

## Knowledge of the Farmers toward improved Pigeon pea cultivation practices in Gopalganj district of Bihar

### Abstract

The present study was undertaken to assess the knowledge of farmer towards improved Pigeon pea cultivation practices in Gopalganj district of Bihar, during year 2021-22. The data were collected through pre-tested schedule form 120 respondents which were selected randomly. The collected data were tabulated, analyzed and interpreted with the help of appropriate statistical tools. The study revealed that maximum respondent were middle aged with 54.17 per cent, 59.16 farmer had marginal land holding, The maximum number of respondents having medium level scientific orientation, mass media exposure, extension contact and 60.84 per cent of the respondents had medium level of knowledge about pigeon pea production practices. Farmers had maximum knowledge about soil type, varieties, season of growing and harvesting etc and they had less knowledge about spacing, seed treatment, inter cultivation, seed treatment with fungicide etc and age, caste, source of information, scientific orientation, mass media exposure and risk orientation were positively and significantly correlated with knowledge of pigeon pea grower.

### Introduction

Agriculture plays a vital role in the Indian economy. Over 70 per cent of the rural households depend on agriculture. Agriculture is the most important sector of Indian Economy. Indian agriculture sector accounts for 18 per cent of India's gross domestic product (GDP) and provides employment to 50% of the countries workforce.

#### About Pigeon pea

Pigeon pea (*Cajanus cajan*) is an important multi-use shrub legume of the tropic and sub-tropic regions. The crop originated from India and moved to Africa about 4,000 years ago. Unlike other grain legumes, pigeon pea production is concentrated in developing countries, particularly in a few South and Southeast Asia and Eastern and Southern African countries. It is the preferred pulse

crop in dry land areas where it is inter-cropped or grown in mixed cropping systems with cereals or other short duration annuals (Joshi *et al.* 2001).

Pigeon pea seed is made up of 85 per cent cotyledon, 14 per cent seed coat and 1 per cent embryo. It is a rich source of protein, carbohydrates, minerals and vitamins. Protein content of pigeon pea ranges between 20-22 per cent, carbohydrate between 51.4 – 58.8 per cent, Crude fiber between 1.2 – 8.1 per cent and lipid between 0.6 – 3.8 per cent (Faris and Singh, 1990).

pulses cultivation is an important part of Bihar's agriculture sector, providing livelihoods to millions of farmers in the state. The government's initiatives and schemes have helped promote the adoption of modern technologies and better agricultural practices,

improve market access, and provide financial support to farmers engaged in pulses cultivation. However, there is still much work to be done to address the challenges faced by the farmers and ensure sustainable growth in the future.

**II. Materials and Method**

The research study was concluded in Gopalganj district of Bihar start during the year 2021-22. Gopalganj district was purposively selected for the study. In Hathuwa block which was selected purposively and 6 villages were selected randomly for study. Thus , in all 120 Pigeon pea grower constituted sample for the investigation. Based on the objectives of study, an interview schedule was prepared. The information was elucidated from respondents with the help of pre structured scheduled. The information was collected by personally interviewing respondents using structured interview schedule.

**III. Results and Discussion**

**Table no. 1. Socio economic profile of the Respondents.**

S.n o.	Variables	Freque ncy	Percenta ge
<b>01.</b>	<b>Age</b>		
	Young (18-35)	16	13.33
	Middle (36-55)	86	71.67
	Old (56 and above)	18	15.00
<b>02.</b>	<b>Education</b>		
	Illiterate	55	45.83
	Primary school education	15	12.5
	High school education	26	21.7
	Intermediat e	15	12.50

