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Constraints and Suggestions in Adoption of Scientific Cultivation in Pigeonpea

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ABSTRACT

The present investigation was carried out in Karwi block of Chitrakoot district (UP) selected purposively, because block area has more popular for area and production of pigeon pea as criteria. A total number of hundreds pigeon pea growers were selected through random sampling from five selected villages panchayats on the basis of twenty respondents from each selected villages panchayats. The structured schedule was developed keeping in the view of objectives and variables under study. The respondents were contacted personally for data collection. It is found that majority of respondents (95%) faced lack of knowledge about plant protection against pests and disease of pigeon pea with get first rank with the statements that "Plant protection measures" is the common problem, followed by "Low price for produce." 92% at ranks second because lack of proper marketing information. The maximum number of the respondents 87% with adopt a rank of first were agreed with the statements that "Appropriate farm field fencing" is the common problem and minimum number of the respondents 35% at rank twelfth, suggestions being made in view of the expressed opinion of the respondents.

Key words: *Structured schedule, Scientific cultivation, Constraints, Suggestions, etc.*

INTRODUCTION

Pigeonpea [*Cajanus cajan* (L.) Millsp.] is cultivated in tropical and sub-tropical areas between 300N and 300S latitude. It is an important grain legume of Asia (especially, the Indian subcontinent), Latin America and Eastern and Southern Africa. Globally, it is grown on 5 million hectares (m ha) in about 82 countries of the world. Pigeonpea has a unique place in Indian farming and India accounts for about 90% of the global production. It is the second most important pulse crop next to chickpea, covering an area of around 4.42 m ha (occupying about 14.5% of area under pulses) and production of 2.86 mt (contributing to 16% of total pulse production) and productivity of about 707 kg/ha.

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It is mainly consumed as dry split dhal throughout the country besides several other uses of various parts of pigeonpea plant.

It is an excellent source of protein (20-22%), supplementing energy rich cereal diets in a mainly vegetarian population[9]. It is mainly grown as intercrop with urdbean, moonbean, castor, sorghum, soybean, cotton, maize and groundnut in states, Maharashtra, Karnataka, Andhra Pradesh, Telangana, Madhya Pradesh, Uttar Pradesh, Gujarat, Jharkhand, Rajasthan, Odisha, Punjab and Haryana. Pigeonpea is a multi-purpose crop that fits very well in the context of sustainable agriculture. In addition to food, it is used as fodder, feed, and fuel and has functional utility (for making baskets, huts, fences, etc.). However, the current production of 2.86 million tons of pigeonpea in India cannot meet the domestic demands. Due to gap between the production and consumption the per capita availability of pigeonpea has come down from 70 gms to 35 gms.

Therefore India is compelled to import pigeonpea from other countries. Despite the fact that a large number of high yielding varieties and have been released, productivity in the crop remains stagnant around 700 kg/ha as compared to its potential yield (1500-3000 kg/ha). This gap may be attributed to several biotic and abiotic factors. Since it is mainly a rainfed crop, unfavorable rainfall (Delayed, erratic, improper distribution) leads to terminal drought or heavy down pour.

Non adoption of improved management practices and lack of proper research and commercial perspective for the crop influence the low productivity to a greater extent.Integrated Pest Management is the integrated use of pest control strategies in a way that not only reduces pest population to satisfactory level but is sustainable and nonpolluting. IPM strategies focus on an appropriate mixture of eco-friendly practices. It includes eco-friendly practices which are grouped as cultural, mechanical, biological and environmentally safe chemical. A wide gap exists between the available techniques and its actual application by the farmer which is reflected through poor yield in the farmers' fields. Yield level of farmers may be increase by finding technological gap in adoption of recommended IPM practice for pigeon pea cultivation.

The knowledge has been recognized as one of the most important components of human behavior, which gives impetus to adopt a technology a proper understanding if an improved practice of pigeon pea production is prerequisite for its adoption by the farmers. The knowledge in the present context has been conceptualized as the amount of information about currently recommended practices is known to the farmers and the adoption would be operationalized as the amount of recommended technology is actually being utilized by the farmer on their fields. The importance of up to date technological awareness and scientific attitude for adoption of innovation technologies by the vegetable growing community has been well recognized by the extension education system.

Pulses in India have been considered as the poor man's only sourceof protein. Pulses are grown on 22-23 million hectares of area withan annual production of 13-15 million tonnes (mt). India accountsfor 33% of the world area and 22% of the world production of pulses.The major pulse crops grown in India are chickpea, pigeon pea, lentil, moongbean, urdbean and field pea. About 90% of the global pigeonpea, 65% of chickpea and 37% of lentil area falls in India, corresponding to 93%, 68% and 32% of the global production, respectively.Hence, the present study was conducted with the following specific objective.To study the constraints in adoption of scientific practices of pigeon pea by the farmers.

MATERIAL AND METHODS

The present investigation was carried out in purposively selected Chitrakoot district of Uttar Pradesh. There are five community development blocks in this district out of that is one block Karwi was selected purposively. This block has (94) village panchyats from which four were selected purposively, and then the list of total farmers was prepared for each selected villages. Thereafter 100 farmers were selected as respondents though random sampling techniques with respect to the

categories of the farmers for each selected village. The data would be collected with the help of semi-structured interview schedule specially to be developed incorporating standard indices/scales with some modifications in the light of the objectives of the present study. To analyze the data suitable statistical methods would be used and draw the inferences.

