Plant-parasitic Nematodes Associated with Switchgrass Grown for Biofuel in the South Central United States. (C03-cassida221303-Poster)

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Abstract:

Plant-parasitic nematodes have been suggested as contributors to establishment problems for switchgrass biofuel crops in the South Central US, but nematode populations associated with switchgrass have not been described. Plant-parasitic nematodes were identified from soil and roots after fall biomass harvest from 5-year-old switchgrass variety trial plots located in Clinton, LA, Hope, AR, College Station and Stephenville, TX. Xiphenema americanum and Tylenchorhynchus spp. (T. capitatus and T. ewingi) were found at all locations. Paratrichodorus minor and Criconemella ornata were found at 3 sites. Hoplolaimus magnistylus, Pratylenchus zeae, Helicotylenchus spp. (H. dihystera and H. digonius), Meloidogyne sp., and Paratylencus sp. were found at some sites. Upland morphological types of switchgrass supported greater densities of Helicotylenchus spp. than lowland types at Clinton and greater densities of Pratylenchus and Tylenchorhynchus spp. at Hope. Lowland types appeared to be better hosts for Tylenchorhynchus spp. at Stephenville. Differences in host suitability among switchgrass genotypes were found for several nematode species, and in some cases the nematodes were correlated with decreased stand persistence or dry matter yield.

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