

Research Article

Adoption of improved cultivation practices of pigeonpea by the farmers

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SUMMARY : The present study was conducted in Latur district of the Marathwada region of Maharashtra State. The data was collected with the help of predesigned interview schedule by contacting the sample pigeonpea growers personally. The information collected from the pigeonpea growers with the help of the personal interview schedule was processed by making primary and secondary tables. The data of qualitative nature were converted into quantitative form and computation of score was done for each of the independent and dependent variables.

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KEY WORDS :

Improved cultivation practices, Pigeonpea growers, Adoption

BACKGROUND AND OBJECTIVES

Redgram also known as pigeonpea (Arhar or tur in local language) is an important pulse crop of India and is being cultivated on 35.6 lakh ha area. Among total pulses, the redgram accounts for 14.5 per cent in area and 15.5 per cent in productivity. Redgram (pigeonpea), occupies an area of around 3.47 million hectares in India with a production of 2.77 million tonnes which accounts for a productivity of 799 kg/ha. Maharashtra is the largest producer with approximately 10.51 lakh ha area with average productivity of 6.03 Q/ha (Anonymous, 2010).

Pigeonpea is yet another important source of vegetable protein, used either as dal or as green vegetable. Dry grains of pigeonpea have 20-22 per cent protein. Green pigeonpea seeds contain 10 times more fat, 5 times more vitamin A and 3 times more vitamin C than ordinary peas, besides they contain numerous minerals. Pigeonpea stalks are also a major source of firewood and live stock feed. This pulse crop is grown mostly as an intercrop between cereals crops and plays a unique role

in enriching the soil, by adding 40 kg nitrogen per hectare over a given season. The deep root system of the crop helps to recycle plant nutrients from deeper layers, and the acid secretions from its roots increase the availability of phosphorus in the soil.

At present, agricultural productivity of pigeonpea crop in India is very low as compared to international standards. Food production in India is the magnificent result of the green revolution started from the mid sixties, but the recent survey on agricultural performance for current year is not encouraging and the expected food production decreases by 4 to 5 million tones. Therefore, India now needs a consistent increase in the productivity by 4 to 5 million tones every year, to meet the requirement of food self sufficiency.

Objectives:

- To study the personal characteristics of pigeonpea growers.
- To study the relationship of personal characteristics with adoption of improved cultivation practices of pigeonpea.

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RESOURCES AND METHODS

The present study was conducted in Latur district of the Marathwada region of Maharashtra State as the district has maximum area under pigeonpea in Marathwada region. Latur is surrounded on the North side by the parbhani district, on East by Nanded, on Southwest by Beed and on the Southeast by Andhra Pradesh State.

The Latur district is in the South-Eastern part of Maharashtra. The district is situated between 18°50' and 18°75' North latitudes and on 76°25' and 77°25' East longitudes. The district is situated on the Maharashtra Karnataka state boundary. On the eastern side of Latur, Bidar district of Karnataka is situated whereas, Nanded is on the North-East side, Parbhani is on the Northern side. Beed is on the North-West and Osmanabad is on the West-South side.

The tahsils namely Ausa, Chakur and Renapur from latur district were selected randomly by lottery method for this study. Four villages were selected randomly from each selected tahsil. Thus, twelve villages from three tahsils were selected randomly for this study. From each village ten pigeonpea growers were selected randomly. Thus, total of 120 respondents were selected as sample respondents for this study.

The data was collected with the help of predesigned interview schedule by contacting the sample pigeonpea growers personally. The information collected from the pigeonpea growers with the help of the personal interview schedule was processed by making primary and secondary tables. the data of qualitative nature were converted into quantitative form and computation of score was done for each of the independent and dependent variables.

OBSERVATIONS AND ANALYSIS

Personal characteristics of pigeonpea growers:

Farming experience:

It is revealed from Table 1 that 60.83 per cent of respondents were from medium categories (14 to 26 years) of farm experience. There were 21.66 per cent of the respondents from low categories (upto 13 years) of farm experience. As much as 17.51 per cent of the respondents were high categories (above 27 years) of farm experience.

Table 1 : Distribution of respondents according to their farming experience

Sr. No.	Farm experience	Frequency	Per cent
1.	Low (Upto 13 years)	26	21.66
2.	Medium(14 to 26 years)	73	60.83
3.	High (27 and Above)	21	17.51
	Total	120	100.00

Education:

The data from Table 2 clearly show that 20.84 per cent of the pigeonpea growers were educated up to primary school level, 22.50 per cent of them were having secondary school level while, 29.16 per cent educated up to higher secondary school level and 12.50 per cent of them had no literacy. Only 15 per cent of the pigeonpea growers were graduate.

Table 2: Distribution of respondents according to their education

Sr. No.	Education level	Frequency	Per cent
1.	Illiterate	15	12.50
2.	Primary school	25	20.84
3.	Secondary school	27	22.50
4.	Higher secondary school	35	29.16
5.	Graduate/ Post Graduate	18	15
	Total	120	100.00

Family size:

It is clear from Table 3 that 15.00 per cent of respondents were from small family, whereas 74.16 and 10.84 per cent of the respondents were from medium and large size family, respectively.

Table 3: Distribution of respondents according to their family size

Sr. No.	Category	Number	Per cent
1.	Small (up to 4 members)	18	15.00
2.	Medium (5 to 7 members)	89	74.16
3.	Large (Above 8 members)	13	10.84
	Total	120	100.00

Land holding:

As regards land holding of the respondents, it is observed from Table 4 that 18.34 per cent of respondents were small farmers (up to 1.8 ha) followed by 66.66 per cent of respondents were medium farmers (1.9 to 5 ha) and 15.00 per cent of the respondents were big farmers (5.1 ha and above).

