



# 1. INTERNATIONAL GAP AGRICULTURE & LIVESTOCK CONGRESS

25-27 April 2018 – Şanlıurfa/TURKEY



## Investigation the Resistance of Watermelon Genotypes to the Root Knot Nematode (*Meloidogyne incognita* (Kofoid & White, 1919) Chitwood, 1949))

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### Abstract

Root-knot nematodes have a very broad host range and cause significant crop losses in many plant species in the world. It causes yield losses in watermelon areas in the Mediterranean region of Turkey. Determination of resistant and tolerant genotypes is of high importance in controlling the root nematode. However, no studies have been found determining the resistance of watermelon genotypes in our country. This study was also conducted at the Alata Horticultural Research Institute in order to determine the resistance of genotypes. Watermelon varieties and lines used for breeding purposes were in infected soil with root knot nematode and the number of the second stage juveniles in the soil was determined during the harvesting period. The galling index is based on 0-5 scale values. As a result, it was determined that all of the 23 watermelon varieties and lines were sensitive to root-knot nematode. However, it was determined that the lowest rate of galling at 126 and 132 watermelon lines was 3 gall index while the rate of galling at 12 watermelon line at which galling index rate was highest. It has been determined that the least number of second stage juveniles was at 12 watermelon lines and the highest number was at 132 line. All watermelon lines were found to be sensitive to root knot nematode. It is important that the area to be planted should be clean because of the sensitivity of the watermelon varieties to the root knot nematodes and the investigation of resistance genes in the watermelon against nematodes are important.

**Key Words:** Root knot nematode, Watermelon, Resistance