

Research Article

Constraints and suggestions in adopting groundnut -pigeonpea relay cropping system in Saurashtra region of Gujarat

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SUMMARY : The study was undertaken in the Saurashtra region of Gujarat to know the constraints faced by the farmers in adoption of Groundnut pigeonpea relay cropping system on a sample of 104 farmers. For the study farmers were selected from Saurashtra region of Gujarat state. Statistical data analyses (frequencies, percentages and rank) were made to draw results. It was observed that the most important constraints were not getting remunerative price of crops (Rank I), high price of improved seeds (Rank II), lack of irrigation facility (Rank III), high price of chemical fertilizers (Rank IV), non-availability of finance in time (Rank V), high price of weedicides and high price of fungicides/pesticides (Rank VI), labour requirement is more in groundnut-pigeonpea relay cropping system (Rank VII), non-availability of extension worker in villages as per time schedule (Rank VIII), due to the adoption of recommended sowing distance, there is difficulty in inter-culturing (Rank IX) and unawareness about the recommendations of pesticides and fungicides (Rank X). To overcome these constraints, important suggestions offered by the majority (70.00%) respondents were: remunerative price of the product should be made available (Rank I), farmers should be protected by crop insurance, if crops fails (Rank II), inputs should be made available at subsidised rate (Rank III) and multiple resistance varieties should be developed (Rank IV).

KEY WORDS :

Relay cropping system,
Adopting, Constraints

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BACKGROUND AND OBJECTIVES

Groundnut is one of the most important crops among the different oilseed crops grown in India. Its oil is used for edible as well as non-edible purposes. It is widely used in human diet as a medium for cooking. Gujarat particularly Saurashtra region is ideally suited for the cultivation of groundnut-pigeonpea relay cropping. Its cultivation is largely concentrated in Junagadh, Rajkot, Jamnagar, Porbandar, Amreli, Bhavnagar, Surendranagar districts of Gujarat state. The difficulties faced by the farmers while adopting groundnut-pigeonpea relay cropping system in their farm condition are considered as the constraints.

Constraints in the adoption of agricultural

technology should be studied critically for speedy transfer of technology. Because of it plays an important role in adoption of new agricultural technology just as weeds in the flow of water in an irrigation channel. So for increasing extent of adoption of improved agricultural technology, it is necessary to minimize the constraints in adoption process, as far as possible.

The ways and means or opinions as suggested by the farmers to overcome constraints in adoption of groundnut-pigeonpea relay cropping system were considered as the suggestion in this study.

The farmers face some constraints in adoption of improved groundnut production technology. At the same time, they have some suggestions to overcome such constraints. The suggestions offered

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by the farmers are very important in the sense that, these suggestions may be useful in developing strategy for minimizing the constraints.

The constraints faced by the farmers hinder the production and hence, desired result could not be achieved. Constraints in farming never end but they can be minimized if known to policy makers and planners.

The average yield of groundnut-pigeonpea relay cropping adopted by the farmers is low as compared to yield gained from Pulse Research Station, Junagadh. Therefore, an attempt was made to identify the constraints faced by the farmers in adoption of groundnut-pigeonpea relay cropping system and to seek out suggestions of farmers to overcome the difficulties faced by them.

RESOURCES AND METHODS

The study was conducted in Saurashtra region of Gujarat state. Saurashtra region is major groundnut growing area in the state. The groundnut is base crop of groundnut-pigeonpea relay cropping system and it is adopted by the farmers on wide scale. Out of seven district of Saurashtra region, four districts were selected in which front line demonstration on groundnut-pigeonpea relay cropping system were conducted. The selected four districts were: Junagadh, Rajkot, Porbandar and Jamnagar. From the selected districts, 9 Talukas were randomly selected in which front line demonstration were organized by KVK. Out of selected 9 talukas, the 21 villages were front line demonstration on groundnut-pigeonpea relay cropping system where conducted. 104 respondents were selected from 21 villages. An interview schedule with question on all dependent variables and independent variables was prepared for collection of data. All respondents were interviewed personally at either their farms or at their homes in a completely free atmosphere without any influence. The constraints were kept open before the respondents to offer their difficulties, practice wise constraints were collected from the respondents and percentage was worked out for each constraint. To track the relative importance of constraints, overall ranks were assigned on the basis of percentage. The constraints were kept open before the respondents to offer their suggestion for practice wise constraints. The suggestions were collected from the respondents and percentage was worked out for each suggestion. To track the relative importance the suggestion over all ranks were assigned on the basis of percentage. The data were statistically analyzed with the help of frequencies, percentage and rank.

