

RESPONSE OF SOYBEAN CYST NEMATODE TO WINTER ANNUAL WEED REMOVAL TIMINGS. Valerie A. Mock, J. Earl Creech, William G. Johnson. Graduate Research Assistant, Department of Botany and Plant Pathology, Purdue University, West Lafayette, IN 47907, Assistant Professor, University of Nevada Cooperative Extension, University of Nevada, Fallon, NV, and Associate Professor, Department of Botany and Plant Pathology, Purdue University, West Lafayette, IN 47907.

Winter annual weeds are becoming more problematic due to the reduced reliance of residual herbicides, and the increased adoption of conservation tillage. Six winter annual weeds have been found to be alternate hosts to soybean cyst nematode (*Heterodera glycines* Ichinohe; SCN). The strongest winter annual weed alternative hosts to SCN are purple deadnettle (*Lamium purpureum*), and henbit (*Lamium amplexicaule*). In addition, we have shown that SCN can reproduce on purple deadnettle during the fall after soybeans have been harvested. The objective of this study was to determine if SCN population densities are influenced by winter annual weed removal timings during the fall and early spring when soybean is not present in the field. This experiment had two plant species, SCN-susceptible soybean and *Lamium spp.* The soybeans were present at densities of zero or 108 m⁻² and the *Lamium spp.* were present at densities of zero or 161 m⁻². Four winter weed removal timings were established which included no weed removal, and October, December, or May weed removal. At these removal timings plants samples in 0.19 m² area were collected for dry weight determination, and soil samples were collected for SCN egg extraction and enumeration. Examination of *Lamium spp.* dry weight plant⁻¹ suggest that within the October timing *Lamium* species reduced the dry weight of soybean, but soybean did not reduce the *Lamium spp.* dry weight. In addition, the longer *Lamium spp.* were in the field in the fall the higher SCN population densities. When eggs counts were compared against the initial August soil sample timing, the only significant weed removal timing was in October, where the treatments with soybean only had the highest SCN population and the plots with no plants had the lowest SCN population density.