

ADOPTION OF IMPROVED PRACTICES OF MOTHBEAN CULTIVATION BY THE FARMERS IN BIKANER DISTRICT OF RAJASTHAN

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INTRODUCTION

Mothbean is an important pulse crop of Rajasthan and occupying a premier position with regard to both area and production in the state. The present level of productivity of mothbean is very low which could not meet the increasing demand. Over past three decades, the production and productivity of pulses had remained almost static in spite of considerable emphasis given in 7th and 8th five year plans on increasing productivity of various pulse crops.

The availability of pulses per capita per day was 33 grams in 1998 as against the recommendation of the Indian Council of Medical Research for minimum pulse requirement of 70 grams. This calls for an urgent need to increase the production and productivity of pulses in general and mothbean in particular in the selected area; through adoption of improved cultivation practices. This primarily requires an adequate knowledge of technological innovations in the crop; on the part of mothbean growers so as they can adopt the new technologies to improve the mothbean cultivation.

A large numbers of yield maximization trials laid down at research stations as well as at the farmers' fields have shown the potentiality of new farm technology as highly effective, adaptable and economically viable. Despite the availability of improved seeds, improved package of practices and scientific

technology; there is a large gap between the yield of mothbean recorded at the research farms and that of at the farmer's fields. The low production of mothbean may be due to slow, partial and non-adoption of unproved cultivation practices of mothbean by the farmers. Keeping these points in view the present study was undertaken.

METHODOLOGY

The present study was taken in Bikaner district of Rajasthan. From Bikaner district two panchayat samities namely Bikaner and Nokha were selected purposely. From each panchayat samiti three Gram Panchayat were selected randomly, thus a total of six Gram panchayat were selected. One village was selected from each selected Gram panchayat, making a total of six villages selected for the study. From each identified village a sample of 20 farmers was drawn by randomly. Thus, a total sample of 120 farmers was selected for the study purpose.

To measure the adoption level of farmers a schedule was specially prepared for the investigation, in light of the suggestions of experts. The extent of adoption was also calculated for each farmer.

RESULTS AND DISCUSSION

Distribution of farmers

On the whole, about 70.00 per cent of the farmers were found to be medium adopters (Table 1). While 16.67 per cent respondents were low adopters and only 13.33 per cent

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of the respondents were high adopters.

Extent of adoption of improved cultivation practices of mothbean by farmers

The data regarding extent of adoption of the 12 improved practices of mothbean cultivation are presented in table 2.

It was found that out of 12 selected practices, the extent of adoption of recommended sowing time of mothbean was adopted by 80.00 per cent of the farmers and ranked first. The second rank was accorded to the adoption of recommended spacing as it was adopted by 75.56 per cent farmers. The recommended seed rate was adopted by 73.34 per cent of the farmers and ranked third.

While the four practices like seed treatment, fertilizer application, weed management and irrigation application were the quite less adopted i.e. up to the extent of 18.00 per cent, 17.50 per cent, 13.88 per cent and 10.84 per cent, and were ranked VIII, IX, X and XI position, respectively. The adoption of the soil treatment practices was the lowest (8.34 per cent) and it was ranked last.

Extent of adoption of different aspects of improved cultivation practices of moth bean

1. High yielding varieties

It is evident (Table 3) that 82.50 per cent farmers were sowing Jadia variety, 25.00 per cent farmers had adopted the Jwala variety and 5.84 per cent farmers had adopted RMO-40 variety of mothbean. Whereas not a single farmer was using

IPCMO-880 variety of mothbean.

2. Soil treatment

About 14.16 per cent farmers were applying chlorpyrifos insecticide for termite control. There were only 2.50 per cent farmers were applying Forate 10 G (i.e. 25 kg/ha) for the control of white grub in moth crop.

3. Seed treatment

In case of seed treatment, 29.16 per cent farmers were using Rhizobium culture for seed treatment, in mothbean crop. About 22.00 per cent farmers were using fungicide (thiram or captan) and 19.17 per cent farmers were applying recommended quantity (i.e. 2.5 g/kg seed). About 10.00 per cent farmers were using insecticide (chlorpyrifos) for treating the seeds and only 8.34 per cent farmers were using recommended quantity of insecticide (i.e. 25 ml/kg seed) for seed treatment in mothbean cultivation.