RESULTS AND DISCUSSION

1. Constraints in adoption of scientific practices of pigeon pea.

Table-1 The constraints in pigeon pea cultivation perceived by the respondents
N=100

S. No.	Problems/Constraints	Respondents		Ranks
		No.	Per cent	
1.	Lack of knowledge about high yielding varieties.	89	89.00	III
2.	Lack of proper information.	76	76.00	VI
3.	High cost of hybrid seeds.	47	47.00	X
4.	Plant protection measures	95	95.00	I
5.	High cost of chemical fertilizers.	66	66.00	VIII
6.	Lack of post-harvest management.	78	78.00	V
7.	Lack of knowledge about pest and disease.	65	65.00	IX
8.	Lack of skilled labour.	35	35.00	XI
9.	High labour cost.	79	79.00	IV
10.	Low price for produce.	92	92.00	II
11.	High transportation cost.	71	71.00	VII
12.	Lack of storage facilities.	30	30.00	XII

It is evident from Table 1, that the maximum number of the respondents 95% with adopt a rank of first were agreed with the statements that "Plant protection measures" is the common problem and faced the constraints of lack of knowledge about the plant protection against pest and disease of pigeon pea, non-availability of spraying equipment, higher cost of pesticides, non-availability of skilled labours for spraying lack of knowledge about how to prepare the spraying solution, lack of knowledge about of identification of pest, lack of knowledge about of identification of natural enemies.

Followed by, "Low price for produce." 92% at ranks second and respected the constraints, like lack of knowledge about high yielding varieties" 89% at rank third and faced the constraints ofknowledge about selection of varieties, Lack of knowledge about recommended quantity of seed per hectare,non-availability of quality seed at the time of sowing, higher cost of seed of pigeon pea.

With regards to "High labour cost" 79% at rank fourth and "Lack of post-harvest management" 78% at rank fifth and faced the constraints ofharvesting and threshing, non-availability of labour at harvesting stage and Higher cost of threshing machine. As regards with use of botanicals constraints faced by the farmers like lack of knowledge about preparation of spray solution of botanicals and Lack of availability of botanicals (e.g. Neem seed).

With regards "Lack of proper information" 76% at ranks sixth, "High transportation cost" 71% at rank seventh, "High cost of chemical fertilizers" 66% at rank eights, "Lack of knowledge about pest" 65% at ranks ninth, "High cost of hybrid seeds" 47% at the ranks tenth, "Lack of skilled labour." 35% at the ranks eleventh and "Lack of storage facilities."30% at the ranks twelfth, respectively. As concerned with Lack of knowledge about seedtreatment, Nonavailability of fungicide and biofertilizer at proper time and Highercost of fungicide and biofertilizer.

1. Suggestions in adoption of scientific practices of pigeon pea.

Table-2 Suggestions measures for better pigeon pea cultivation

S. No.	Solution	Respondents		Ranks
		No.	%	
1.	A permanent source of information should be among the farmers related pigeon pea cultivation.	65	65.00	VII
2.	Contact from nearest K.V.K. for pigeon pea cultivation technique.	45	45.00	IX
3.	Pigeon pea processing unit should establish.	79	79.00	III
4.	Efforts should be made for providing fertilizers on appropriate rate.	78	78.00	IV
5.	Village level training camp on post-harvest management.	69	69.00	VI
6.	Government provided irrigation facilities.	77	77.00	V
7.	Training for pigeon pea grading.	82	82.00	II
8.	High cost should be avoided.	43	43.00	X
9.	Appropriate farm field fencing	87	87.00	I
10.	Sell after processing the pigeon pea grains.	40	40.00	XI
11.	Demonstrations of different culture methods should be organized.	57	57.00	VIII
12.	Flexible sources of credit.	35	35.00	XII

A perusal of the Table- 2 indicate that the maximum number of the respondents 87% with adopt a rank of first were agreed with the statements that "Appropriate farm field fencing" is the common problem, followed by "Training for pigeon pea grading" 82% at ranks second, "pigeon pea processing unit should establish" 79% at rank third, "Efforts should be made for providing fertilizers on appropriate rate" 78% at rank fourth, "Government provided irrigation facilities." 77% at rank fifth, "Village level Training camp on post-harvest management." 69% at ranks sixth, "A permanent source of information should be among the farmers related pigeon pea cultivation" 65% at rank seventh, "Demonstrations of different culture methods should be organized" 57% at rank eights, "Contact from nearest K.V.K. for pigeon pea cultivation technique" 45% at ranks ninth, "High cost should be avoided" 43% at rank tenth, "Sell after processing the pigeon pea grains" 40% at rank eleventh and "Flexible sources of credit" 35% at rank twelfth, respectively.

CONCLUSIONS

It is concluded that Maximum number of respondents (95%) were faced the constraintwith first rank where agreed with the statements that "Plant protection measures" is the common problem, followed by "Low price for produce." 92% at ranks second, "Lack of knowledge about high yielding varieties" 89% at rank third, "High labour cost" 79% at rank fourth, "Lack of post-harvest management" 78% at rank fifth, "Lack of proper information" 76% at ranks sixth, "High transportation cost" 71% at rank seventh, "High cost of chemical fertilizers" 66% at rank eights, "Lack of knowledge about pest" 65% at ranks ninth, "High cost of hybrid seeds" 47% at the ranks tenth, "Lack of skilled labour." 35% at the ranks eleventh, and "Lack of storage facilities."30% at the ranks twelveth, respectively.

Most of the suggestion being made in view of the expressed opinion of the respondents, observations of the investigator and the influence drawn from the study are: Based on the finding of study, it may be said young generation do not like to work in farming. Hence, this class of people should encourage through farmers training programme for commercial farming as a better source of income and employment generation. A considerable number of farmer have stated their occupation other than agriculture, but it needs more attention to create new areas of work at the farms specially for the poor of the poorest by the government as well as private agencies.The emphasis must be given to

popularize and make more awareness about value added products, so that Pigeon pea production could increase.

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