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**Management of soilborne pathogens by managing irrigation of sugar beet.**

Two experiments were conducted to evaluate the effect of several irrigation regimes on disease development in sugar beet. The first experiment included four furrow-irrigation regimes (every two, three, four and five weeks) and four inoculation treatments (BNYVV, BSBMV, BNYVV+BSBMV and non-inoculated control). The treatment irrigated every four weeks showed the lowest disease incidence and a yield that was not significantly different from the treatment irrigated every two weeks. Also, sucrose content was significantly higher in the four-week irrigation treatment than in treatments irrigated every two and three weeks. Plots inoculated with BNYVV had a significantly higher disease incidence than BSBMV and BNYVV+BSBMV treatments. Yields were also significantly affected by inoculation treatments. Beets in the BNYVV+BSBMV treatment had a significantly higher yield than beets in the BNYVV treatment. The second experiment included three frequencies, three amounts and two methods of irrigation under a center pivot system. There were two main irrigation regimes: a Low Energy Precision Application (LEPA) system with 100%, 75%, and 50% the full rate of the pivot system, and a LEPA system with on/off valves where plots were irrigated at different frequencies. Measurements taken during the season included: top fresh weight, top dry weight, root fresh weight and number of beets per meter. Soil moisture was measured by use of a neutron probe. At harvest, root yield, number of beets per meter, disease index, percent sucrose, and stand counts were determined. Highest disease index and lowest percent sucrose occurred in plots irrigated at the full rate. Also, treatments irrigated the least had a significantly higher percent sucrose than in full rate plots. Sugar beets irrigated every other time the grower applied irrigation had the highest yield and the lowest disease incidence. These results indicate that disease losses can be reduced and yields increased with improved irrigation management.