths were allowed to oviposit in removable oviposition cages placed on the tops of maize plants, and the location of resultant larvae was assessed at approximately 2 days (1st period) and 14 days (2nd period) after hatching. Fourth instars were placed on ears and assessed after approximately 19 days (3rd period). Larvae remained preferentially on the infested plants (73.2%) in the 1st period. However, for the 2nd and 3rd periods, more than 77% of larvae were found on other plants. Larval dispersal appears to be non-directional. Further studies are needed in Bt fields; however, preliminary results indicate that refuge-in-a-bag might not be appropriate for WBC due to its high dispersal during the 2nd and 3rd movement periods.