SUGARBEET ROOT MAGGOT FLY MONITORING IN THE RED RIVER VALLEY IN 2025

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Sugarbeet root maggot (SBRM), *Tetanops myopaeformis* (Röder), fly activity was monitored at 125 grower field sites throughout the Red River Valley during the 2025 growing season. This effort was carried out as a collaborative effort between the NDSU School of Natural Resource Sciences, American Crystal Sugar Company, and the Minn-Dak Farmers Cooperative.

Sticky trap capture rates suggested that SBRM fly activity in the Red River Valley in 2025 was substantially higher than that recorded in 2024, but slightly lower than activity recorded during several of the previous years (Figure 1). As is usually the case, the most intense SBRM fly activity observed in 2025 occurred in central and northern portions of the Red River Valley; however, high activity levels were also recorded in fields near Ada, Borup, and Sabin, MN.

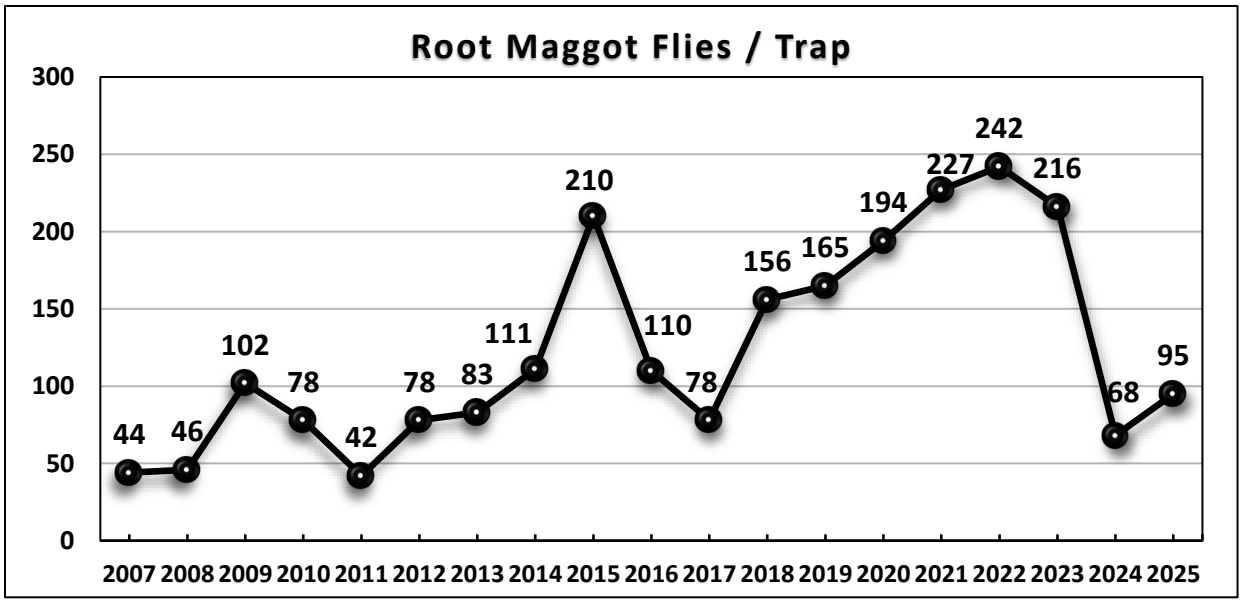
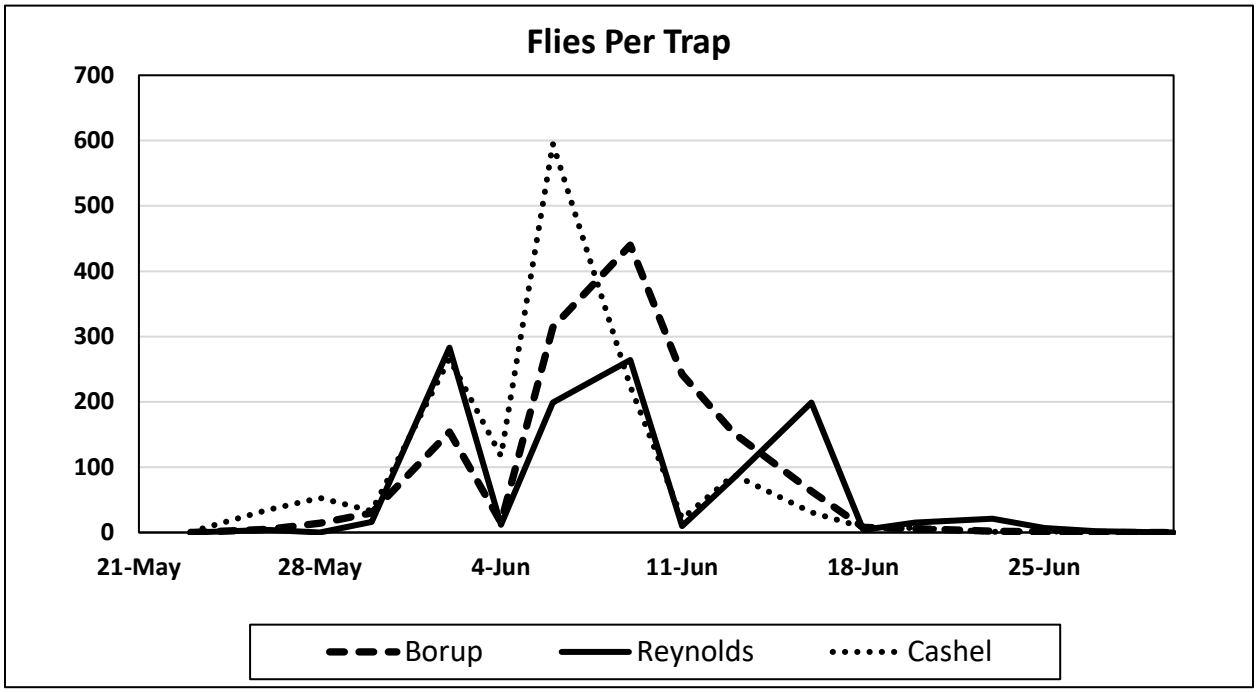


