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RESEARCH ARTICLE :

Technological gap in pigeonpea production technology in Marathwada region

R.D. AHIRE, R.S. KARHALE AND R.P. KADAM

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SUMMARY : The present study was conducted in three tahsil of Parbhani district. The sample of 120 respondents was studied. As regard the profile of respondents, it was observed that majority (67.50%) of the respondents were having middle level of age with an education as high school level (29.16%), the respondents were possessing medium size of land holding (38.35%). Further, it was observed that majority (76.67%) of the respondents were from medium annual income group. 51.76 per cent respondents were from middle social participation group. Further, 56.67 per cent of the respondents were having medium degree of extension contact. Most of the respondents were in the medium use of sources of information (65.00%) and economic motivation category (58.34%). Further 47.50 per cent of the respondents were having medium degree of risk orientation and 61.66 per cent of the respondents had medium level of knowledge. The 67.50 per cent of the respondents were found in medium technological gap group followed by 22.50 and 10.00 per cent respondents in high and low technological gap group, respectively. Correlation co-efficient analysis showed education, land holding, annual income, social participation, extension contact, sources of information, economic motivation, risk orientation and knowledge had negative and highly significant relationship with overall technological gap, whereas age of the respondents had positive and highly significant relationship with overall technological gap.

KEY WORDS :
Pigeonpea,
Production technology,
Technological gap

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Author for correspondence :
R.P. KADAM
Department of Extension Education, College of Agriculture, Vasantrao Naik Marathwada Krishi Vidyapeeth, PARBHANI (M.S.) INDIA
Email: rpk.mkv@gmail.com

See end of the article for authors' affiliations

BACKGROUND AND OBJECTIVES

Pigeonpea is an important pulse crop grown in Marathwada region of Maharashtra state. There are enough viable and adoptive pigeonpea technologies developed but its adoption was found to be low. Pigeonpea output can be increased if the respondents adopt the pigeonpea production technology. By considering the above fact, the present study was undertaken to examine profile of pigeonpea respondents, technological gap in production among them and relationship among them

RESOURCES AND METHODS

The present study was conducted in three tahsils of Parbhani district *viz.*, Parbhani, Gangakhed and Jintur. Four villages from each tahsils were selected having the maximum area under pigeonpea crop. The data were collected from 120 respondents of twelve villages. The data were collected with the help

of pre-structured interview schedule. The interview schedule constituted the information about independent variables namely age, education, land holding, annual income, social participation, extension contact, source of information, economic motivation, risk orientation and knowledge along with dependent variables namely technological gap in pigeonpea production technology. The data were analyzed by using percentage and correlation co-efficient.

OBSERVATIONS AND ANALYSIS

It was revealed that majority (67.50%) of the respondents were having middle level of age (Shinde, 2014; Sasane, 2010 and Mane, 2012), with an education as high school level (29.16%), the respondents were possessing medium size of land holding (38.35%). Further, it could be concluded that majority (76.67%) of the respondents were from medium annual income group. 51.76 per cent respondents had from middle social participation. Further, 56.67 per cent of the respondents were having medium degree of extension contact. Most of the respondents were in the medium use of sources of information (65.00%) and economic motivation category (58.34%). Further 47.50 per cent of the respondents were having medium degree of risk orientation and 61.66 per cent of the respondents had medium level of knowledge (Table 1).

Data presented in Table 2 indicated that highest technological gap was observed in use of seed treatment (72.98%) followed by use of FYM (65.31%), use of intercultural operation (51.77%), use of plant protection (49.42%),use of chemical fertilizer (48.48%), use of seed and sowing (42.46%) and least in preparatory tillage (9.37%). Thus, it can be stated that in general highest technological gap was in use of seed treatment and lowest technological gap was with regard to preparatory tillage (Table 2).

