

Enhancing income of marginal and small FFP farmers through improved agro-techniques

through Improved Agro-techniques of coriander and garlic

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Small and marginal farmers require continuous income for their livelihood security. Labour intensive bulb crop and high value seed spices are grown by farmers in the Farmer FIRST Programme (FFP) villages of Jodhpur District in Rajasthan. Poor and illiterate farmers are still unaware about the improved agro-techniques available to raise production and quality of their crop. To improve income and appraise the new agro-techniques of seed spices and bulb crops, 75 demonstrations were carried out during 2018-19 and 2019-20 on coriander and garlic. The results revealed that these demonstrations were proven effective in spreading the beneficial effect of potash, IPM and improved varieties of bulb and seed spice crop.

Key words: Aphids, Coriander GDLC-1, Garlic G-50, Integrated pest management, Thrips

CORIANDEr and garlic are grown vigorously in Farmer FIRST Programme (FFP) villages by small and marginal farmers. Cool dry climate, moderate salinity and porous loamy calcareous soil of FFP villages i.e. Balarwa, Binjwaria and Manai located in Jodhpur district of Rajasthan, are highly suitable for the two crops. The survey conducted in these FFP villages indicates that farmers are growing these crops through locally available seed without potash application. Insect pest management is generally ignored by the farmers resulting in poor quality and yield of product. Coriander is sown in November and two leaf cuttings are taken at an interval of 15-20 days starting from 40 days after sowing. Then the crop is left in the field till harvesting in March. This practice is adopted by the farmers to earn continuous income from leaf cuttings as there is a high market demand for green leaf during peak winters.

Seeds of improved garlic variety G-50 (Yamuna Safed 2) was introduced at 25 farmers' fields, in 2018-19 and again in 2019-20 at different sites in 0.1 ha area. Farmers were advised to use 50 kg N, 60 kg P₂O₅ and 100 kg K₂O/ha as basal application along with the application of goat pallet manure. 50 kg N was top dressed in standing crop of garlic 30 days after sowing with irrigation. Thrips are very common in the area

and thrips attack was managed by application of Fipronil 80 % WG @ 75 g/ha. Similarly, coriander variety GDLC-1 released from SDAU, SK Nagar, Gujarat was introduced at 50 farmers field in 0.4 ha area during 2019-20. GDLC-1 is a dual purpose leafy coriander variety suitable for green leaves as well as seed. Farmers were advised to use 40 kg N, 60 kg P₂O₅ and 40 kg K₂O/ha as basal application. 20 kg N/ha was top

Table 1. Yield and economics of garlic variety G-50 grown at farmers' field of FFP (average of 50 sites, 2018-19 and 2019-20)

Garlic bulb yield (q/ha)		% increase	Net return (₹/ha)		B:C Ratio	
Local	Demo.		Local	Demo.	Local	Demo.
95.5	117.5	22.7	1,12,900	1,51,500	2.29	2.47

Table 2. Yield and economics of coriander variety GDLC-1 grown at farmers' field of FFP during 2019-20

Yield	Yield (q/ha)		% increase	Net return (₹/ha)		B:C Ratio	
	Local	Demo.		Local	Demo.	Local	Demo.
Green leaf	50	65	30.0	48,000	68,000	2.33	2.70
Seed	4	5	25.0				

dressed 30 days after sowing with irrigation. Azadiractin @ 3 ml/l of water was applied to manage aphids in the coriander crop.

Effective implementation of the programme and technical guidance of scientists provided satisfactory results in the fields. Field days were organised to popularise the agro-techniques amongst the farmers. Results revealed that garlic variety G-50 grown with the improved package provided 22 q/ha higher bulb yield over locally grown garlic. The colour

of bulb and clove size was also improved due to application of improved package. Due to higher yield, the net return of garlic was improved by ¹ 38,600/ha over locally grown garlic. Similarly, green leaf and seed yield of coriander in demonstration plots were improved by 30 and 25% respectively, over farmers practice grown coriander. Farmers reported that coriander variety GDLC-1 has high leaf fragrance and leaves are shiny dark green in colour and therefore has

high market preference. Balance fertilization and IPM in coriander and use of variety GDLC-1 were the main reasons of high yield over locally grown crop. These demonstrations updated the farmer knowledge and now they are applying potash and recommended IPM in bulb crops frequently.

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