

Sugarbeet Root Maggot Hot Spots Erupting

Major increases in sugarbeet root maggot (SBRM) fly activity have been observed at several sites in the NDSU trapping network during the past several days. Of the 43 monitoring sites, the most active hot spots as of June 22 include fields in the following areas: Manvel, Minto, Grafton, Voss, Nash, Auburn, St. Thomas, Glasston, and Hamilton in ND; and Ada, Borup, Crookston, and Euclid in MN. Although this monitoring program is a good indicator of general activity across the production area, it is no substitute for closer monitoring of individual fields.

Fly activity in the central and southern Red River Valley has probably peaked in the past 2-5 days. The root maggot model suggests that 3-5 more days of high activity are possible for the northern Valley. Weather conditions during the next few days will have a major influence on the exact date of peak activity in fields that have not yet peaked. Cold, windy, or rainy weather will delay the actual peak, even if adequate DD units have been accumulated for adults to emerge from soil.

Current DD accumulations and the updated forecast for peak fly activity at representative locations in the Red River Valley are presented in the following table:

Degree-day (DD) accumulations for sugarbeet root maggot development and peak fly forecast as of June 22, 2009		
Site	Air DD ¹	Peak fly activity forecast
Fargo	655	Peaked about June 20
Hillsboro	617	Peaked about June 22
Grand Forks	590	Peaked about June 23
Grafton	503	June 27 + 1 st 80° day
Cavalier	494	June 28 + 1 st 80° day

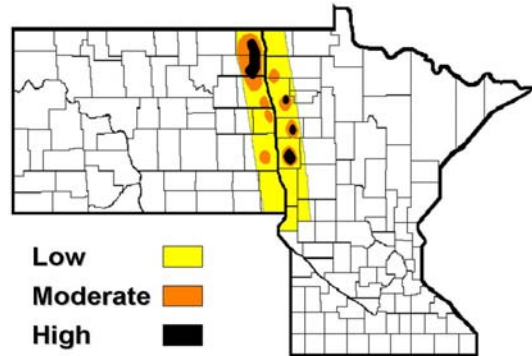
Raw data provided by the North Dakota Agricultural Weather Network (NDAWN).

¹Peak fly activity occurs in current-year beet after 600 air DD.

Postemergence additive insecticide applications are recommended in areas of moderate to high risk for damaging root maggot infestations this year. Fields at most risk are those where a moderate rate (10 lb product/ac or lower) of a granular at-plant insecticide was used or in those planted with seed coated with Poncho Beta insecticidal seed treatment. Fields treated with MustangMax insecticide at planting time will also be at risk because the product is only considered to provide suppression of SBRM. If fly activity in a particular field exceeds about 1 fly per 2 plants, the field should be checked daily to determine if activity increases. Once activity reaches about 0.75 flies per plant on average across the field, a postemergence insecticide application should be made to protect the field.

The 2009 risk map for sugarbeet root maggot infestations in the Valley is presented in Figure 1. Growers in areas of moderate to high risk of damaging maggot

infestations should be vigilant at monitoring fly activity in their fields, and plan on applying an additive postemergence insecticide to ensure adequate control.



2009 Forecast map for sugarbeet root maggot populations in the Red River Valley (based on fly activity and root maggot feeding injury ratings at 40 monitoring sites during the preceding growing season)

Postemergence Control Tips: At this late date in fly development/activity, granular insecticides are no longer a viable option. Thus, liquid insecticides will be the tools of choice at this point. Liquids work best if applied between 3-4 days before or within 3 days after peak fly. NDSU research indicates that control can be optimized by splitting full rates of Lorsban 4E (and other chlorpyrifos-containing liquid materials labeled for use in sugarbeet) in to two applications: make one application a 3 or 4 days before anticipated peak fly and repeat it about 7 days later. This strategy should work well this year with such high fly activity spread over several days of warm weather surrounding the actual peak. Rates less than 1 pt/ac should be avoided if applying as a broadcast treatment.

Be careful of label restrictions! The North Dakota Department of Agriculture will be monitoring pesticide applications closely. The following restrictions apply to Lorsban 4E most other materials containing chlorpyrifos as the active ingredient:

1. Restricted-use pesticide: treated fields must be posted
2. Do not make more than 3 applications per season
3. Do not apply more than 6 pints of product (3 pounds a.i.) per season
4. Maximum single rate: 2 pints product (1 lb a.i.) / acre
5. Wear personal protective equipment (see label)
6. Do not re-enter or allow a worker to enter treated field within **24 hours** unless required personal protective equipment is worn.

Mark Boetel, Research & Extension Entomologist
mark.boetel@ndsu.edu