

FALL AND SPRING DEVELOPMENT OF SOYBEAN CYST NEMATODE ON WINTER ANNUAL WEEDS. J. Earl Creech, William G. Johnson, Jared S. Webb, Bryan G. Young, Jason P. Bond, and S. Kent Harrison, Graduate Research Assistant and Associate Professor, Purdue University, West Lafayette, IN 47907, Graduate Research Assistant, Associate Professor, and Assistant Professor, Southern Illinois University, Carbondale, IL 62901, 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 in which three sampling sites were chosen in each state to represent a range of environmental conditions. Fall sampling occurred in mid-December of 2004 and 2005 while spring sampling occurred in early-May of 2005 and 2006. Five purple deadnettle or henbit plants were removed from five locations within each field and transported to the laboratory where SCN juvenile, cyst, and egg counts were performed. SCN reproduction occurred more frequently and at higher levels in the fall than the spring and was generally highest at the most southern field sites. SCN juvenile presence was generally higher in the spring than the fall. 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 may require 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 SCN population density.