

Management of root knot nematode in cucumber grown under protected cultivation

Ten farmers cultivating cucumber in protected cultivation were selected for management of root knot nematode (*Meloidogyne incognita*) in cucumber. This particular nematode infestation was badly damaging the cucumber crop in FFP adopted villages. The farmers were given technical help right from land preparation till harvesting of cucumber. All the farmers were individually contacted and the integrated nematode management practices were implemented at all the sites with the help of a contact farmer. Results were very encouraging as the farmers achieved average additional return of ₹ 89,000 per ha by adopting nematode management suggested by scientists.

CUCUMBER is a very remunerative crop of FFP adopted villages located 30-35 km away from Jodhpur city in Rajasthan as it is in high demand round the year. Ten farmers in the adopted villages had installed protected cultivation structure, each having a half hectare area with the help of Horticulture Department subsidies. Due to lack of technical knowledge and adoption of monocropping to earn maximum profit, there was heavy infestation of nematode in the protected cultivation area. The cucumber is in high demand in Jodhpur because of its nutritive value of high fibre content, potassium and vitamin C. This hue and cry of farmers was observed in farmers-scientist interaction held in Village Balarwa in August 2021. The FFP team decided to resolve this problem.

Shri Om Prakash, resident of Village Balarwa, is a Agriculture Graduate from SKRAU, Bikaner. He along with field assistant of FFP, was given the responsibility to convince the farmers for the adoption of the techniques of integrated management of root knot nematode at farmer

fields in Balarwa, Manai, Binjwaria and Bada kotecha villages of Jodhpur District.

Technology demonstrated

Technology: Management of root knot nematode

No. of farmers and area: 10 and 4 ha

Situation: Irrigated

Date of sowing: Last week of September, 2021

Critical input: Improved package of practices as recommended by Scientists of AU, Jodhpur.

Farmers were suggested to adopt integrated management of root knot nematode, which included application of formalin fumigants @ 30 ml/m² through drip irrigation as pre-sowing treatment. The formalin treated area was sealed for 15 days with 4 plastic mulch as per the recommendation developed by Scientists of Agriculture Research Station, Mandor, Jodhpur. This practice reduced the quick reduction of initial nematode population. Inputs of the complete package for 0.4 ha area



Scientists taking soil samples for nematode population in crop in adopted villages



Healthy crop of cucumber after integrated nematode management

Table 1. Yield and economics of cucumber

Technology	Fruit yield (q/ha)	Per cent increase	Cost of cultivation (₹/ha)	Gross return (₹/ha)	Net return (₹/ha)	Additional return (₹/ha)	B:C ratio
Treated	170	21.4	90,000	5,44,000	4,54,000	89,000	6.04
Non-treated	140	-	83,000	4,48,000	3,65,000	-	5.40

were given to each farmer from FFP funds. To keep the nematode population below ETL in the formalin treated area, fungal bio-agent like *Paecilomyces lilacinus* @ 2 kg/ha was applied through FYM enrichment at the time of seed sowing. The bio-agent was purchased from ICAR-National Research Centre on Seed Spices, Tabiji, Ajmer. All the farmers were motivated to adopt crop rotation, balance fertilization, proper irrigation schedule and recommended inter-culture practices in cucumber grown in protected cultivation.

This integrated nematode management module was found highly successful and improved the average cucumber yield by 21.4% over the untreated plot. Due to improvement in cucumber yield, farmers got additional net return of ₹ 89,000 per ha with B:C ratio 6.04 against B:C ratio of 5.40 observed in untreated plots.

Shri Om Prakash, the contact farmer who is a

agriculture graduate played a very important role as he managed and he motivated all the 10 fellow farmers to adopt integrated management practices of nematode. He was rewarded with a letter of appreciation by PI of the FFP. The protected farming practices are increasing in the adopted villages and most of the farmers are now using the recommended technologies of Agriculture University, Jodhpur for harvesting maximum benefit and sustainability of the farm resources.

For further interaction, please write to:

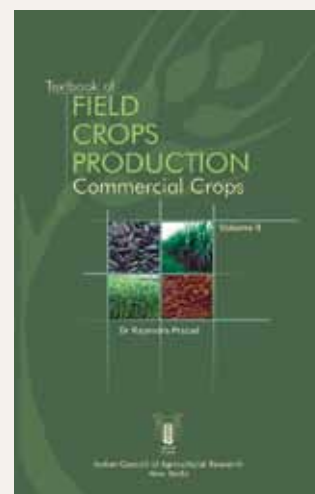
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