

**Use of Bio-Pesticides for the Control of Root Knot Nematode,  
*Meloidogyne* spp., in *Nicotiana tabacum***

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**Abstract**

Chemical control methods have been practicing for years to control the Root Knot Nematodes (RKN), a devastating pest in tobacco. Due to the deleterious effects of chemical methods on human health and environment alternative methods need to be developed. With these objectives, a study was conducted to investigate biopesticidal approaches, including biological agents, ground neem seed and tobacco waste dust, for the control of RKN in tobacco. Suppression of RKN was examined under field condition by assessing the disease incidence with root knot count and parasitic nematode count. Seedling density, fresh weight, dry weight, shoot length and root length of tobacco also were measured to examine the growth performances. Results indicated that ground neem seed treatment has suppressed the RKN disease to the best level expressing least number of knots and parasitic nematodes. Tobacco waste treatment has been the second best followed by the treatment with *Pseudomonas fluorescens*. Although, *Trichoderma viride* has not controlled the infection much it has significantly improved the seedling density and vegetative growth. Further experiments should be conducted to detect the combined effect of these biopesticides.

**Keywords:** biopesticide, *Meloidogyne*, neem, *Nicotiana tabacum*, *Pseudomonas fluorescens*, root knot nematode, tobacco waste, *Trichoderma viride*