WINDELS*, CAROL E. and JASON R. BRANTNER. University of Minnesota, Northwest Research and Outreach Center, Crookston, MN 56716. Oospore density effects of Aphanomyces cochlioides on sugarbeet varieties differing in resistance.

Previous experiments lead us to conclude that partial resistance of sugarbeet seedlings to A. cochlioides was not demonstrated over a wide range of oospore concentrations (1999, Phytopathology 95:S104; 1999 Minnesota-North Dakota Sugarbeet Res. Ext. Rept. 30:248-256). Shortly after these reports were published, it was found that the commercial variety selected as "susceptible" had a level of resistance to A. cochlioides comparable to the partially resistant Trials were repeated and included three commercial varieties (one recognized as susceptible [S] and the two partially resistant [PR]) we had tested in previous studies. Seed was sown in a natural field soil infested with 0, 1, 10, 25, 50 and 100 oospores/g dry weight; soil was kept moist at 18-20°C for 1 wk and then at 25-27°C for 3 wk. Data were collected on plant stand at least twice weekly after emergence and a root rot index (RRI = 0-100 scale, 0 = all plants healthy; 100 = all plants dead) at 4 wk after planting. There were no oospore concentration by variety interactions for percent final stand. The S variety had a significantly (P=0.05) lower final stand (51%) compared to the two PR varieties (final stand = 60 and 61%). Final stands for 0, 1, 10, 25, 50 and 100 oospores/g soil were 100, 97, 72, 37, 28 and 9%, respectively. There were significant interactions between variety and oospore concentration at 25 oospores/g of soil (S variety had a RRI of 86 and PR varieties had RRI's of 64 and 74) and at 100 oospores/g (S variety had a RRI of 100 and PR varieties had RRI's of 91 and 95). Thus, partial resistance of seedlings to A. cochlioides is discernable, but not consistent across a range of oospore concentrations.

to 3%, we endow to either nerbeids program. Vised control was improved with the conventional harbeids program in 1989, but there were no differences between femberds programs in 2000 then 1989 in 1989, although non-agnificant featurents containing Quadra reduced Phiesetteria incidence (by 15%) and selective (by 31%) on the containing Quadra reduced Phiesetteria incidence (by 15%) and selective (by 31%) on harvested by is compared to treatments whiteout (results (PS.0.05)). In 2000, mean cuts with Quadra (firear reduced inter-season Rhimomorea uncidence to 0.5% versus treatments without Quadra (firear contrast, P. 0.05). Quadra indicates to 0.5% versus treatments application resulted in 4.5% less district contrast. P. 0.05. The addition of Quadra increased for: yields and augus content over 3.5% compared with treatments without Quadra (increased for: yields and augus content over 3.5% compared with treatments without Quadra (increased for: yields and augus content of the first replications of Quadra (increased for: yields and augus content of the first replications of Quadra (increased fore). Later applications of Quadra (increased fore) and augus contrast.