4. Time of sowing

The Table 3 shows that majority of the farmers (80.00 per cent) were sowing mothbean crop at the recommended time of sowing (i.e. first week of July).

5. Seed rate

From the Table 3 it is clear that 73.34 per cent farmers were using recommended seed rate of sowing of mothbean crop (i.e. 12 to 15 kg/ha).

6. Spacing

Regarding the adoption of recommended spacing about 90.84 per cent farmers were sowing mothbean at a recommended depth of 4 to 6 cm. About 85.84 per cent farmers

Table 1 : Distribution of farmers under different adoption categories towards moth bean cultivation.

N - 120

Sr. No.	Adoption categories	Frequency	Per cent
1.	Low adopters (score upto 8.43)	20	16.67
2.	Medium adopters (Score from 8.44 to 12.37)	84	70.00
3.	High adopters (score above 12.37)	16	13.33

**Table 2 : Extent of adoption of improved cultivation practices of moth bean by farmers
N=120**

Sr. No.	Improved practices	MPS*	Rank
1.	Use of HYV's	28.33	VI
2.	Soil treatment	8.34	XII
3.	Seed treatment	18.00	VIII
4.	Recommended time of sowing	80.00	I
5.	Recommended seed rate	73.34	III
6.	Recommended spacing	75.56	II
7.	Inter cropping	65.00	IV
8.	Fertilizer application	17.50	IX
9.	Irrigation application	10.84	XI
10.	Weed management	13.88	X
11.	Plant Protection measures	24.84	VII
12.	Harvesting & storage	31.67	V

* Mean per cent score

were maintaining the recommend row to row distance (i.e. 30 cm) and only 50.00 per cent farmers were maintaining the recommended plant to plant distance (i.e. 7 to 10 cm) in mothbean cultivation.

7. Inter cropping

The data in Table 3 depicts that 82.50 per cent farmers were growing bajra crop as intercrop with mothbean and only 47.50 per cent farmers were growing the mothbean with guar crop as intercropping.

8. Fertilizer application

Table 3 shows that 34.16 per cent farmers were applying recommended dose of nitrogen (i.e. 15 to 20 kg/ha) and 12.50 per cent farmers were applying nitrogenous fertilizers through drilling method. In case of phosphatic fertilizer, about 15.84 per cent farmers were using the recommended dose (i.e. 40 kg/ha) and 7.50 per cent farmers were applying phosphatic fertilizer through drilling method.

9. Irrigation application

The Table 3 reveals that only 10.84 per cent farmers were applying two irrigation i.e. first at flowering stage and second at pod development stage, which were the critical stages of irrigation.

10. Weed management

About 2.50 per cent farmers were using weedicide baseline while not a single farmer was using Tik E25 weedicide. About 39.16 per cent farmers were performing hand weeding or intercultural operations for weed control in mothbean crop.

11. Plant protection measures

It is evident (Table 3) that 66.66 per cent farmers were using sulphur for controlling powdery mildew in mothbean and 48.34 per cent farmers were using endosulfan for control of hairy caterpillar. About 7.50 per cent farmers were using streptomycin for control of bacterial blight and only 1.66 per cent farmers were applying monocrotophos for aphid control. Not a single farmer was using dimethoate for control of yellow mosaic disease in mothbean.

12. Harvesting and storage

Table 3 represent that 45.84 per cent farmers were harvesting the mothbean crop timely, when moisture content in seed was about 15 to 20 per cent. About 17.50 per cent farmers were storing the seed according to the recommended methods for storing of mothbean.

CONCLUSION

On an average, 70.00 per cent farmers were in the medium adoption group and 16.67 per cent farmers in the low adoption group. While only 13.33 per cent farmers were in the group of high adopters.

The results have shown that the adoption of improved cultivation practices of mothbean by the farmers was not up to the mark. The adoption regarding practices of soil treatment, irrigation management, weed management, fertilizer application and seed treatment was found to be poor in mothbean cultivation.

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