

**SEARCH FOR RESISTANCE TO ROOT-KNOT
(*MELOIDOGYNE INCOGNITA* AND *M. JAVANICA*) AND RENIFORM
(*ROTYLENCHULUS RENIFORMIS*) NEMATODES IN COWPEA**

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Abstract

Cowpea (*Vigna unguiculata*) is severely affected by root-knot nematodes, *Meloidogyne* spp., (Swarup, 1962) and by *Rotylenchulus reniformis* Linford & Oliveria, 1940 (Seshadri, 1970). *R. reniformis* causes 13% loss in cowpea yield from farmer's point of view (Reddy & Singh, 1981). Growing resistant variety is the least expensive way of managing nematode diseases. Several workers have tried to locate resistance source through screening of germplasm in cowpea. Variety V-16 has been reported to be resistant to *R. reniformis* (Thakar & Patel, 1984). Cowpea varieties C-152 (Patelet *al.*, 1977) and 82-1B (Patel *et al.*, 1984) have been also identified as root-knot resistant cultivars. To further locate the sources of resistance to nematodes, 37 cowpea lines were tested separately against root-knot (mix population of *M. incognita* and *M. javanica*) and reniform (*R. reniformis*) nematodes in 10 cm diameter earthen pots filled with steamed soil. Completely randomized design with 5 replications was used. Variety Pusa falguni, a known susceptible cultivar, was used a check. Single seed of each line was seeded/pot. On attaining 2-3 cm height, 500 second stage juveniles of root-knot and 200 pre-adult larvae of reniform nematodes were inoculated in the rhizosphere of each plant in each set. Plants under root-knot inoculations were examined after 45 days of incubation and roots scaled for root-knot intensity using 0-5 (0=Free, 5-Maximum root galling) rating scale. In case of reniform nematode, 12 days after inoculation, each plant was carefully removed and washed free of soil. Roots were stained in 0.05% acid fuchsin lactophenol. Finally the reaction of susceptibility to nematode infection for each variety was given on the basis of maximum gall index for root-knot nematodes and maximum number of females penetrated in the roots for reniform nematode.