
CONSTRAINTS ANALYSIS OF INTERRELAY CROPPING TECHNOLOGY BY GROUNDNUT GROWERS

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ABSTRACT

The present study was conducted in South Saurashtra agro climatic zone of Gujarat state to identify the technological gaps in adoption of groundnut pigeonpea inter relay cropping production technology with the ex-post-facto research design. The size of the sample was 120 respondents which were purposively selected from four villages namely Motimarad and Pipliya from Dhorajitaluka of Rajkot district, and Datrana and Nagalpur villages from Mendrada taluka of Junagadh district. The studies highlighted that there were number of constraints which affect the process of adoption reversely, specially the extents of groundnut-pigeonpea inter-relay cropping system. The constraints faced by the respondents were, non-remunerative price of product followed by scarcity of labour at harvest time, heavy infestation of diseases & pests, lack of knowledge about the recommended doses of fungicides/pesticides, high price of chemical fertilizers. Remunerative price of the product should be made available followed by effective insect-pest control methods should be developed, quality seed supply should be ensured, input should be supplied at subsidized rate were offered suggestion by the respondents to overcome the constraints experienced in inter relay cropping system .

KEY WORDS: Constraints, groundnut, pigeonpea, relay cropping, respondents

INRODUCTION

A non-traditional crop of pigeonpea in a suitable and efficient groundnut-pigeonpea inter-relay cropping system has been successfully introduced through Front Line Demonstrations. In this system, after completion of intercultural operation in groundnut, the relay crop, pigeonpea is sown in between the groundnut rows in

August (60 to 65 days after sowing of groundnut) having 3 and 4 feet distance between rows. This cropping system is becoming more popular in the farming community of the South Saurashtra agro climatic region of Gujarat, as it covers the risk of groundnut in abnormal monsoon years as well as it does not reduce area and production of groundnut. The area

under inter-relay groundnut-pigeonpea is extended within a short span and going to increase day by day in the region. Even though the severe drought condition occurs frequently in Saurashtra region, the farmers prefer to sow pigeonpea on large scale to avoid the risk from single sole crop of groundnut. However, even with these circumstances, the productivity of this crop is not satisfactory. This may be because farmers are not adopting the recommended technologies in an appropriate way

Keeping this in view, the present investigation was planned to know and understand the constraints as perceived by farmers in groundnut pigeonpea inter relay-cropping system.

RESEARCH METHODOLOGY

Saurashtra is a main groundnut bowl of the country. The study was undertaken in South Saurashtra agro climatic zone of Gujarat state during the year 2005-06 with ex-post facto research design. The South Saurashtra agro climatic Zone is consisted of 25 talukas of 4 districts of the state having common agro-climatic conditions. Out of four districts, Rajkot and Junagadh were selected purposively, where the groundnut-pigeonpea inter-relay cropping system has already been adopted by the farmers and demonstrations organized by the Pulse Research Station, Junagadh. From the two districts, one taluka from each district was selected for the study. From each selected taluka, two villages Motimarad and Pipliya from Dhorajitaluka of Rajkot district, and Datrana and Nagalpur villages from Mendradataluka of Junagadh district were selected by random sampling method. Thus, the total numbers of 4 villages were selected for the study. Total numbers of 120 farmers, 30 farmers from each selected village were selected by using purposive

random sampling technique with a condition that the farmers have adopted this cropping system at least since last two years. The data were collected through specially developed interview schedules.

To understand and overcome the constraints while developing strategies for enhancing higher yield as well as to increase the area under this cropping system, this effort was made. The respondents were requested to express the constraints faced by them in groundnut pigeonpea inter relay crop cultivation. The constraints were kept open to find out difficulties faced by the respondents. The general constraints regarding groundnut pigeonpea inter relay crop cultivation as opined by the respondents was collected and the percentage was worked out for each constraint. The constraints were ranked based on percentage.

RESULTS AND DISCUSSION

Constraints experienced by the respondents in groundnut pigeonpea inter relay-cropping system

The benefit of the technology is actually derived only when it is efficiently utilized by farmers in their local situation. 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 adoption gap, culminating in low yield of groundnut pigeonpea inter relay crop in the area.

