Distribution of Plant-parasitic Nematodes in Fruit Vegetable Production Areas in Korea and Identification of Root-knot Nematodes by Enzyme Phenotypes

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This study was conducted to analyse the distribution of root-knot nematodes (*Meloidogyne* spp.) in fruit vegetable production areas in Korea. Soil samples were collected from greenhouses in Sungju (Kyungpook), Yeoju (Kyungki), Haman (Kyungnam), and Chungwon (Choongpook) provinces in 1997~1999. Plant parasitic nematodes were separated for density counting and some of the root-knot nematodes were identified using enzyme phenotypes of malate dehydrogenase (MDH) and esterase (EST). Among the 185 farms in Sungju province, *Meloidogyne* spp. were detected from 99 farms (53.5%). Other plant parasitic nematodes detected were; *Helicotylenchus* spp. from 7 farms, *Aphelenchus* spp. from 43 farms, and Criconematids from 26 farms. Using the female enzyme phenotypes of MDH and EST, the four major root-knot nematodes in Korea, *M. incognita* (MI), *M. arenaria* (MA), *M. hapla* (MH), and *M. javanica,* could be identified. In the enzyme phenotype identification of 13 populations collected from Sunnam in Sungju province, 6 populations were identified as MA, 5 populations were identified as MI, and 2 populations were mixed with MI and MA. Among the 6 populations from Chojun in Sungju province, 4 populations were MA, one population was MI, and one population showed enzyme phenotypes of unknown species. Among the 14 populations of Yeoju province, 11 populations were MH and 3 populations were MA.