Int.J.Curr.Microbiol.App.Sci (2019) *8*(7): 409-414

International Journal of Current Microbiology and Applied Sciences
***ISSN: 2319-7706* Volume 8 Number 07 (2019)**
Journal homepage: http://www.ijcmas.com

Original Research Article https://doi.org/10.20546/ijcmas.2019.807.050

Relational Analysis of Profile of Beneficiaries of BDN-711 (Red gram Variety) and its Socio Economic Impact

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Keywords

Relationship of Beneficiaries, Red gram, Economic Impact

Article Info

Accepted:
04 June 2019
Available Online:
10 July 2019

A B S T R A C T

The present investigation was conducted in Parbhani district of Marathwada region in Maharashtra State. The main objective of the study was relationship between profile of beneficiaries of BDN-711 variety of red gram and its impact. The data were collected through personal interview with the help of interview schedule by contacting 120 beneficiaries. The result revealed that majority (74.17%) of the beneficiaries are belongs to middle age group, followed by (22.5%) of the beneficiaries were educated up to secondary school level, while (70.00%) of the beneficiaries are belongs to medium family size along with (62.5%) of the beneficiaries were having marginal land holding. It was also found that (88.33%) of the beneficiaries having medium social participation, whereas (64.10%) of the beneficiaries having medium level of extension contact, followed by (68.4%) of the beneficiaries having medium risk orientation. Also the result showed that Age, education, landholding, family size social participation, extension contact, and risk orientation were found to be positively and significantly related with impact in technological change (i.e.) crop production, cropping pattern. Also the result showed that relationship of profile of beneficiaries with economic change in employment generation only was positive and significant, followed by relationship of profile of beneficiaries with social change in material possession. Also social participation was highly significant in change in education family member.

Introduction

Red gram is an important leguminous crop in Semi-Arid Tropics of South Asia and sub-Saharan-Africa. It is a rich source of protein in diets and also sustains soil productivity by fixing environmental nitrogen. The adoption of pigeonpea improved cultivars not only enhances the farmers' income but also ensures household nutritional security. Pigeonpea is one among five mandated crops of ICRISAT's research and has been working for its crop improvement since 1972. Availability of high yielding cultivars, susceptibility to Fusarium wilt and sterility mosaic diseases are major constraints limiting the Red gram production and productivity in India. Over the last four decades, ICRISAT has released several medium-long duration cultivars resistant to Fusarium wilt disease in targeted states of

India in collaboration with NARS partners. The Red gram growers in the state benefitted significantly through enhanced adoption as well as prevention of yield losses due to wilt. Recently in 2011-12 VNMKV, Parbhani has developed BDN 711 new variety of Red gram to overcome the problems and increasing the productivity of Red gram in Maharashtra.

Now this variety has very popularized in the farmers field level, BDN 711 (BDN 2004-3) Year: 2011: This variety is moderately resistant to wilt and resistant to sterility mosaic. Released for the general cultivation in Western Maharashtra and Marathwada region for low rainfall areas, light and medium soils. The genotype matures in 150-155 days. The genotype is having sun red stem colour, yellow flower, white seed, and indeterminate growth habit.

The present study was undertaken with following objective:

To study profile of beneficiaries.

To study the impact of BDN-711 on its beneficiaries.

Materials and Methods

The research study was selected purposively in Parbhani district of Marathwada region in Maharashtra State. The study was conducted in Parbhani district from selected district four talukas was selected and fro selected 3 talukas 4 villages from each talukas was selected on the basis of maximum number of BDN-711 Beneficiaries.

From each selected village 10 beneficiary farmers was selected randomly those having 3 year before BDN-711 cultivation, after receiving its beneficiaries list from the authority to make 120 samples of beneficiaries in total. All the respondents were personally interviewed at their home and farms and data was collected. The collected data was analyzed with the help of suitable statistical methods i.e. frequency, percentage, mean, standard deviation, coefficient of correlation and Z-test.

Results and Discussion

Profile of BDN-711 Beneficiaries

It was found from Table 1 majority of the beneficiaries (74.17%) are belongs to middle age group along with (13.33%) of the beneficiaries are belongs to young category, (12.50%) of the beneficiaries are old peoples. followed by (22.5%) beneficiaries were educated up to middle school level and (11.7%) of the respondents were educated up to primary school level and (12.5%) of the beneficiaries are educated up to higher school level.

