viv05L5, CAROL E, and RITA 4, KUZNIA, Mollowest Experiment Station intre-sity of Minnesota, Crookston, Mil 56716, - Relationship of soli temperature to Pythium seeding dicesses.

ABSTRACT

Pythium cultures were collected over several years to Minnesota and Morin Directs from field grown direased sugarbaets and from seudlings grown in field soil in the prophouse. Of 37 isolates randomly selected from a collection

VAUGHN, K.M.*, and C.M. RUSH, Texas Agricultural Experiment Station, Bushland, TX 79012. - Integration of biocontrol agents with solid matrix priming of sugar beet seed to reduce seedling damping-off.

Seed treatment is an attractive delivery system for biocontrol agents. Biocontrol agents *Pseudomonas cepacia*, strain AMMD, and *Gliocladium virens*, strain Cr-4, were used to inoculate sugar beet seed before, during, and after solid matrix priming. Nonprimed seed was also inoculated with both biocontrol agents, and nonprimed and SMP seeds, not inoculated, were used as controls. These ten seed treatments were planted in soils infested with *Pythium aphanidermatum*, *Rhizoctonia solani*, or noninfested soil. The experiment was conducted in growth chambers. Nonprimed seed treated with Cr-4 caused some phytotoxicity in noninfested soil, but the problem was overcome when Cr-4 was combined with SMP. In *Pythium* infested soil, the addition of AMMD and Cr-4 with SMP reduced postemergence damping-off significantly better than SMP alone and all nonprimed seed treatments, with the exception of nonprimed seed treated with SMP. Final stand was significantly increased when AMMD was added during SMP, but not when AMMD was added before of after SMP. In *Rhizoctonia* infested soil, the addition of AMMD and Cr-4 with SMP significantly reduced preemergence damping-off.

and diseased seedings connected from 40% of apparently healthy seedings while P. scanthicum was not reisolated. Thus, the two species most frequently isolated from dying sugarbeets were pur ogenic, with P. ultimum var. sporangilierum causing maximum seed not ni-14 C and P. aphanidermatum at 3) C.