

INSECT PROBLEMS FOR NORTH DAKOTA & MINNESOTA SUGARBEET GROWERS IN 2004

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Sugarbeet Root Maggot:

Mild and somewhat dry early spring weather allowed most Red River Valley sugarbeet producers to plant at a normal to early date in 2004, and seedlings emerged early in many of those fields. Early seedling losses occurred in some areas due to either frost injury or mechanical damage from wind; however, only a small number of fields required replanting. Temperatures remained unseasonably cool for several weeks, and many areas had below-normal precipitation after planting. Correspondingly, seedling development was slower than normal. This resulted in roots being abnormally small and potentially more vulnerable to attack by sugarbeet root maggot (SBRM) larvae. Fortunately, because the processes of growth and development in both the root maggot and the sugarbeet plant are temperature-dependent, SBRM infestations occurred at a fairly typical growth stage of the crop for the region.

A small program for root maggot fly activity monitoring was run on a few sites in the Valley. In most sites south of Grand Forks, including Crookston, fly activity was low. Activity in the northern Valley got off to a slow start. The insects were almost undetectable until the second week of June (typically when activity has peaked in previous years). Fly numbers picked up during the third week of June, and peaked on June 30 at an extremely high average of 113 flies captured per trap per day (Fig. 1). A slight drop in fly captures occurred between June 23 and 26 due to poor weather conditions; however, with the exception of those few days in late June, moderate to high SBRM fly activity persisted for about three weeks from mid-June to the first week in July. The sustained levels of activity in 2004 produced very high larval infestations in many commercial sugarbeet fields. Resultant were significant root injury and yield losses for the affected growers. Although the impacts were most severe in Pembina County, a substantial increase in root injury was observed in Walsh County fields as compared to the previous year.

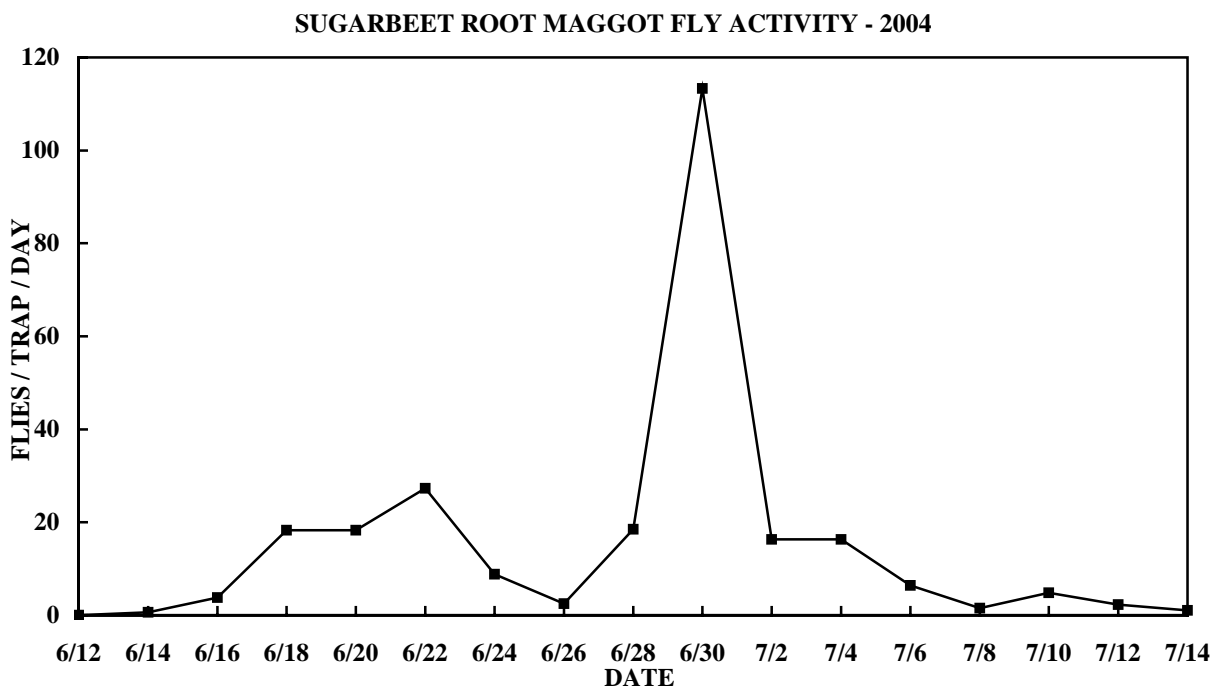


Fig. 1. Sugarbeet root maggot fly activity, St. Thomas, ND, 2004 (counts represent flies captured on sticky stakes on a per-trap per-day basis).

Cutworms:

Cutworms were a problem for some growers in the Southern Minnesota growing area during the first 2½ weeks of May in 2004. Insecticides reportedly did a good job of controlling the larvae. Generally, dark-sided and red-backed cutworms are the species most likely to cause early-season problems in sugarbeet. Black cutworms and variegated cutworms can also cause problems later on in the season. Soil moisture often dictates the likelihood of a successful insecticide application. Under extremely moist soil conditions, cutworms are more likely to be foraging at or above the soil surface and on plant leaves. If soils are dry the larvae will spend much of their time below the surface, and controlling them can be difficult to impossible. If soil conditions allow, treatment will usually be warranted if 4 to 5% of seedlings have been cut.

Leaf-feeding weevils:

This sporadic insect pest occurred in sugarbeet fields in Richland County, ND, as well as in Becker and Clay Counties of MN during the first two weeks of May in 2004. Feeding activity appeared to occur mostly during evening and early morning hours. Damage was most extensive on interveinal areas of leaves. Historically, this insect has occurred in noticeable levels about once every six to seven years since at least the mid-1970s (Khan et al. 2004). No specific insecticide is labeled for their control; however, foliar materials labeled for use in sugarbeet that have insecticidal activity as stomach poisons (e.g., Asana, Lorsban 4E, and MustangMax) will most likely provide adequate control of this pest.

Lygus Bugs:

Infestations of Lygus bugs were extremely low in 2004. Population levels were probably low because the extreme cool spring and summer weather that persisted for much of the growing season probably delayed Lygus development and prevented the production of a third generation from being produced. One infestation was observed in a field in Traill County, ND, with the heaviest populations being located in the headlands of the field; however, the infestation occurred so late in the season that an insecticide treatment was probably not warranted.

Springtails:

In 2004, springtails caused early spring feeding injury to sugarbeet seedlings in several fields and, in some cases, visible stand reductions were observed. Most of the affected fields were in the southern Red River Valley in Traill and Richland County, ND, and Marshall, Polk, and Wilkin Counties of MN.

Wireworms:

Wireworms caused some stand losses in Clay, Kittson, Mahnomen, and Norman Counties of Minnesota during the first two weeks of May in 2004. In most cases, Counter insecticide appeared to provide protection of sugarbeet seedlings from wireworm injury. Positive results from MustangMax applications were also reported. Historical observations, as well as results from NDSU screening trials suggest that Lorsban will not provide adequate protection from wireworm injury.

Reference Cited:

Khan, M. F. R., M. A. Boetel, and L. M. Buss. 2004. Leaf-feeding weevil in sugarbeet. Extension Circular #E-1273, North Dakota State University Coop. Ext. Svc.