WEILAND, JOHN J.[1] and SHELVER, WEILIN[2]. [1]Sugarbeet and Potato Research Unit and [2]Animal Metabolism Unit of the USDA-ARS-Red River Valley Agricultural Research Center, 1307 18th st. N. Fargo, N.D. 58105. **Antiserum for the detection of *Aphanomyces cochlioides*.**

Quantitative immunological and nucleic acid detection methods for Aphanomyces have proven useful for the breeding of leguminous crops. A program objective is to develop quantitative tools for the detection of *Aphanomyces cochlioides* in sugarbeet fields and in inoculated, greenhouse-grown sugarbeet. A cell-wall preparation of *A. cochlioides* was used to immunize New Zealand white rabbits in an effort to raise antisera to this organism. Antiserum from rabbit 114 reacted significantly better with Aphanomyces spp than with any other common pathogen of sugarbeet tested, generating strong positive signals in a direct enzyme linked immunosorbant assay (ELISA) within 30 min. of substrate addition. Due to inherent low reactivity with components in healthy sugarbeet extracts, the antiserum was capable of discriminating sugarbeet seedlings infected with *A. cochlioides* from uninfected seedlings. Use of the antiserum demonstrated that sugarbeet roots received at piling stations in the Red River Valley of Minnesota, although exhibiting characteristic Aphanomyces chronic phase symptoms, possessed little reactive material.