

FALL AND SPRING DEVELOPMENT OF SOYBEAN CYST NEMATODE ON WINTER ANNUAL WEEDS IN THE EASTERN CORN BELT. J. Earl Creech, William G. Johnson, Bryan G. Young, Jared S. Webb, Jason P. Bond, Mark M. Menke, and S. Kent Harrison, Graduate Research Assistant and Associate Professor, Purdue University, West Lafayette, IN 47907, Associate Professor, Graduate Research Assistant, and Assistant Professor, Southern Illinois University, Carbondale, IL 62901, Graduate Research Assistant and Professor, the Ohio State University, Columbus, OH 43210.

Certain winter annual weeds have been confirmed as alternative hosts to soybean cyst nematode (SCN) in the greenhouse. However, SCN development is known to cease at temperatures below 10°C. Thus, the potential interaction between winter weeds and SCN in the field is limited to a short period of time in the fall and the spring when both the nematode and the weeds are present and active. SCN reproduction on purple deadnettle was recently confirmed at one site in southern Indiana. The objective of this research was to determine the distribution of SCN development and reproduction on winter annual weeds in the North Central region. To address this objective, surveys were conducted in Illinois, Indiana, and Ohio. Three sampling sites were chosen in each state to represent a range of environmental conditions. Sampling occurred in both mid-December 2004 and 1 May 2005. Four purple deadnettle or henbit plants were removed from 5 locations within each field and transported to the laboratory where SCN juvenile, cyst, and egg counts were performed. Fall SCN reproduction occurred at all sites in fall 2004 but was generally higher at the southern field sites. Reproduction of SCN in the spring was more limited than the fall but juvenile presence within the root was higher. Thus, SCN reproduction in the eastern Corn Belt appears to be widespread and SCN management programs in fields with high populations of henbit or purple deadnettle should include a winter weed management component. In addition, delaying burndown of winter annual weeds until mid-May or later could allow spring-hatching SCN juveniles sufficient time to complete a life-cycle and further enhance the effect these weeds have on an SCN population.