Remaining (27.5%) of the beneficiaries are educated up to collage level. followed by (70.00%) of the beneficiaries were having medium land holding and (24.16%) of the respondents were small farmers, followed by (13.33%) of the beneficiaries had large area of land holding. followed by (70.00%) of the beneficiaries had medium family size, and (23.33%) of the respondents had small family size, followed by (1.67%) of the beneficiaries had low social participation and (88.33%) of respondents had medium social participation, followed by (64.1%) of the farmers medium extension contact and (27.5%) farmers had low extension contact, followed by medium knowledge (49.17%) and (25.00%) of the beneficiaries having high level of knowledge along with medium risk orientation (68.4%) and (16.66%) of the beneficiaries having high risk orientation. Majority of the beneficiaries having medium innovativeness (65.00%) along with (18.33%) of the beneficiaries had high level of innovativeness.

Relationship of the beneficiaries with Technological change

It was noticed that from Table 2 Age, Education, Family size, Land holding Extension contact, Knowledge, Social participation, Innovativeness, Risk orientation, Source of information are positively and highly significant with impact on cropping production. Age and Land holding are positively non-significant with cropping pattern. Other factors like Education, Family size, Extension contact, Knowledge, Social participation, Innovativeness, Risk orientation, Source of information are positively and highly significant with impact on cropping pattern above relation indicated that after using of BDN-711 variety most of the annual yield was increased. Due to crop yield also increase annual income of farmers and they provide the more education to his children also increase social contact with extension workers to get more information about agriculture.

Before use of BDN-711 variety beneficiaries followed traditional cropping pattern i.e. they cultivated only one or two crops. After adopting this variety cropping pattern changed to growing more than one crop due to increased earning source, crop yield also increase due to crop yield annual income get increased by change in cropping pattern.

Relationship of the beneficiaries with Economic change

It was noticed from Table 3 that Age and Land holding is non-significant with impact on employment generation. Education, Family size, Social participation, Extension contact, Risk orientation, Source of information are positively and significantly related with impact of employment generation. Knowledge and Innovativeness are positively and highly significant with impact of employment generation. Due to change in cropping pattern work also increased for labour and also required more labour to done work in farm. Hence also increase the labour charges of labour. After use of BDN-71, cultivation of crop was increased. Hence intensive crop cultivation increased the more number of labourers and additional employment is generated in the field of agriculture.

Relationship of the beneficiaries with social change

It is noticed from Table 4 Education, Family size, Knowledge, Social participation, Source of information are positively and highly significant with material possession at 0.01 level of probability. Age, Land holding, are positively non-significant with Material possession along with other factors like Risk orientation, Innovativeness, Extension contact are positively significant with material possession.

It is noticed from Table 4 Education, Source of information are positive and high significantly related with impact of change in education of family members at 0.01 level of probability. Family size, Knowledge, Innovativeness, Extension contact, Social participation, Risk orientation are positively and significantly related with impact of change in education of family members. Age, land holding are positively non-significant related with impact of change in education of family members.

It is revealed from Table 4 Family size, Knowledge, Extension contact, Risk orientation are positively and significant with Farm implement possession. Age, Education, Social participation, Innovativeness, Source of information is positively highly significant with implement possession at 0.01 level of probability. Land holding is positively and non-significant with material possession.

Table.1

(N = 120)

Sr. no.	Category	No.	%
1	**Age**		
	1.Young	16	13.33
	2.Middle	89	74.17
	3.Old	15	12.50
2.	**Education**		
	1.Illiterate	12	10.0
	2.Can read only	11	9.1
	3.Can read and write	8	6.5
	4.Primary (1^{st}- 4^{th}std)	14	11.7
	5.Middle school (5^{th}- 7^{th}std)	27	22.5
	6.Higher school (8^{th}-10^{th}std)	15	12.5
	7.College level	33	27.5
3.	**Family size**		
	1.Low	28	23.33
	2.Medium	84	70
	3.High	8	6.66
4.	**Land holding**		
	1.Small	29	24.16
	2.Semi- medium	75	62.5
	3.Medium	16	13.33
5.	**Extension contact**		
	1.Low	33	27.5
	2.Medium	77	64.1
	3.High	10	8.4
6.	**Knowledge**		
	1.Low	31	25.83
	2.Medium	59	49.17
	3.High	30	25
7.	**Social participation**		
	1.Low	2	1.67
	2.Medium	106	88.33
	3.High	12	10
8.	**Innovativeness**		
	1.Low	20	16.67
	2.Medium	78	65
	3.High	22	18.33
9.	**Risk orientation**		
	1.Low	18	15
	2.Medium	82	68.4
	3.High	20	16.66
10.	**Source of information**		
	1.Low	24	20
	2.Medium	72	60
	3.High	24	20

