

CAMPBELL, LARRY G. USDA, ARS, Northern Crop Science Laboratory, 1605 Albrecht Blvd. N., Fargo, ND 58102-2765. **Potential of host plant resistance to the sugarbeet root maggot in an integrated pest management system.**

The performance of a hybrid with a sugarbeet root maggot (*Tetanops myopaeformis* von Röder) resistant pollinator was compared to the performance of an adapted susceptible hybrid at a location with root maggots present (St. Thomas, ND) and a location with no root maggots (Fargo, ND) in 2015 and 2016. The trial was replicated eight times within each location by year combination. The 2-year average root maggot damage rating on the susceptible hybrid at St. Thomas was 7.0, on a 0 to 9 scale where higher numbers indicate more damage, compared to an average damage rating of 3.8 for the hybrid with the resistant pollinator. At Fargo, the 2-year average stand loss during the growing season was 15.6% for the adapted hybrid and 14.8% for the hybrid with the resistant pollinator. At St. Thomas the stand loss for the hybrid with the resistant pollinator was 19.5%, compared to 41.8% for the adapted susceptible hybrid. There was less than a 1 Mg ha⁻¹ difference between the root yields of the two hybrids at Fargo. In contrast, the 2-year average root yield of the susceptible adapted hybrid was 66% of the root yield of the hybrid with the resistant pollinator at St. Thomas, the location with root maggot present.