

INFLUENCE OF HENBIT AND PURPLE DEADNETTLE DENSITY ON PLANT BIOMASS AND SOYBEAN CYST NEMATODE REPRODUCTION. Valerie A. Mock*, J. Earl Creech, and William G. Johnson, Graduate Research Assistant, Graduate Research Assistant, and Associate Professor, Department of Botany and Plant Pathology, Purdue University, West Lafayette, IN 47907-2054.

Winter annual weeds such as henbit and purple deadnettle have been an increasing problem as no-till systems are becoming more common and use of residual herbicides declines. These two weeds are also known to serve as alternate hosts for soybean cyst nematode (SCN) and could result in population increase if not controlled. A greenhouse study was conducted to determine how densities of henbit and purple deadnettle affect SCN reproduction. This experiment was a two-factor factorial which had 10 plant density combinations and two SCN inoculation levels (0 or 10,000/pot). Plants were grown at a 14 hour photoperiod at 24 ± 5 C. Two weeks after planting pots that were to receive SCN eggs were inoculated with 10,000 eggs. Six weeks after pots were inoculated stem counts were taken, and plant foliage was harvested for dry weight. Roots were harvested for SCN cyst and egg counts as well as dry weights. Shoot and root dry weight of soybean, henbit, and purple deadnettle were not affected by SCN. Shoot and root biomass per pot of purple deadnettle and henbit were similar at the same densities and generally increased as density increased. Henbit produced more stems than purple deadnettle, but stem number decreased as plant density per pot increased. The highest SCN densities were observed in pots with low to moderate densities of purple deadnettle and moderate to high densities of henbit.