

## SUGARBEET ROOT MAGGOT FLY MONITORING IN THE RED RIVER VALLEY

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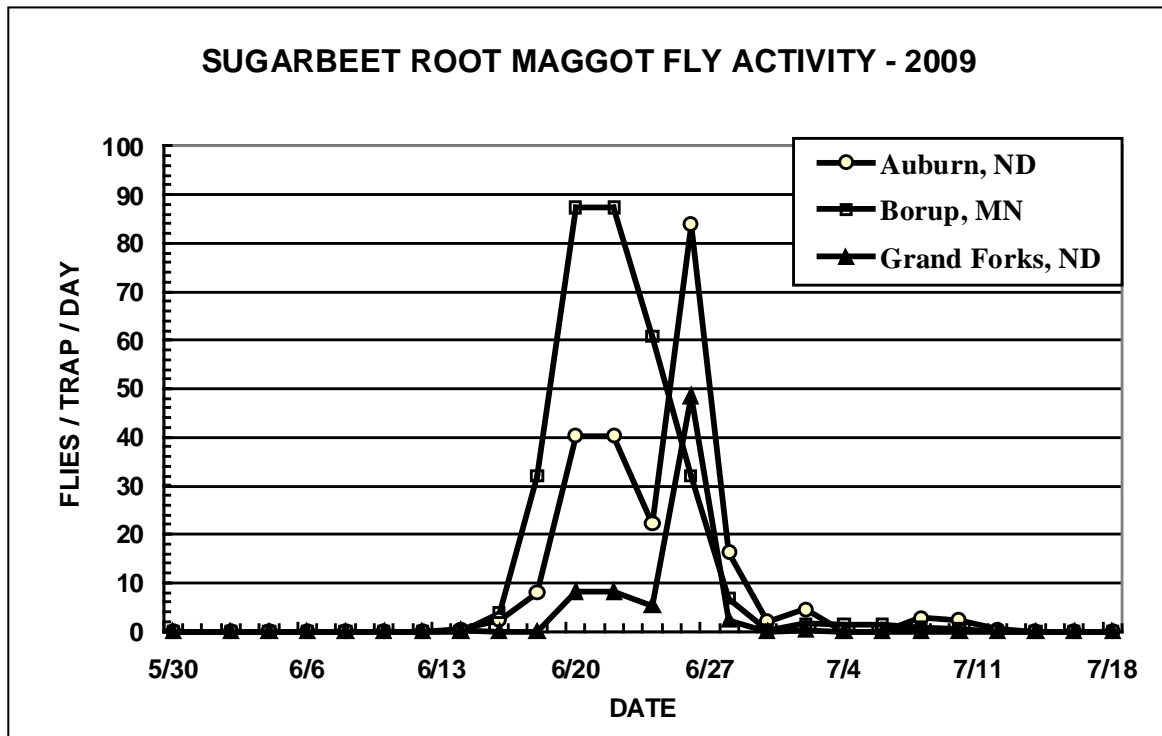
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Fly activity of the sugarbeet root maggot, *Tetanops myopaeformis* (Röder), was monitored during at 43 grower field sites throughout the Red River Valley in 2009. This was a collaborative effort between North Dakota State University, the Pembina County Extension office, 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.

Moderate to severe levels of sugarbeet root maggot fly activity were observed at several sites in central and northern portions of the Red River Valley during the 2009 growing season. Activity in most of the southern portion of the production area was quite low. Figure 1 presents results from fly monitoring at three representative sites from the central and northern 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 2009 growing season, fly activity began over two weeks later than normal due to persistent unseasonably cool temperatures in April, May, and early June. The first flies captured on sticky stakes were observed on June 12. Activity increased slowly for several days thereafter at most monitoring sites, then surged sharply around June 19-20. Peak fly activity occurred in the Auburn area around June 25-26, about two weeks later than normal. Activity peaked around June 21-22 in the Borup, MN vicinity, and about June 26 in the Grand Forks area.



**Fig. 1. Sugarbeet root maggot fly activity at selected sites in the Red River Valley, 2009**  
(counts represent flies captured on sticky stakes on a per-trap, per-day basis).

All 43 fly monitoring sites were assessed for root maggot 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, and also in the Borup area of Norman County, Minnesota. Similar to the past few years, fields in the Baker/Sabin area of Minnesota sustained moderate levels of feeding injury. Other areas where moderate injury was detected included rural Grand Forks and the Reynolds/Buxton areas in North Dakota. Although populations in those areas are not expected to be extremely high, fields should be monitored closely in 2010.

A late peak in fly activity, as observed in 2009, typically leads to a later onset of larval feeding activity. This can allow plants to grow larger and become more tolerant to root maggot feeding injury, thus minimizing impacts on yield. However, one disadvantage of delayed root maggot development can be that planting-time insecticides may not be as effective, thus allowing for more larval survival and maggot population increases during the following year. Therefore, growers should be vigilant and monitor fields for fly activity in 2010 to determine the need for postemergence control measures. Even moderate levels of root maggot survival in one season can be sufficient to result in economically damaging populations in the following year.