OBSERVATIONS AND ANALYSIS

The results of the present study as well as relevant discussions have been presented under following sub heads:

Constraints faced by the respondents in adoption of groundnut pigeonpea relay cropping system :

The benefit of a technology is actually derived only when the farmers in their local situations efficiently utilize it. The farmers are very much eager to get maximum benefits from the agricultural technology. However, many of them could not do so, because of a large number of constraints coming in the way, creating large adoption gap, culminating in low yield of groundnut based relay crop in the area.

These efforts are made to identify and overcome the constraints is important for enhancing higher yield and developing agricultural strategies. The groundnut-pigeonpea relay crop growers were requested to express the constraints faced by them in adopting different practices of groundnut-pigeonpea relay cropping system. It was kept open to find out constraints faced by them. The general constraints regarding groundnut-pigeonpea relay cropping system as opined by the respondents were collected and the percentage were worked out for each constraints. The constraints were grouped into two categories (i) Most important (above 70%) and (ii) important (up to 70%) the results are presented in Table 1.

On the basis of data presented in the Table 1 the most important constraints faced by 70 per cent and above respondents are presented as per rank order. Thus the most important constraints were: farmers are not getting remunerative price of crop (97.11%), high price of improved seeds (94.23%), lack of irrigation facility (91.34%), high price of chemical fertilizers (90.38%), non-availability of finance in time (89.42%), high price of weedicides and high price of pesticides/fungicides (86.54%), labour requirement is more in groundnut-pigeonpea relay cropping system (82.69%), non-availability of extension workers in the village as per time schedule (76.92%), due to the adoption of recommended sowing distance, there is difficulty in interculturing (75.00%) and unawareness about the recommendations of pesticides/fungicides (72.12%).

Important constraints faced below 70 per cent by respondents were: There is difficulty in cutting of crop due to sowing the groundnut-pigeonpea relay crop (61.54%), non-availability of improved seeds in required quantity in time (60.58%), there is no difference in yield to adopt recommended seed rate (57.69%), non availability of chemical fertilizers in required quantity in time (52.58%), fear of heavy losses of chemical fertilizers, if the crop fails (46.15%), scarcity of FYM/compost fertilizers and no benefit of seed treatment. (38.46%), high price for chemical for seed treatment (26.92%) and extension workers are not aware about the new information (25.00%).

It can be concluded that farmers are not getting remunerative price of crops (Rank I), high price of improved

seeds (Rank II), lack of irrigation facility (Rank III), high price of chemical fertilizers (Rank IV), non-availability of finance in time (Rank V), high price of weedicides and high price of fungicides/pesticides (Rank VI), labour requirement is more in groundnut-pigeonpea relay cropping system (Rank VII), non-availability of extension worker in villages as per time schedule (Rank VIII), due to the adoption of recommended sowing distance, there is difficulty in inter-culturing (Rank IX) and unawareness about the recommendations of pesticides and fungicides (Rank X).

These findings are in line with the findings of

Baidiyavadra (1993), Chavda (1998) and Verma (2000).

Suggestions made by respondents to overcome the constraints faces by them :

For getting the suggestions to overcome the constraints faced by the groundnut-pigeonpea relay crop growers, the suggestions were invited openly from the groundnut-pigeonpea relay crop growers. The frequency was calculated for each suggestion and converted into percentage the ranks were given on the basis of percentage. The suggestions were grouped into two categories: (i) Most important (above 70%)

Table 1: Constraints faced by the respondents in adoption on groundnut-pigeonpea relay cropping system

