

# Studies on Integrated Management Approaches of Root Knot Nematode (*Meloidogyne javanica*) on Tomato Under Green House Condition at Hemja Kaski

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## Abstract

A experimental-trial on tomato was carried out under greenhouse at Hemja, Kaski with an objective to find out integrated control measures of root knot nematode (*Meloidogyne javanica*) on tomato. This research was carried out in two experiments i.e. screening of resistant variety of tomato against *M. javanica* and comparison of different management measures against *M. javanica* in Srijana varieties of tomato. Research was carried out from February to August of 2020. Both the experiments were carried out in Randomized Complete Block Design with three replications. Total yield of tomato, number of nematode egg, number of juvenile, root gall index, root weight, nematode reduction percentage and wilting date were the studied traits and analysis was done with the help of statistical tool R (v.3.1.1) and SPSS (v.16.0). Analysis of variance showed that variety Kabita obtained the highest yield (39.91 t/ha) which is statistically at par with Srijana, Samjhana, Improved Srijana, Ahmita and Purbeli Churi. Among the various parameters studied, Kabita had lower value of gall index, egg count, juvenile count and higher value of yield which supports the selection of Kabita among the varieties of tomato studied. On management practices, integrated mixture of Neem oil + Mustard cake + *Trichoderma viridae* + Botanicals showed the superior result among the treatments. Correlation studies showed that total yield had positive and significant relation with nematode reduction percentage (0.765\*) while negative and significant relation with gall index (-0.897\*\*), root weight (-0.909\*\*), juvenile (-0.785\*) and egg count (-0.985\*\*). Regression studies showed that, total yield decreased with increased in egg count, gall index, root weight, juvenile count while the total yield increased with increased in nematode reduction percentage.

**Keywords:** *M. javanica*, Management, Resistant variety, Srijana variety