Population dynamics of banana nematodes as influenced by weather parameters correlation studies for nematode population in banana

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Received July 5, 2014 and Accepted September 21, 2014

ABSTRACT : Population behaviour of three nematodes in root and soil around banana plants was studied at four locations in Erasakkanayakanur and Seepalakottai villages of Theni district, Velliangadu village and fruit orchard of Tamil Nadu Agricultural University of Coimbatore district, Tamil Nadu, India during 2008-2009. The *Rodapholous similis, Helicolylenchus multicinctus and Pratylenchus coffeae* population levels reached three peaks during the month (March, June-July, and October, November and December) with concomitant increases in nematode numbers recorded both in soil and roots at four locations. Among three nematodes, the *Rodapholous similis*, had highly significant positive correlation with relative humidity, rain fall and soil moisture both in root and soil population for all locations, whereas *Helicolylenchus multicinctus* had highly significant positive correlation with relative humidity, rain fall and relative humidity for all the locations. In general soil and root populations were lowest in December at all four sites when an abrupt increase in root populations occurred. Populations decreased both in soil and roots following heavy rainfalls. A significant positive correlation with between nematode numbers in the soil and monthly rainfall and minimum temperature was observed. The major environmental factor influencing nematode population development in banana.

Key Words : Banana, population dynamics, nematodes, weather variable, correlation.