

SUGARBEET ROOT MAGGOT FLY MONITORING IN THE RED RIVER VALLEY – 2010

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Fly activity of the sugarbeet root maggot (SBRM), *Tetanops myopaeformis* (Röder), was monitored at 44 grower field sites throughout the Red River Valley in 2010. This was a collaborative effort between North Dakota State University, and the Minn-Dak Farmers Cooperative. It was jointly funded by the Sugarbeet Research & Education Board of MN and ND and the American Crystal Sugar Company.

As is often the case, moderate to high levels of SBRM fly activity were observed at several sites in central and northern portions of the Red River Valley during the 2010 growing season. Moderate levels of activity were also detected in the vicinity of Ada, Climax, and Euclid, MN, as well as Manvel and Thompson, ND. Activity in most of the southern portion of the production area was low. Figure 1 presents results from fly monitoring at three representative sites (i.e., St. Thomas, ND; Thompson, ND; and Ada, MN) in the Valley.

Typically, root maggot fly activity in current-year beet fields in the Red River Valley begins in mid- to late-May and peaks during the second week of June. In the 2010 growing season, fly activity began earlier due to unseasonably warm temperatures during April. The first SBRM flies captured on sticky stakes were observed on May 24. Activity increased rapidly at most monitoring sites. Fly activity peaked around May 31 in the vicinity of Ada, MN and about June 4 in the St. Thomas and Thompson monitoring areas. This was slightly earlier than normal. Interestingly, fly activity persisted at relatively high levels for over two weeks. At St. Thomas, a slight resurgence in SBRM fly activity occurred on June 21, a couple of weeks after the initial peak. That spike in activity was probably a result of frequent rainfall events, often accompanied by windy weather, that prevented many emerged flies from leaving their overwintering fields and moving into current-year beet fields.

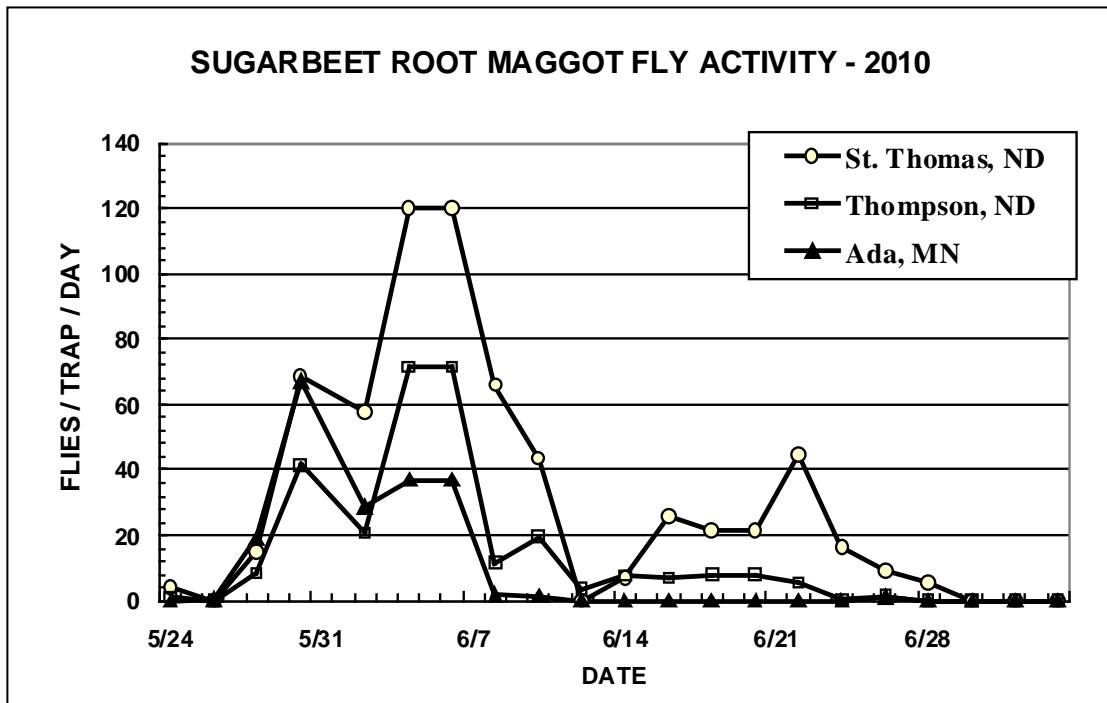


Fig. 1. Sugarbeet root maggot fly activity at selected sites in the Red River Valley, 2010 (counts represent flies captured on sticky stakes on a per-trap, per-day basis).

All 44 fly monitoring sites were also assessed for SBRM feeding injury after the larval feeding period was completed. Moderately high levels of feeding injury were observed in the traditional root maggot problem areas of Pembina and Walsh Counties in North Dakota. However, despite rather high fly activity being observed at several monitoring sites during this project, the levels of SBRM root feeding injury observed in those fields were surprisingly low. This is encouraging, because it could indicate that control efforts made by producers in those areas were effective at managing SBRM infestations in 2010. It should be noted, however, that although relatively low root injury levels were recorded for in some areas during 2010, root maggot feeding scars were still evident in most of those fields. Thus, careful monitoring will be critical in 2011 to detect unanticipated flare-ups of SBRM fly activity and to prevent economic loss. Vigilant monitoring and effective SBRM management on a field-by-field basis by sugarbeet producers may also help prevent significant population increases from one year to another because even moderate levels of root maggot survival in one year can be sufficient to result in economically damaging populations in the following growing season.