

Abstract

A survey was conducted to determine the incidences of plant parasitic nematodes (PPN) and factors enhancing population build-up in cabbage (*Brassica oleracea* L. var *capitata*)-based cropping system in selected agro-ecological zones of Kenya. Samples were collected from sixty cabbage growing farms in Nyandarua and Embu Counties. Nematodes assay was conducted for both root and soil samples. Extraction of PPN from soil and root sample was done using modified extraction tray method and modified maceration extraction technique respectively. Extracted nematodes were enumerated, identified to genus level and their frequencies of occurrence and abundance determined. Nematodes belonging to various genera were found associated with cabbage in six agro-ecological zones. The study revealed that cabbage is a preferable host to lesion nematodes (*Pratylenchus*) with 87% and 58% frequency of occurrence in soil and roots, respectively. The mean population of this nematode in soil and root samples was significantly different from other nematode general. *Meloidogyne* spp. were present at low frequency of 42% and 23% in soil and roots and density 6.36/100 cm³ of soil and 1.1/10 g roots. *Helicotylenchus* spp. were recovered in significant numbers with 82% frequency of occurrence in rhizosphere and 27% in roots and a density of 26.28/100 cm³ in soils and less than 1 nematode per 10 g of roots. *Tylenchorhynchus* spp. occurred in 67% of the soil samples while *Paratrichodorus*, *Trichodorus* and *Paratylenchus* spp. were present in 78%, 57% and 58% frequency of occurrence in the cabbage rhizosphere but at a low population density. Other PPN detected in low frequencies of occurrence and density include; *Tylenchus*, *Scutellonema*, *Xiphinema* spp. among others. The study encourages more research work to establish the economic importance and the management of the reported nematode pests.