Extracting *Hoplolaimus columbus* from Soil and Roots: Implications for Treatment Comparisons

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The Columbia lance nematode (*Hoplolaimus columbus* Sher) can cause significant yield suppression in cotton (*Gossypium hirsutum* L.) when it is present in the soil and inside roots. This study was undertaken to determine whether extracting nematodes from only the soil was sufficient to make accurate comparisons among treatments in cotton. We also studied the proportion of *H. columbus* present in the soil to determine whether that proportion varied among treatments at a single sample date and from one sample date to another during a growing season. This study utilized data sets from three field tests in three years in which nematodes were extracted from both soil and root fractions. Statistical comparison ($LSD_{0.05}$) of the mean number of *H. columbus* extracted per treatment resulted in identical separations, regardless of whether soil counts alone or total counts were used. The mean proportion of *H. columbus* present in the soil across all treatments in the midseason samples was 0.74 in 1988, 0.80 in 1989, and 0.67 in 1998; the mean proportion at harvest was 0.93 in 1988 and 0.98 in 1989. Although the proportion of *H. columbus* in the soil increased between midseason and late-season samples in 1988 and 1989, these changes were not affected by nematicide treatment. A majority of the *H. columbus* population was consistently found to be in the soil fraction. Extraction of *H. columbus* from soil alone appears to be sufficient for comparing treatment effects on nematode populations in cotton field plots.

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