	Graduate	9	07.50
<b>03.</b>	<b>Family type</b>		
	Nuclear	93	77.5
	Joint	27	22.5
<b>04.</b>	<b>Occupation</b>		
	Agriculture only	76	63.33
	Agri + Agri labour	12	10.00
	Agri + business	23	19.16
	Agri + Service	9	07.50
<b>05.</b>	<b>Land holding</b>		
	Marginal	71	59.16
	Small	40	33.33
	Medium	07	05.83
	Large	02	01.66
<b>06.</b>	<b>Annual income</b>		
	Low (>50k)	66	55.00
	Medium (50- 1lakh)	24	20.00
	High (1lakh & above)	30	25.00
<b>07.</b>	<b>Source of Information</b>		
	Low(16-19)	30	25.00
	Medium (20-21)	52	43.33
	High (22-24)	38	31.67
<b>08.</b>	<b>Scientific orientation</b>		
	Low(14-15)	40	33.33
	Med(16)	65	54.17
	High(17)	15	12.50
<b>09.</b>	<b>Mass media exposure</b>		
	Low (6-8)	46	38.33
	Medium (9-11)	70	58.33
	High (12-13)	04	03.33
<b>10.</b>	<b>Risk orientation</b>		
	Low (12-14)	54	45.00

	Medium (15-16)	60	50.00
	High (16-18)	06	05.00

A majority of (71.67%) of farmer were from the middle age group, similar finding by **Perke et al. (2018)**, In selected village 54.2% literate while 45.80 % of illiterate respondent, majority of the respondents were doing Agriculture only i.e 63.33 per cent, with 59.16 per cent of farmer had marginal land holding ,55% of respondent had low income. It Reveals that the majority of respondents, accounting for 77.50% of the total sample, 43.33 % of respondent have medium source of information, Maximum farmer had medium level of Scientific orientation i.e 54.17 % and based on the analysis of the data obtained from the 120 respondents, it is evident that the majority of farmers, accounting for 58.33% of the total sample, had a high level of mass media exposure. Similar finding was also reported by **Melkar and Mazhar (2018)**.

**Table 2: Distribution of respondents based on Extent of Knowledge**

S.No.	Statements	Evaluation		
		FC F(%)	PC F(%)	NC F(%)
1	Soil type	108 (90%)	12 (10%)	0 (0%)
2	Varities	102 (85%)	15 (0%)	0 (0%)
3	Season of growing	112 (93.33%)	08 (6.67%)	0 (0%)

4	Pigeon pea cannot be grown in soils subjected to water stagnation	107 (89.16%)	13 (10%)	0 (0%)
5	Seed treatment	12 (10.00%)	73 (60.08%)	35 (29.17%)
6	Inter-cropping	10 (8.33%)	37 (30.08%)	73 (60.83%)
7	Spacing for Pigeon pea	24 (20.00%)	09 (7.5%)	87 (72.50%)
8	Inter cultivation	33 (27.50%)	04 (3.3%)	82 (68.33%)
9	Best time of sowing	98 (81.60%)	13 (10.83%)	09 (7.5%)
10	Plant protection	62 (51.7%)	58 (48.33%)	0 (0%)
11	Recommended quantity of farm yard manure	16 (13.33%)	39 (32.5%)	65 (54.17%)
12	Sowing by using country seed drill	28 (23.33%)	51 (42.5%)	41 (34.16%)
13	Seed rate required	70 (58.33%)	36 (30.00%)	14 (11.67%)
14	Seed treatment with fungicides	22 (18.33%)	25 (20.8%)	73 (60%)

15	Weed management	112 (93.34%)	07 (5.83%)	1 (0.83%)
16	Knowledge about insect and pest	91 (75.84%)	18 (15%)	11 (9.16%)
17	Pest management	42 (35%)	43 (35.83%)	35 (29.17%)
18	Insect management	39 (32.5%)	48 (40%)	33 (27.5%)
19	Harvesting	113 (91.46%)	07 (5.83%)	0 (0%)

Table 4. Overall level of knowledge of improved production technology of Pigeon pea growers

