

A PRELIMINARY STUDY ON THE USE OF ELICITORS FOR THE MANAGEMENT OF NEMATODES IN TEA

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Tea [*Camellia sinensis* (L.) O. Kuntze] production is influenced by various biotic and abiotic stresses. Among the biotic stresses, tea nematodes are considered as one of the serious. *Pratylenchus loosi* is a nematode species of tea recorded in Sri Lanka. Synthetic chemicals are effective in controlling nematodes yet, they are not economical and its adverse effects on environment invites the discovery of an eco-friendly nematode management strategy for a sustainable tea plantation. Elicitors are compounds which induce plant defence mechanisms in host plants. Hence, a preliminary study on the induction of host plant resistance by using elicitors, against *P. loosi* was tested at Tea Research Institute of Sri Lanka. The experiment was carried out as a Completely Randomized Design with four treatments; Salicylic Acid, Methyl Salicylate, Benzoic Acid and Distilled Water as the control with six replicates per each treatment. Treatments were tested on two tea cultivars; TRI 2024 and TRI 2025 grown under glasshouse conditions. Exactly 50 number of nematodes were introduced to each plant and 75 ml of elicitor solutions (100 ppm) and distilled water was applied at 07 days' interval up to 03 months. Root and soil nematode counts and growth parameters such as leaf number, roots depth, fresh and dry weight of both shoots and roots were recorded after 03 months. Though it is not statistically significant ($p > 0.05$), methyl salicylate recorded the low root nematode population in TRI 2024, while salicylic acid recorded the significantly ($p < 0.05$) lowest root nematode population in TRI 2025. Methyl salicylate and salicylic acid resulted a comparable growth performance to control in TRI 2024 and TRI 2025 respectively. In conclusion, methyl salicylate and salicylic acid may be an effective elicitors for TRI 2024 and TRI 2025 separately, when applied in high concentrations. Hence, in-depth investigation on different concentrations of methyl salicylate and salicylic acid separately for TRI 2024 and TRI 2025 cultivars grown at different locations are suggested for a better conclusion.

Keyword: Elicitors, Methyl salicylate, Nematodes, Salicylic acid, Tea