It is obvious from the Table 1 that the constraints namely non remunerative price (100 %), irregular visit of VLWs (82 %), heavy infestation of diseases and insects and pests (79%), lack of knowledge about the recommended doses of fungicides/insecticides /pesticides (77 %) high price of chemical fertilizers (75 %), ineffectiveness of available chemicals for control the diseases and

insects and pests (71%), lack of regulated market facility for the commodity (67 %) and high price of insecticides/pesticides (62 %) were expressed by more than 60 per cent of the respondents.

However, constraints faced by the 50 to 60 per cent of the respondents were difficulty to harvested the groundnut crop in relay crop system (58 %), Inefficiency of extension worker to solve the problems of the cropping system (54 %), lack of knowledge about the recommended methods to control diseases and pests (53 %), scarcity of labour at harvest time (52 %), non- availability of irrigated water at important growth stage of pigeon pea (51 %) and lack of knowledge to diagnose the pests and diseases in the crop (50 %).Whereas the constraints faced by less than 50 per cent of the respondent were, non-availability of quality seed (49 %), non-availability of good quality FYM (46 %), insufficient demonstration of improved technologies on farmers' field (45 %), lake of training on improved technologies (42 %), fear of reduction in the yield of groundnut Pigion pea in relay system as compared to sole groundnut crop (38 %), non-availability of finance in time (33 %) and high price of improved seeds (29 %).

From the above discussion it could be inferred that Non-remunerative price (rank I), irregular visit of VLWs (rank II), heavy infestation of disease & pests (rank III), lack of knowledge about the recommended doses of fungicides/pesticides (rank IV), high price of chemical fertilizers (rank V), ineffectiveness of available chemicals for control the diseases and insect/pest (rank VI), lack of regulated market facility for the commodity (rank VII), high price of insecticides/ pesticides &

fungicides (rank VIII), difficulty in harvested the groundnut crop in relay crop system (rank IX), Inefficiency of extension worker to sole the problems of the cropping system (rank X), lack of knowledge about the recommended methods to control diseases and pests (rank XI), scarcity of labour at harvest time (rank XII), non- availability of irrigated water at important growth stage of pigeon pea (rank XIII), lack of knowledge to diagnose the pests and diseases in the crop (rank XIV), non-availability of quality seed (rank XV), non-availability of good quality FYM (rank XVI), insufficient demonstration of improved technologies on farmers' field (XVII), lake of training on improved technologies (rank XVIII), fear of reduction in the yield of groundnut pegionpea in relay system as compared to sole groundnut crop (XIX), non-availability of finance in time (rank XX), and high price of improved seeds (XXI).which may be looked into very carefully at appropriate level to overcome them.

These findings were more or less similar with the findings of Baidiyavadra (1993) and Reddy and Rao (1994).

Suggestions offered by the respondents to overcome the constraints in groundnut pigeonea inter relay cropping system

The suggestions were invited openly from the respondents. The frequency was calculated for each suggestion and converted into percentage. The ranks were given on the base of percentage.

The suggestions offered by (>50 per cent) of respondents were remunerative price of the product should be made available 100 per cent, effective insect-pest control methods should be developed 70.83 per cent, quality seed supply should be ensured 66.67 per cent and input should be

supplied at subsidized rate 50.00 per cent. However, the suggestions offered by less than 50 per cent of respondents were, more number of training programme should be organized farmers in relation to this system 42.50 per cent, crop insurance should be for all the farmers 41.67 per cent, village level workers should frequently contact the farmers to make them aware about new technologies 37.50 per cent, more numbers of demonstrations on new technologies should be laid out on farmers' fields 12.50 per cent and development of effective technology for harvesting the groundnut crop 8.33 per cent.

It can be concluded that suggestion offered by more than 50 per cent of the respondents were, remunerative price of the product should be made available (rank I), Effective insect-pest control methods should be developed (rank II), Quality seed supply should be ensured (rank III) and Input should be supplied at subsidized rate (rank IV). However, remaining suggestions offered by the respondents were, more number of training programme should be organized farmers in relation to this system (rank V), crop insurance should be for all the farmers (rank VI), village level workers should frequently contact the farmers to make them aware about new technologies (rank VII), more numbers of demonstrations on new technologies should be laid out on farmers' field (rank VIII) and development of effective technology for harvesting the groundnut crop (rank IX).