Sr no	Category	Frequency	Percentage
1	Low (27-34)	34	28.33
2	Medium (35-41)	73	60.84
3	High (42-48)	13	10.83
Total		120	100

study reveal that 60.84% of the respondents had a medium level of knowledge about Pigeon pea production practices. A significant proportion of Pigeon pea farmers, approximately 28.33%, had a low level of knowledge, while 10.83% of the surveyed farmers had a high level of knowledge about Pigeon pea practices similar finding by **Chahande and Ghadge (2016)**

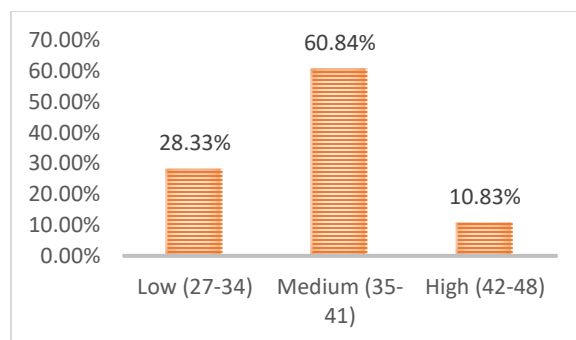


Fig 1. Distribution of the respondents on the basis of Knowledge level of farmers about Pigeon pea practices

Table 3: Relation between profile of respondents with knowledge improved Pigeon pea practices

S.NO	Independent Variable	Correlation Coefficient
1	Age	0.929*
2	Caste	0.994*
3	Gender	-0.115(NS)
4	Educational Qualification	0.396**
5	Marital status	-0.098(NS)
6	Family type	0.114**
7	Land holding	-0.130(NS)
8	Income	-0.299
10	Source of Information	0.752*
11	Scientific Orientation	0.985*
12	Mass Media exposure	0.946*
13	Risk orientation	0.828*

\*= Correlation is significant at the 0.01% level of probability

\*\*= Correlation is significant at the 0.05% level of probability

NS= Non-significant

According to table 3. Concluded that independent variable educational qualification and family type positively and significantly

correlated at 0.05 per cent level of probability and age, caste, source of information, scientific orientation, mass media exposure and risk orientation were positively and significantly correlated with knowledge with pigeon pea grower at 0.01% probability. Therefore null hypothesis were rejected for gender, marital status, land holding and income were negatively and not significantly correlated with knowledge about Pigeon pea grower at 0.05% of probability.

### Conclusion

The study concluded that most of the respondent in the study area belonged to the Middle age group (36-55), 54.17 per cent literate respondent and 77.7 per cent farmer belong to nuclear family. The respondents were dependent for their livelihood on Agriculture, Labor, Services and Business. The maximum number of respondents having medium level scientific orientation, mass media exposure, extension contact and knowledge level in the study area and some independent variables like age, caste, source of information, scientific orientation, mass media exposure and risk orientation were positively and significantly correlated with knowledge with pigeon pea grower at 0.01% probability.

### References

- Faris, D. G., & Singh, U.(2001)** Pigeon pea: nutrition and products, *Health*, 2(11): 401-433.
- Chahande, A. B., & Ghadge, R. M. (2016).** A study of the knowledge of pigeonpea growers and it's association with their selected characteristics. *International Journal of Tropical Agriculture*, 34(7): 2345-2347
- Joshi, P.K., Asokan, M., and Bantilan, M.C.S. 1999.** Silent chickpea revolution in non traditional areas - some evidences from Andhra Pradesh. *Indian Journal of Agricultural Economics* 54(4): 533–544
- Melkeri,A.K., and Mazhar,S.H. (2018)** Profile characteristics of respondents about transplanting method of pigeon pea cultivation practices in Kalaburagi district of Karnataka, *Int.J.Curr.Microbiol.App.Sci*, 7(3): 2882-2889
- Perke D. S., Nagargoje,S.R and Singarwad,P.S. (2018)** Socio-economic characteristics of selected soybean growers in Hingoli district of Maharashtra, *Journal of Pharmacognosy and Phytochemistry*, 1(12): 980-982