

Short Comm

ROOT-KNOT NEMATODE IN NAVSARI, GUJARAT INDIA: FIRST REPORT

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Coleus forskohlii (Wild) Briq. known as medicinal tuberous root crop and belong to the family *Lamiaceae* contain secondary metabolite i.e. Forskolin (0.1 to 0.8 %) as chief constituent having bacteriostatic properties. The growing demand for forskolin in international trade has made Indian farmers take up commercial cultivation of medicinal coleus. The crop has now become an important medicinal cash crop in India. It has significant value as it lowers the blood pressure and has the anti-inflammatory properties. It is commonly known as *Garmar* in South Gujarat. Among the major constraints for growing crop are diseases like *Macrophomina* root rot and root knot/wilt complex. Root Knot Nematode (RKN) is one of the most important factors as they contribute low productivity in several crops. Recently during 2015 survey, occurrence of *Meloidogyne* spp. was observed infecting the roots of *garmar* in Barsol village of Dharampur tehsil, Dist. Valsad (Gujarat especially South Gujarat.) (**Plate-I**). Heavy infection (cent per cent) of RKN was observed during survey. Nematode infection including RKN is not common in south Gujarat because of the soil type with high water holding capacity and agro-climatic conditions characterized by heavy rainfall. Every plants shows drying and wilting. Wilted plants were pulled up and roots were shows small (5cm) to large galls (10 cm). Also roots were swelled. Infected plant samples were collected and brought to the laboratory to confirm RKN infection. To confirm RKN infection galled roots of *Garmar* were first washed gently in tap water to free from soil particles and subjected to microscopic examination and photography. Microscopic examination and photography revealed the infection of *Meloidogyne* sp. The photographs were compared with standard identification keys published by CIMMYT (International Maize and Wheat Improvement Center). A sick plot (**Plate-II**) was developed by incorporating the infected root debris and planting healthy plants around the infected roots in an isolated microplot of 4x2 feet. Within one month the infected plants started showing characteristics yellowing on the foliage and galls on the roots of the healthy planting

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materials. The sick plot is first ever developed in South Gujarat. This is first attempted work especially on RKN of *Garmar* in South Gujarat. Hence, further systematic research work on the RKN of *Garmar* need to be initiated.



Uprooted infected plant roots shows small to large galls



RKN infected samples collected from the farmers field Close up view of galls produced by RKN

Plate I: Infection of Root Knot Nematode (RKN) on *Garmar* (*C. forskohlii*)

Plate II : Sick plot of *Garmar* RKN