Figure 1. Yearly averages of sugarbeet root maggot flies captured on sticky-stake traps (Blickenstaff and Peckenpaugh, 1976) in the Red River Valley from 2007 to 2025.

High to severe levels of SBRM fly activity (i.e., cumulative captures of at least 200 flies per sticky stake) were observed in 2025 in fields near the following communities (cumulative flies per stake in parentheses): Auburn (329), Bowesmont (317), Buxton (405), Cashel (742), Nash (274), Reynolds (556), St. Thomas (510), and Veseleyville (240), ND, as well as in fields near Ada (301), Borup (723), Eldred (215), Lockhart (100), Sabin (244), and Stephen, MN (258).

Moderately high levels of activity (i.e., cumulative captures of between 43 and 199 flies per sticky stake) were also recorded near Bathgate, Cavalier, Crystal, Grafton, Grand Forks, Hamilton, Hoople, Manvel, and Oakwood, ND, and near Crookston, East Grand Forks, Euclid, Hadler, Hallock, Key West, Oslo, and Tabor, MN. Fly activity was either considered economically insignificant or was undetectable in most other areas during 2025.

Figure 2 presents SBRM fly monitoring results from three representative sites (i.e., Cashel and Reynolds, ND, and Borup, MN) during the 2025 growing season. Fly emergence began slightly later and at lower levels than what is considered normal, and the main Valley-wide peak in fly activity occurred on about June 6, which was about



one week earlier than the historical average.

Fig. 2. Sugarbeet root maggot flies captured on sticky-stake traps at selected Red River Valley sites, 2025.

In late-August and early September of 2025, after the sugarbeet root maggot larval feeding period had ended, 30 of the fly monitoring sites were rated for SBRM feeding injury in accordance with the 0-9 scale of Campbell et al. (2000) to assess whether fly outbreaks and larval infestations were managed effectively in those locations. A total of 40 roots from each field sampled were rated for SBRM injury. The resulting data was subsequently overlaid with corresponding fly count data to develop the root maggot risk forecast map for the subsequent growing season (the SBRM risk forecast for next year is presented in the report that immediately follows this one).

Root maggot feeding injury, averaged across all RRV fields that exceeded the generalized economic threshold (43 cumulative flies per trap) in 2025, averaged 2.13 on the 0 to 9 rating scale, which amounted to a 29% decrease over that recorded in 2024. This suggests that, despite a slight increase in root maggot fly activity in 2025, many sugarbeet producers were successful in protecting their fields from larval injury to sugarbeet roots. A list of RRV locations where the highest average root injury ratings were observed is presented in Table 1. Cumulative SBRM fly activity in those fields ranged from 42 flies/trap near Crookston, MN to 1,483 flies/trap near Cashel, ND.

Table 1. Sugarbeet root maggot fly activity and larval feeding injury in Red River Valley commercial sugarbeet fields where injury exceeded 2.5 on the 0 to 9 rating scale, 2025

Nearest City	Township	State	Flies/stake	Average Root Injury Rating[a]
Auburn	Farmington	ND	329	4.8
Cashel	Martin	ND	742	3.3
Sabin	Elmwood	MN	244	3.1
Lockhart	Lockhart	MN	100	2.9
Crystal	Elora	ND	258	2.7
Stephen	Augsburg	MN	240	2.7
Veseleyville	Ops	ND	82	2.7
Donaldson	Spring Brook	MN	36	2.7
Eldred	Roome	MN	53	2.7
Bowesmont	Lincoln West	ND	317	2.6
Crookston	Andover	MN	21	2.6
Thompson	Walle	ND	32	2.6

[a]**Sugarbeet root maggot feeding injury rating based on the 0 to 9 root injury rating scale (0 = no scarring, and 9 = over ¾ of the root surface blackened by scarring or dead beet) of Campbell et al. (2000).**

Risk of economically threatening levels of root maggot fly activity will be highest in 2026 in areas where high fly activity was observed in 2025. Moreover, the greatest risk will be in close proximity to fields where the highest levels of SBRM larval feeding injury were observed in 2025. Accordingly, growers in those areas should plan an appropriate SBRM management plan to avoid serious economic loss.

Careful monitoring of fly activity in moderate- and high-risk areas (see Forecast Map [Fig. 1] in subsequent report) will be critical to preventing economic loss in 2026. Vigilant monitoring and effective SBRM management on an individual-field basis by sugarbeet producers could 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 infestations in the subsequent growing season.

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