

EVALUATION OF FUNGICIDE SEED TREATMENTS FOR CONTROL OF RHIZOCTONIA SOLANI IN SUGARBEET IN SOUTHERN MINNESOTA

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Rhizoctonia solani is one of the most detrimental root diseases across all sugarbeet growing areas in the U.S. The objective of these trials was to evaluate fungicides applied as seed treatments for control of Rhizoctonia solani with a susceptible and resistant variety and to evaluate the seed treatments with and without an application of azoxystrobin at the 8-10 leaf sugarbeet growth stage. The test was conducted at three locations over two years. Sugarbeet plots were inoculated with the Rhizoctonia Solani fungus grown on barley and applied to the soil prior to planting. The Rhizoctonia strain used for inoculation was AG 2-2 IIIB. The sugarbeet stand tended to not change over time at either location in 2011. Sugarbeet stand decreased over time at the location in 2012 and the decrease was related to the treatment. Rhizoctonia root ratings indicated the level of disease pressure at 2 of the three locations was medium and one location had a high disease level. However, regardless of the disease level the data showed a statistically significant difference among treatments for Rhizoctonia root ratings. Tons per acre, sugar percent and extractable sugar per acre were significantly influenced by treatments, regardless of disease pressure. Resistant varieties tended to enhance sugarbeet production more than susceptible varieties. Seed treatments tested were penthiopryiad, pyraclostrobin, ipconazole, metconazole. The revenue from the tolerant varieties tended to be higher for like treatments compared to the susceptible variety. Revenue was related to seed treatment. Azoxystrobin applied at 8-10 leaf stage was beneficial to both susceptible and tolerant varieties. Azoxystrobin applied to sugarbeets with seed treatments was beneficial for Rhizoctonia control and sugarbeet performance.