

Constraints in Adoption of Improved Fennel Cultivation Technology

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ABSTRACT

The present study was undertaken to ascertain the constraints faced by the farmers in adoption of improved fennel cultivation technology in Sirohi district of Rajasthan. Two tehsils namely Abu Road & Reodar of Sirohi district were selected on the basis of maximum area under fennel cultivation. Total 240 fennel growers were interviewed for this study. The study indicates that unavailability of improved varieties used for transplanted fennel, lack of drying facilities, high cost of input, lack of finance agencies, high fluctuation in market prices, lack of export marketing facilities in the area, unavailability of technical guidance, lack of need based training, high temperature during nursery period, more labour requirement were considered the most important constraints faced by the farmers in adoption of improved fennel cultivation technology. Study also indicates that overall the financial constraints was the major constraint followed by technical constraint, marketing constraints, input constraint and general constraint.

Key words: Constraints; Adoption; Fennel Cultivation Technology

Fennel is an important commercial cash crop of arid and semi arid region. In Rajasthan more than 35 per cent area of fennel was under Sirohi district in the year 2000-2001. It is well known that fennel produced in Sirohi area has a special market in the USA where it is sold under the trade name 'Sirohi fennel' or 'Abu Saunf'. Fennel in mainly grow as rabi crop when seeded directly in the field but in Sirohi, it can be grown as kharif crop where nursery is raised in the month of May-June and transplanted in July-August. The production potential of such raised transplanted fennel is always higher than the direct seeded crop. Yield potential of transplanted fennel was reported to be as high as 2.5 tonnes ha⁻¹ while realized average productivity of the crop in 1.2 to 15. tones ha⁻¹. Thus there is a wide gap between existing genetic yield potential and actual productivity. Therefore keeping this view in mind a study has been undertaken with an objective to study the constraints in adoption of improved fennel cultivation by the farmers of Sirohi district of Rajasthan.

METHODOLOGY

The present study was conducted in two tehsils namely Abu Road and Reodar of Sirohi district of Rajasthan. These two tehsils were purposively selected on the basis of maximum area under fennel cultivation. Similarly four villages from each tehsil were selected on the basis of maximum area under this crop. To select respondents, a comprehensive list of all the fennel growers of selected villages was prepared with the help of Gram patwaris and agricultural supervisors. The listed farmers of each village were categorized into three categories

namely marginal (<1 ha land), small (1-2 ha land) and large (>2 ha land). Then a proportionate sample from each category was drawn randomly to have a total sample size of 240 fennel growers. Data were collected by personal interview technique through suitable structured schedule. Thereafter data were tabulated, analyzed and inferences were drawn in light of the objective.

RESULTS AND DISCUSSION

An attempt has been made to identify the input constraints, financial constraints, marketing constraints, technical constraints and general constraints faced by the fennel growers in adoption of improved fennel cultivation technology. The constraints perceived by the farmers have been presented in Table 1.

Fennel growers were asked to state their problems related to the input constraints. It was observed that unavailability of improved varieties used for transplanted fennel was one of the most important problem faced by the fennel growers in adoption of improved cultivation practices and ranked it first followed by lack of drying facilities and more requirement of fertilizers and manures ranked 2nd and 3rd respectively.

Data incorporated in table 2 reveals that high cost of input was perceived as the most important constraints with top priority and accorded first rank by the majority of the respondents. Lack of finance agencies was another important problem faced by the fennel growers ranked this on second position. High charges of electricity emerged as third important problem.

Table 1. Constraints related to inputs as perceived by the fennel growers in adoption of fennel cultivation technology (N=240)

S. No.	Constraints	Marginal farmers		Small farmers		Large farmers		Pooled	
		MPS	Rank	MPS	Rank	MPS	Rank	MPS	Rank
1.	Unavailability of improved varieties used for transplanted fennel	7089	I	68.59	I	64.58	I	68.02	I
2.	More requirement of fertilizers and manure	62.08	III	60.01	III	54.06	III	58.71	III
3.	Unavailability of recommended chemicals	59.42	IV	54.56	IV	48.71	V	54.23	IV
4.	Lack of irrigation water	42.66	V	35.98	VI	30.86	VI	36.44	VI
5.	Unavailability of labour	35.94	VI	36.18	V	49.44	IV	40.52	V
6.	Lack of drying facility	66.34	II	64.29	II	60.37	II	63.67	II
	Total	56.22		53.26		51.33		53.60	

Table 2. Financial constraints perceived by the farmer in adoption of fennel cultivation technology

S. No.	Constraints	Marginal farmers		Small farmers		Large farmers		Pooled	
		MPS	Rank	MPS	Rank	MPS	Rank	MPS	Rank
1.	High cost of inputs	84.62	I	82.09	I	77.64	I	81.45	I
2.	High charges of electricity	66.32	III	62.80	III	54.84	III	61.32	III
3.	Lack of finance agencies	70.56	II	66.67	II	64.38	II	62.70	II
4.	Unavailability of credit on marginal interest	59.02	IV	55.56	IV	36.14	IV	50.24	IV
	Total	70.13		66.78		58.25		65.05	

Table 3. Marketing constraints perceived by the respondents in adoption of fennel cultivation technology

S. No.	Constraints	Marginal farmers		Small farmers		Large farmers		Pooled	
		MPS	Rank	MPS	Rank	MPS	Rank	MPS	Rank
1.	Lack of proper market facilities	55.36	III	51.44	IV	49.17	IV	51.99	III
2.	Malpractices of merchants in the mandies	44.16	V	41.87	V	36.18	V	40.73	V
3.	High fluctuation in market prices	70.20	I	69.05	I	66.56	I	68.60	I
4.	Minimum support price is not declared before sowing season	50.15	IV	52.38	III	60.01	III	50.85	IV
5.	Lack of export marketing in the area	66.89	II	66.67	II	66.49	II	66.68	II
	Total	57.35		56.28		53.68		55.77	

