RUSH, C. M., and R. M. HARVESON*, Texas Agricultural Experiment Station, P.O. Drawer 10, Bushland, TX 79012. - Reduction of sugar beet root diseases by cultivar selection and fumigation management.

A study was begun in 1994 to evaluate the efficacy of irrigation frequency and cultivar mixtures to control multiple soilborne pathogens. Four cultivars and four blend combinations were planted 13 April in a randomized complete block, split plot design with six replications. The main plots were irrigation levels and cultivars were the split treatment. Each plot consisted of four 100 ft plots. They were irrigated for emergence 15 April, followed by bi-monthly irrigations for the wet plots and one irrigation a month for the dry plots. Disease counts were made seven times during the season at 2-week intervals by destructively sampling infected plants from one row of each plot. All cultivars in the test were chosen because they are currently being used commercially in Texas. Ranger is a new cultivar that is a high sucrose producer, whereas MH9155 was bred for high root yields. Rhizosen is a rhizomania-resistant cultivar, and HH67 has good tolerance to *R. solani*. Entries that included MH9155 tended to produce the better results for most yield parameters. High irrigation levels were correlated with high disease incidence and ratings. Few significant differences were seen from yield components between irrigation treatments. Results indicate that reduced irrigations could be beneficial for growers who are forced to plant into pathogen-infested soils.