It is clear from the suggestions made by the most of the farmers that these suggestions are based on the facilities that they have availed but are not satisfied to the extent of their expectation. In case of suggestion expressed by less number of

respondents (rank 5, 6, 7, 8, and 9) these might be based on their awareness about groundnut pigeon pea inter relay cropping system which may be capable of increasing the productivity of the crop as well as would lead to increase the area under this cropping system.

Thus, it could be inferred from the facts mentioned about that the facilities to the growers already being provided by the various Government Agencies need be strengthened and tailored according to the requirement of groundnut pigeon pea inter relay crop growers. The findings were more or less in line with the findings of Parmar and Soni (1994), Amir (1996) and Chavda (1998).

CONCLUSION

From the study, it can be concluded that constraints faced by the respondents were, non-remunerative price of product followed by scarcity of labour at harvest time, heavy infestation of diseases & pests, lack of knowledge about the recommended doses of fungicides/pesticides, whereas suggestion made by respondents were remunerative price of the product should be made available followed by effective insect-pest control methods should be developed. For effective transfer of technology support, it is suggested to organize more number of crop demonstrations. At least one demonstration should be conducted in a village. The regular visit of village level workers need be strengthened and to raise their technical competency, especially in the field where farmers have very great problems.

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Table 1: Constraints experienced by the respondents in Groundnut pigeonpea inter relay cropping

N=120

Sr. No.	Constraints	Number of Respondents	Percentage	Rank
1.	High price of improved seeds	35	29	xxi
2.	Ineffectiveness of available chemicals for control the diseases and insects /pests	85	71	vi
3.	Non-availability of quality improved seed	59	49	xv
4.	Heavy infestation of diseases & pests	95	79	iii
5.	Difficulty to harvest the groundnut crop in relay crop system.	70	58	ix
6.	High price of insecticides/ pesticides & fungicides	75	62	viii
7	Non-availability of good quality FYM	55	46	xvi
8.	High price of chemical fertilizers	90	75	v
9.	Non- availability of irrigated water at important growth stages of pigeon pea	60	51	xiii
10.	Lack of knowledge to diagnose the pests and diseases in the crop.	59	50	xiv
11	Lack of knowledge about the recommended doses of fungicides/pesticides	92	77	iv
12.	Lack of knowledge about the recommended methods to control diseases and pests	63	53	xi
13.	Fear of reduction in the yield of groundnut Pigion pea in relay system as compared to sole groundnut crop	45	38	xix
14.	Scarcity of labour at harvest time	62	52	xii
15.	Irregular visit of Village level workers	98	82	ii
16.	Inefficiency of extension worker to sole the problems of the cropping system	65	54	x
17.	Lack of training on improved technologies	50	42	xviii
18.	Insufficient demonstration of improved technologies on farmers' field	54	45	xvii
19.	Non-availability of finance in time	40	33	xx
20	Non- remunerative price	120	100	i
21.	Lack of regulated market facility for the commodity.	80	67	vii

Table 2: Suggestions of the groundnut pigeonpea inter relay crop growers to overcome the constraints in groundnut pigeonpea inter relay cropping system

n = 120

Sr. No.	Suggestions	Number of Respondents	Percentage	Rank
1.	Timely and quality seed supply should be ensured.	80	66.67	III
2.	Effective insect-pest control methods should be developed.	85	70.83	II
3.	Input should be supplied at subsidized rate.	60	50.00	IV
4.	Remunerative price of the product should be made available.	120	100.00	I
5.	More number of training programmes should be organized for the farmers in relation to this cropping system.	51	42.50	V
6.	More numbers of Demonstrations on new technologies should be arranged farmers' fields.	15	12.50	VIII
7.	Village level workers should frequently contact the farmers to make them aware about new technologies.	45	37.50	VII
8.	Crop insurance should be made available for all the farmers.	50	41.67	VI
9.	Effective technology for harvesting the groundnut pigeonpea crop should be developed.	10	8.33	IX