Table 4. Technical constraints perceived by the respondents in adoption of fennel cultivation technology

S. No.	Constraints	Marginal farmers		Small farmers		Large farmers		Pooled	
		MPS	Rank	MPS	Rank	MPS	Rank	MPS	Rank
1.	Unavailability of technical guidance	80.20	I	78.13	I	74.27	I	77.53	I
2.	Lack of knowledge about nursery raising	72.21	III	66.67	III	59.37	IV	66.08	III
3.	Lack of skill for seed and soil treatment	56.06	V	50.23	V	47.09	V	51.12	V
4.	Lack of need based training	76.47	II	75.36	II	68.32	II	73.38	II
5.	Lack of knowledge and skill about weed management	49.74	VI	42.31	VI	40.12	VI	44.05	VI
6.	Lack of knowledge about export quality produce	58.03	IV	52.15	IV	62.86	III	57.68	IV
	Total	64.78		60.80		58.67		61.64	

Table 5. General constraints perceived by the respondents in adoption of fennel cultivation technology (N=240)

S. No.	Constraints	Marginal farmers		Small farmers		Large farmers		Pooled	
		MPS	Rank	MPS	Rank	MPS	Rank	MPS	Rank
1.	High temperature during nursery period	58.89	I	43.67	II	38.56	II	47.04	I
2.	Timely unavailability of electricity	17.62	V	22.82	IV	32.76	III	24.40	III
3.	Unavailability of suitable equipment for weeding	26.63	III	24.73	III	20.32	IV	23.89	IV
4.	Cloudy weather at the time of flowering stage	23.67	IV	22.65	V	18.02	V	21.44	V
5.	More labour requirement	40.67	II	44.78	I	46.54	I	44.00	II
	Total	33.49		31.73		31.24		32.15	

Table-3 indicates that high fluctuation in market prices was perceived as major constraints and assigned first rank by the majority of fennel growers, Whereas lack of export marketing in the area, lack of proper market facilities, minimum support prize is not declared before

sowing season were also the major constraints faced by the farmers and ranked them at 2nd, 3rd, & 4th position respectively. The marketing constraints perceived by the fennel growers with less intensity was malpractices of merchants in the mandies.

Table 6 Overall constraints perceived by the respondents in adoption of fennel cultivation technology (N=240)

S. No.	Constraints	Marginal farmers		Small farmers		Large farmers		Pooled	
		MPS	Rank	MPS	Rank	MPS	Rank	MPS	Rank
1.	Input constraints	56.22	IV	53.26	IV	51.33	IV	53.60	IV
2.	Financial constraints	70.13	I	66.78	I	58.25	II	65.05	I
3.	Marketing constraints	57.35	III	56.28	III	53.68	III	55.77	III
4.	Technical constraints	64.78	II	60.80	II	58.67	I	61.41	II
5.	General constraints	33.49	V	31.73	V	31.24	V	32.15	V
	Total	56.39		53.77			50.63		53.59

Table-4 indicated the views of fennel growers about extend of awareness of technical know how of improved package of practices of fennel cultivation. The major difficulty faced by the fennel growers in this category was unavailability of technical guidance with MPS 77.53. Lack of need based training was another second important problem faced by the fennel growers. Where as lack of knowledge about nursery raising and lack of knowledge about export quality produce were also important problem faced by the fennel growers and ranked them on 3rd and 4th position. Lack of skill for seed and soil treatment was ranked on 5th position which states that farmers have little information about seed and soil treatment. Lack of knowledge and skill about weed management was ranked on 6th position which states that farmers have little information about weeds and their control. Analysis of table shows that marginal, small and large farmers had perceived the listed constraints almost at similar intensity which is clear from ranking pattern. This may be due to poor linkage of field functionaries with the farmers in the study area.

Table- 5 shows that high temperature during nursery periods and more labour requirement were considered most important constraints and ranked at 1st and 2nd position by the fennel growers. Timely unavailability of electricity and unavailability of suitable equipment for weeding were another important constraint faced by the fennel growers and ranked them at 3rd and 4th position.

The overall view clearly indicated that “financial constraints” were the most important constraints ranked first which affects the extent of adoption of improved

fennel cultivation practices in the area. Technical constraints i.e. unavailability of technical guidance & lack of need based training were the second important constraints faced by the fennel growers. Marketing constraints i.e. due to high fluctuation in market prices, lack of export marketing in the area, lack of proper market facilities was ranked third by the farmers. Next important constraints was input constraints i.e. unavailability of improved varieties used for transplanted fennel and lack of drying facilities and ranked at 4th place, where as general constraints i.e. high temperature during nursery period and more labour requirement was least important and placed at 5th position.

CONCLUSION

The findings of the study concluded that major constraints faced by the farmers in adoption of improved fennel technology were unavailability of improved varieties used for transplanted fennel, drying facilities, high cost of inputs, lack of finance agencies, high fluctuation in market prices, lack of export marketing facilities in the area, unavailability of technical guidance, lack of need based training, high temperature during nursery period and more labour requirement. In overall, financial constraints were the main constraints followed by technical constraints, marketing constraints, input constraints & general constraints by the fennel growers. Therefore, it is suggested that need based training programme should be conducted during crop season to improve the knowledge as well as skill of the fennel growers.

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