Table.2 Distribution of relationship of profile of beneficiaries with (Technological change) crop production, change in cropping pattern

Sr.no.	Profile	Crop production 'r' value	Cropping pattern 'r' value
1	Age	0.640**	0.193^{NS}
2	Education	1.007**	0.256**
3	Land holding	0.408**	0.054^{NS}
4	Family size	0.940**	0.275**
5	Knowledge	0.956**	0.225*
6	Social participation	0.956**	0.233*
7	Extension contact	1.02**	0.290**
8	Innovativeness	1.076**	0.329**
9	Risk orientation	1.08**	0.207*
10	Source of information	0.912**	0.200*

**Significant at 0.01 level of probability.
*Significant at 0.05 level of probability.

Table.3 Distribution of relationship of profile of beneficiaries with economic change

Sr.no.	Profile	Beneficiaries 'r' value
1	Age	0.072^{NS}
2	Education	0.213*
3	Land holding	0.185^{NS}
4	Family size	0.245*
5	Knowledge	0.339**
6	Social participation	0.219*
7	Extension contact	0.220*
8	Innovativeness	0.305**
9	Risk orientation	0.215*
10	Source of information	0.226*

**Significant at 0.01 level of probability.
*Significant at 0.05 level of probability

Table.4 Distribution of relationship of profile of beneficiaries with material possession, change in education of family member and implement possession

Sr.no.	Profile	Material possession 'r' value	Change in to education of family members 'r' value	Implement possession 'r' value
1	Age	0.171^{NS}	0.020^{NS}	0.306**
2	Education	0.357**	0.357*	0.293**
3	Land holding	0.120^{NS}	0.108^{NS}	0.148^{NS}
4	Family size	0.339**	0.201*	0.219*
5	Knowledge	0.454**	0.201*	0.205*
6	Social participation	0.281**	0.208*	0.370**
7	Extension contact	0.202*	0.244*	0.229*
8	Innovativeness	0.235*	0.203*	0.275**
9	Risk orientation	0.207*	0.200*	0.239*
10	Source of information	0.436**	0.291**	0.314**

The result revealed that majority (74.17%) of the beneficiaries are belongs to middle age group, followed by (22.5%) of the beneficiaries were educated up to secondary school level, while (70.00%) of the beneficiaries are belongs to medium family size along with (62.5%) of the beneficiaries were having marginal land holding. It was also found that (88.33%) of the beneficiaries having medium social participation, whereas (64.10%) of the beneficiaries having medium level of extension contact, followed by (68.4%) of the beneficiaries having medium risk orientation. Also the result showed that Age, education, landholding, family size social participation, extension contact, and risk orientation were found to be positively and significantly related with impact in technological change (i.e.) crop production, cropping pattern. Also the result showed that relationship of profile of beneficiaries with economic change in employment generation only was positive and significant, followed by relationship of profile of beneficiaries with social change in material possession. Also social participation was highly significant in change in education family member. Age, Education, Family size, Land holding Extension contact, Knowledge, Social participation, Innovativeness Risk orientation, Source of information are positively and highly significant with impact on cropping production. Age and Land holding is non-significant with impact on employment generation. Education, Family size, Social participation, Extension contact, Risk orientation, Source of information are positively and significantly related with impact of employment generation. Knowledge and Innovativeness are positively and highly significant with impact of employment generation. Due to change in cropping pattern work also increased for labour and also required more labour to done work in farm. Hence also increase the labour charges of labour. Education, Family size, Knowledge, Social participation, Source of information are positively and highly significant with material possession. Family size, Knowledge, Extension contact, Risk orientation are positively and significant with Farm implement possession.

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How to cite this article:

Kanhadkar, B.R., V.B. Kamble and Mundhe, S.D. 2019. Relational Analysis of Profile of Beneficiaries of BDN-711 (Red Gram Variety) and Its Socio Economic Impact. *Int.J.Curr.Microbiol.App.Sci.* 8(07): 409-414. doi: https://doi.org/10.20546/ijcmas.2019.807.050