WHAT ARE THE OPTIONS FOR MANAGING *RHIZOCTONIA SOLANI* ON SUGARBEET?

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Rhizoctonia solani is the causal agent of damping off, crown rot and root rot of sugar beet (*Beta vulgaris* L.). Growers have reported during 2009 through 2011 that Rhizoctonia root rot is the most important disease of sugarbeet in Minnesota and North Dakota. It is difficult to incorporate multiple genes required for resistance to *R. solani* and agronomic characters that will result in varieties with *R. solani* resistance that are also high yielding. Most commercial sugar beet varieties are susceptible to or have only partial resistance to *R. solani*. In fields with a history of moderate to severe Rhizoctonia root rot, fungicides are needed to provide protection for acceptable yields. Research was to evaluate fungicide treatments in controlling *R. solani* on sugarbeet. Penthiopyrad, a succinate dehydrogenase inhibitor, was evaluated as a seed treatment at different rates alone, and with a post application of azoxystrobin, a quinone outside inhibitor. Azoxystrobin was applied in-furrow at planting followed by a post application; and azoxystrobin was used only as a post application. *R. solani* resistant and susceptible cultivars were used in the experiment. Plant populations were recorded during the season. Roots were harvested, weighed and analyzed to determine recoverable sucrose. Azoxstrobin applied in-furrow followed by a post application consistently resulted in significantly high plant populations and recoverable sucrose compared to the non-treated control. Penthiopyrad provided early season control by protecting plant populations compared to the nontreated check, but was not effective during the latter part of the season as populations were reduced. Penthiopyrad followed by azoxystrobin resulted in higher populations and recoverable sucrose compared to the control. The use of penthiopyrad as a seed treatment followed by azoxystrobin will serve as a fungicide resistance management strategy while providing effective disease control.