EFFECTS OF SOIL AMENDED WITH CHICKEN LITTER ON MELOIDOGYNE INCOGNITA

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The effects of chicken litter and associated microorganism on the cotton cultivar DPL50 in litter amended soils were investigated in microplots and in the greenhouse. In the microplot study, M. incognita population densities decreased linearly with increasing rates of litter at midseason and at the end of the season. Bacterial and fungal population densities increased with the incorporation of litter into soil. Meloidogyne incognita density decreased linearly with increasing bacterial density in on one assay date, but not at other sampling times. Bacterial genera isolated from the litter amended soil included Arthrobacter, Bacillus, and Pseudomonas. Fungal genera identified from the litter amended soil included Aspergillus, Eurotium, Gliocladium, Paecilomyces, and Trichoderma. In greenhouse pots, M. incognita population densities were generally lower in litter amended soils, but bacterial, fungal, and microbivorous nematode densities increased with increasing rates of litter. Negative linear relationships were observed between nematode densities and bacterial and fungal densities. Bacterial genera isolated from the litter amended soil were similar to those isolated from the microplots study. Litter incorporated two weeks before planting performed better than litter incorporated 28 days before planting or at planting for nematode control.

Index words: Bacteria, Chicken Litter, Control, Cotton, Fungi, Gossypium hirsutum, Manure, Meloidogyne incognita, Organic Amendment, Root-Knot Nematode