

VAUGHN, K. M.\*, and C. M. RUSH, Texas Agricultural Experiment Station, P.O. Drawer 10, Bushland, TX 79012. - A survey of *Aphanomyces cochlioides* from sugar beet production areas in the United States and Canada.

*Aphanomyces cochlioides* is a soilborne fungus that causes black root, a serious sugar beet seedling disease. Tachigaren, a systemic fungicide that has activity against *Aphanomyces* spp. and other seedling pathogens, is widely used in Europe and Japan. Until the forthcoming registration of Tachigaren in the USA, the only control measures available to growers in the Texas Panhandle to reduce disease caused by *A. cochlioides* are to plant early when soils are cool and use limited irrigation to establish a stand. A survey was conducted to determine the geographical distribution of *Aphanomyces* and other major sugar beet seedling pathogens throughout production areas in the USA and Canada. In greenhouse experiments, soil samples from Canada, California, Colorado, Idaho, Michigan, Montana, Nebraska, Ohio, the Red River Valley, Texas, and Wyoming were screened for *Aphanomyces*, *Rhizoctonia*, and *Pythium*. High levels of *Aphanomyces* were detected in soils from Montana, Ohio, and the Red River Valley, while *Rhizoctonia* was predominantly isolated in soils from Colorado, Idaho, and California. Also, high levels of *Pythium* were detected in California soils. Since Tachigaren is used in other countries to suppress *Aphanomyces*, a field study was conducted to evaluate the efficacy of Tachigaren as a seed treatment to control *Aphanomyces* on sugar beet seedlings in the Texas Panhandle. Tachigaren significantly reduced incidence of seedlings infected by *A. cochlioides*, but, in this study, it did not protect against infection by *Aphanomyces* the entire season.