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EFFECT OF TILLAGE AND WATER MANAGEMENT ON THE POPULATION BEHAVIOUR OF*MELOIDOGYNE TRITICORYZAE* ROOT-KNOT NEMATODE IN RICE CROP

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Abstract

The effects of puddling and water regimes on hydraulic conductivity (cm/day) of soil and on bulk density (mg/m^3) during rice culture, soil physical characteristics of the experimental field affecting the population densities of *Meloidogyne triticoryzae* root-knot nematodes have been studied. Puddling reduced the bulk density of soil and decreased the hydraulic conductivity in the upper layers but not in the deeper layers where soil aeration was reduced due to high moisture levels retained in the puddle soil. Population density of *M. triticoryzae* declined in puddle soil. The invasion of the roots by the second-generation infective juveniles was reduced. The population density of the root-knot nematodes was higher in the non-puddled soil especially in unsubmerged condition compared to puddle and submerged soil. However, where the seedlings were already infected before transplanting and submergence, the nematode could survive well and reproduce within the aerenchyma of the root.