Table 4 : Distribution of respondents according to their land holding

Sr. No.	Land holding	frequency	Per cent
1.	Small farmers (upto 1.8 ha)	22	18.34
2.	Medium farmers (1.9 to 5 ha)	80	66.66
3.	Big farmers (5.1 ha and Above)	18	15.00
	Total	120	100.00

Annual income:

The data presented in Table 5 indicated that 15.00 per cent of the respondents had low annual income up to Rs. 46,406/-. However, 10.00 per cent of respondents had high income *i.e.* above Rs. 89,606/- .While 75.00 per cent of the

respondents were from medium annual income category *i.e.* from Rs. 46,407 to 89,605.

Table 5 : Distribution of respondents according to their annual income

Sr. No.	Annual income	frequency	Per cent
1.	Low annual income (up to 46,406)	18	15.00
2.	Medium (46,407 to 89,605)	90	75.00
3.	High annual income(Above 89,606)	12	10.00
	Total	120	100.00

Social participation:

Table 6 indicates that most of the pigeonpea growers 65.00 per cent had medium social participation, while 20.00 per cent of the growers had low social participation and 15.00 per cent of them were found in high social participation category.

Table 6 : Distribution of respondents according to their social participation

Sr. No.	Category	frequency	Per cent
1.	Low (Upto 1.31 years)	24	20.00
2.	Medium(1.32 to 4.73 years)	78	65.00
3.	High (4.74 and Above)	18	15.00
	Total	120	100.00

Extension contact:

As regards extension contact of the respondents, it is observed from Table 7 that 19.16 per cent of the respondents had low level of extension contact. Whereas, 68.33 per cent respondents had medium level of extension contact followed by 12.51 per cent of the respondents having high level of extension contact.

Table 7 : Distribution of respondents according to their extension contact

Sr. No.	Category	frequency	Per cent
1.	Low (Upto 1.65)	23	19.16
2.	Medium(1.66 to 5.3)	82	68.33
3.	High (5.4 and Above)	15	12.51
	Total	120	100.00

Economic motivation:

With regard to economic motivation, it is evident from Table 8 that majority of respondents *i.e.* 67.50 per cent had medium level of economic motivation, whereas 20.00 and

Table 8 : Distribution of respondents according to their economic motivation

Sr. No.	Category	frequency	Per cent
1.	Low (Upto 22)	24	20.00
2.	Medium (23 to 25)	81	67.50
3.	High (Above 25)	15	12.50
	Total	120	100.00

12.50 per cent of the respondents had low level and high level of economic motivation, respectively.

Use of source of information:

It is revealed from Table 9 that nearly 71.66 per cent of the pigeonpea growers used medium sources of information while, 15.83 per cent and 12.51 per cent of them were in low and high use of sources of information category, respectively.

Table 9 : Distribution of respondents according to their use of source of information

Sr. No.	Category	frequency	Per cent
1.	Low (Upto 39)	19	15.83
2.	Medium (40 to 50)	86	71.66
3.	High (Above 50)	15	12.51
	Total	120	100.00

Market orientation:

It is manifested from Table 10 that majority 75.00 per cent of the pigeonpea growers had medium market orientation followed by 15.00 per cent and 10.00 per cent of the pigeonpea growers had low and high market orientation, respectively.

Table 10: Distribution of respondents according to market orientation

Sr. No.	Category	frequency	Per cent
1.	Low (Upto 9.6)	18	15.00
2.	Medium (9.7 to 12.50)	90	75.00
3.	High (Above 12.50)	12	10.00
	Total	120	100.00

Knowledge:

It is observed from Table 11 that majority *i.e.* 65.00 per cent of the respondents had medium level of knowledge. Whereas, 20.00 per cent and 15.00 per cent of respondents had low and high level of knowledge about improved package of practices of pigeonpea.

Table 11: Distribution of respondents according to knowledge

Sr. No.	Knowledge level	frequency	Per cent
1.	Low (Upto 17)	24	20.00
2.	Medium (18 to 21)	78	65.00
3.	High (Above 21)	18	15.00
	Total	120	100.00

Relationship between personal characteristics of pigeonpea growers with adoption of improved cultivation practices pigeonpea growers:

It was observed that out of eleven independent variable *viz.*, farming experience, education, family size, annual

income, social participation, extension contact, sources of information, market orientation and knowledge had positive and significant relationship with adoption of improved cultivation practices of pigeonpea. Whereas, land holding and economic motivation did not show any relationship with adoption of improved cultivation practices of pigeonpea (Table 12).

Table 12: Co-efficient of correlation between personal characteristics of pigeonpea growers with adoption of improved cultivation practices

Sr. No.	Independent variables	Correlation co-efficient 'r'
1.	Farming experience	0.212*
2.	Education	0.402**
3.	Family size	0.247*
4.	Land holding	0.111 NS
5.	Annual income	0.199*
6.	Social participation	0.340**
7.	Extension contact	0.422**
8.	Economic motivation	0.020 NS
9.	Sources of information	0.220*
10.	Market orientation	0.309**
11.	Knowledge	0.364**

Note : * and ** indicate significance of values at P=0.05 and 0.01, respectively NS= Non-significant

Conclusion:

It was revealed that the variable like farm experience, education, family size, annual income, social participation, extension contact, source of information, market orientation and knowledge had positive significant relationship with adoption of recommended package of practices of pigeonpea. Whereas, land holding and economic motivation could not establish any relationship with adoption of recommended package of practices of pigeonpea.

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