

CARLSON, ROBERT B., R. J. DREGSETH, A. J. SCHROEDER*, Entomology Department, North Dakota State University, Fargo, ND 58105. Monitoring of sugarbeet root maggot adults in the Red River Valley.

In an effort to determine the relationship between fly populations and maggot damage to sugarbeet, monitoring of adult populations of the sugarbeet root maggot (SBRM) was carried out adjacent to 14 commercial sugarbeet fields over a period of two years. The growers agreed to leave a minimum of six rows of beets untreated in each of these fields. The remainder of each field was treated with a soil applied granular insecticide at planting and in some instances a post-emergence insecticide application. Fly counts were made on sticky-stake traps throughout the period of fly activity. Root damage ratings and harvest results were obtained for both treated and untreated beets in each field. This allowed us to examine the potential gains to the producer from post-emergence treatment of sugarbeets when no prior treatments have been made and when a planting time treatment is in place. High variability in the relationship between root damage ratings and fly counts as well as high variability between damage ratings and yield results indicate that establishment of economic threshold values based on fly counts is going to be difficult. Two fields in this study also had a temporary, oat cover crop seeded over the beets. Data from these two fields has prompted more detailed plot studies in 1996 which indicate a possible increase in insecticide efficacy when the cover crop is used.