

SUMMARY

This study was conducted during 2004-2005 as field study in the field of Agricultural Faculty, Investigation and Application Farm, and as pot study in the climatized room under controlled conditions at Plant Protection Department. The main material of experiment consisted of *Meloidogyne incognita* (Kafoid & White, 1919) Chitwood,1949 infected soil and totally 10 processing tomato varieties, of which 9 were resistant and 1 was sensitive to root-knot nematodes. Plant roots gall were investigated according to Zeck (1971) 0-10 scale. In 2004 field experiment, NDM-447 (9.50) tomato variety gave highest gall index. On the other hand, there were not any galls observed in the roots of NDM-978, NDM-344, CXD-222 and CXD-179 varieties. In 2005 field experiment NDM-447 (8.10) tomato variety gave the highest gall index. On the other hand, there were not any galls observed in the roots of NDN-447 NBT, NDM-978, CXD-222, NUN-6109 and CXD-179 varieties. In the pot experiment, the highest gall index was determined on the sensitive variety Rio Grande (7.80). On the other hand, there were not any galls observed in the roots of NDM-978, NDM-344, CXD-222 and CXD-179 varieties. When three experiments were evaluated together, there were not any galls observed in the roots of NDM-978, CXD-222 and CXD-179 varieties, so these varieties are thought to be resistant to *Meloidogyne incognita*'s population in Aydın.