Sr. No.	Constraints	Number of respondents	Per cent	Rank
1	2	3	4	5
1.	High price of improved seeds	98	94.23	II
2.	Non availability of improved seeds in required quantity in time	63	60.58	XII
3.	There is no difference in yield to adopt recommended seed rate	60	57.69	XIII
4.	Due to adoption recommended sowing distance, there is a difficulty in interculturing	78	75.00	IX
5.	High price of chemicals for seed treatment	28	26.92	XVII
6.	No benefit of seed treatment	40	38.46	XVI
7.	Scarcity of FYM/compost fertilizers	40	38.46	XVI
8.	Non-availability chemical fertilizers in required quantity in time	55	52.58	XIV
9.	High price of chemical fertilizers	94	90.38	IV
10.	Fear of heavy losses of chemical fertilizers, if the crop fails	48	46.15	XV
11.	High price of weedicides	90	86.54	VI
12.	High price of fungicides/pesticides	90	86.54	VI
13.	Unawareness about the recommendation of pesticides/fungicides	75	72.12	X
14.	There is difficulties in cutting of crop due to sowing the groundnut-pigeonpea relay crop	64	61.54	XI
15.	Labour requirement is more in groundnut pigeonpea relay cropping system	86	82.69	VII
16.	Non-availability of extension worker in the villages as per time schedule	80	76.92	VIII
17.	Extension workers are not aware about the new information	26	25.00	XVIII
18.	Non-availability of finance in time	93	89.42	V
19.	Lack of irrigation facility	95	91.34	III
20.	Farmers are not getting remunerative price of crops	101	97.11	I

Table 2 : Suggestions made by respondents to overcome the constraints in adoption of groundnut-pigeonpea relay croppings system

Sr. No.	Suggestions	Number of respondents	Per cent	Rank
1	2	3	4	5
1.	Input should be made available at subsidised rate	75	72.12	III
2.	Remunerative price of the product should be made available	80	76.92	I
3.	Multiple resistant varieties should be developed	73	70.19	IV
4.	Training should be given to the farmers in relation to new farm technology	48	46.15	VIII
5.	Demonstrations of new farm technology should be laid on farmers field	59	56.73	VI
6.	Village level workers should be frequently contact to farmers to make them aware about new farm technology	63	60.58	V
7.	Farmers should be protected by crop insurance, if crops fails	76	73.08	II
8.	There must be regular electric supply at the time of critical irrigation	54	51.92	VII

and (ii) important (up to 70%). The suggestion along with their percentages and ranks are described in Table 2.

The most important suggestion offered by 70 per cent and above respondents to overcome constraints in adoption of groundnut-pigeonpea relay cropping system were: remunerative price of the product should be made available (76.92%), farmers should be protected by crop insurance, if crops fails (73.08%), inputs should be made available at subsidised rate (72.12%), multiple resistant varieties should be developed (70.19%).

The important suggestions as expressed below 70 per cent respondents were: village level workers should frequently contact the farmers to make them aware about new farm technology (60.58%), demonstrations of new farm technology should be laid out on farmer's fields (56.73%), there must be regular electric supply at the time of critical irrigation (51.92%), training should be given to the farmers in relation to new farm technology (46.15%).

It can be revealed that important suggestions offered by the majority (70.00%) respondents were: remunerative price of the product should be made available (Rank I) farmers should be protected by crop insurance, if crops fails (Rank II), inputs should be made available at subsidised rate (Rank III) and multiple resistance varieties should be developed (Rank IV). This findings are similar to Baidyavadra (1993), Chavda (1998) and Verma (2000).

Conclusion :

It can be concluded on the basis of the results of this study that the important constraints in adoption of groundnut-pigeonpea relay cropping system as faced by the demonstrator and non-demonstrator groundnut-pigeonpea relay crop growers were:

- Farmers are not getting remunerative price for crops.
- High price of improved seed.
- Lack of irrigation facility.
- High price of chemical fertilizers.
- Non-availability of finance in time.
- High price of weedicides/pesticides and fungicides.
- Labour requirement is more in groundnut-pigeonpea relay cropping system.
- Extension worker are not in villages as per time

schedule.

- Due to the adoption of recommended sowing distance, there is difficulty in interculturing.
- Unawareness about the recommendation of pesticides/ fungicides.

The suggestions to overcome the constraints in adoption of groundnut-pigeonpea relay cropping system, as perceived more important by the respondents are listed as under:

- Remunerative price of the product should be made available.
- Farmers should be protected by crop insurance, if crops fails.
- Inputs should be made available at subsidized rate.
- Multiple resistant varieties should be developed .

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