It was observed that majority 67.50 per cent of the respondents were in the medium level of overall technological gap, while 22.50 per cent and 10.00 per cent of them were in the high and low level of overall technological gap, respectively. Farmers might not having required knowledge and skill about use of preparatory tillage, seed and sowing technique, seed treatment, chemical fertilizer, FYM, intercultural operation and plant protection measure. It is also a matter of common experience that fertilizers, plant protection chemical are

Table 1 : Distribution of respondents according to profile

Profile	Frequency	Percentage
Age		
Young	21	17.50
Middle	81	67.50
Old	18	15.00
Education		
Illiterate	08	06.66
Can read and write only	11	09.17
Primary school level	19	15.83
Middle school level	27	22.52
Higher school level	35	29.16
College level	20	16.66
Land holding		
Marginal land holding	08	06.66
Small land holding	25	20.83
Semi-medium land holding	34	28.33
Medium land holding	46	38.35
Big land holding	07	05.83
Annual income		
Low	17	14.17
Medium	92	76.67
High	11	09.16
Social participation		
Low	37	30.83
Medium	62	51.67
High	21	17.50
Extension contact		
Low	29	24.17
Medium	68	56.67
High	23	19.16
Source of information		
Low	18	15.00
Medium	78	65.00
High	24	20.00
Economic motivation		
Low	22	18.33
Medium	70	58.34
High	28	23.33
Risk orientation		
Low	31	25.83
Medium	57	47.50
High	32	26.67
Knowledge		
Low	21	17.50
Medium	74	61.66
High	25	20.84

Table 2 : Technological gap with respect to selected management practices

Practices	Technological gap
Gap in preparatory tillage	9.37
Gap in use of seed and sowing technique	42.46
Gap in use of seed treatment	72.98
Gap in use of chemical fertilizer	48.48
Gap in FYM	65.31
Gap in use of intercultural operation	51.77
Gap in use of plant protection	49.42
Composite technological gap	50.82

not available in time. Non-availability of labours when required for the intercultural operations can also be an addendum to probable reason. Because of this scenario, the technological gap in use of seed treatment, use of FYM, use of plant protection measures, intercultural operations and chemical fertilizers, seed and sowing technique might have been higher than preparatory tillage.The findings are in conformity with those of Kadam (2003) and Kadam *et al.* (2010).

The data from Table 3 revealed the existence of correlation co-efficient (r) between independent variables and composite technological gap. It shows that out of ten independent variables nine variables *viz.*, having education upto high school level, land holding, annual income, social participation, extension contact, source of information, economic motivation, risk orientation and knowledge had negative and highly significant relationship with level of overall technological gap, where as age of the respondents had positive and highly significant relationship with level of overall technological gap. Similar finding were reported by Kadam (2003) and Kadam *et al.* (2010).

Table 3 : Relationship of profile of respondents with technological gap

Sr. No.	Independent variable	Correlation
1.	Age	0.281**
2.	Education	-0.334**
3.	Land holding	-0.316**
4.	Annual income	-0.323**
5.	Social participation	-0.256**
6.	Extension Contact	-0.380**
7.	Sources of information	-0.336**
8.	Economic motivation	-0.349**
9.	Risk orientation	-0.355**
10.	Knowledge	-0.303**

* and ** indicate significance of values at P=0.05 and 0.01, respectively

Conclusion :

It is concluded that majority of the pigeonpea growers were from middle age group, having education upto high school level, medium land holding, annual income, social participation, extension contact, sources of information, medium economic motivation, risk orientation and medium type of knowledge about pigeonpea production technology. Maximum technological gap was observed in seed treatment (72.98%), use of FYM (65.31%), use of intercultural operations (51.77%), use of plant productions (49.42%), use of chemical fertilizers (48.48%) whereas low technological gap was observed in preparatory tillage (9.37%). So based on above findings it is recommended that the extension agencies should highlight more on seed treatment, promotion of use of organic matter, use of plant production measures by organizing various extension activities *viz.*, training, campaign and demonstration.

Authors' affiliations :

R.D. AHIRE AND R.S. KARHALE, Department of Extension Education, College of Agriculture, Vasantrao Naik Marathwada Krishi Vidyapeeth, PARBHANI (M.S.) INDIA
Email: riteekakarhale@gmail.com

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