UNDER PEER REVIEW

OriginalResearchArticle

Knowledge of the Farmers toward improved Pigeon pea cultivation practicesinGopalganj district of Bihar in India

(All initial words should be in capital)

Abstract

The present study was undertaken to assess the knowledge of farmer(s) towards improved Pigeonpea cultivation practices in Gopalganj district of Bihar, during year 2021-22. The data werecollected through pre-tested schedule form 120 respondents which were selected randomly. Thecollecteddataweretabulated,analyzedandinterpretedwiththehelpofappropriatestatisticaltools(name statistical tools).Thestudyrevealedthatmaximumrespondentweremiddleagedwith54.17percent,59.16farmerhad marginal land holding, The maximum number of respondents having medium level scientificorientation, mass media exposure, extension contact and 60.84 per cent of the respondents hadmediumlevelofknowledgeaboutpigeonpeaproductionpractices.Famershadmaximumknowledge about soil type , varities , season of growing and harvesting etc and they had lessknowledge aboutspacing,seed treatment, inter cultivation , seed treatment with fungicide etcandage, caste, source of information, scientific orientation, mass media exposure and riskorientationwerepositivelyandsignificantlycorrelatedwithknowledgeofpigeonpeagrower.

(Include recommendation)

Key Words: Knowledge, Farmers Improved Pigeon Pea and Cultivation Practices

Introduction

Agriculture plays a vital role in the Indianeconomy.Over70percentoftheruralhouseholds depend on agriculture. AgricultureisthemostimportantsectorofIndian Economy. Indian agriculture sector accountsfor18percentofIndia'sGgrossDdomesticPproduct (GDP) and provides employment to50%of thecountriesworkforce.

AboutPigeonpea

Pigeonpea(*Cajanuscajan*)isanimportantmulti-useshrublegumeofthetropicandsub-tropicregions. The crop originated from India andmovedtoAfricaabout4,000yearsago.Unlikeothergrainlegumes,pigeonpeaproductionisconcentratedindevelopingcountries,particularlyinafewSouthandSoutheastAsiaandEasternandSouthernAfrican countries.Itisthepreferredpulse cropindrylandareaswhereitisinter-croppedorgrowninmixedcroppingsystemswith cereals or other short duration annuals**(Joshi *et al*. 2001).**

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

pulsescultivationisanimportantpartofBihar'sagriculturesector,providing livelihoodstomillionsoffarmersinthestate.The government'sinitiativesandschemeshavehelpedpromotetheadoptionofmoderntechnologies andbetteragriculturalpractices,

improvemarketaccess,andprovidefinancialsupporttofarmersengagedinpulsescultivation.However,thereisstillmuchworktobedonetoaddressthe challengesfacedbythe farmers and ensure sustainable growth inthefuture.

II. MaterialsandMethod

TheresearchstudywasconcludedinGopalganj district of Bihar start during theyear 2021-22. Gopalganj district was purposivelyselectedforthestudy.InHathuwablockwhichwasselectedpurposivelyand6villages were selected randomly for study.Thus,inall120Pigeonpeagrower(s)constitutedsamplefortheinvestigation.Basedonthe objectivesofthe study,aninterviewschedule was prepared. The information waselucidated from respondents with the help ofprestructuredscheduled.Theinformationwascollectedbypersonallyinterviewingrespondentsusingstructuredinterviewschedule.

III. ResultsandDiscussion

Table no. 1. Socio economic profile of theRespondents.

S.no.	Variables	Frequency	Percentage
01.	**Age**		
	Young(18-35)	16	13.33
	Middle(36-55)	86	71.67
	Old(56andabove)	18	15.00
02.	**Education**		
	Illiterate	55	45.83
	Primaryschooleducation	15	12.5
	Highschool education	26	21.7
	Intermediate	15	12.50
	Graduate	9	07.50
03.	**Family type**		
	Nuclear	93	77.5
	Joint	27	22.5
04.	**Occupation**		
	Agriculture only	76	63.33
	Agri+Agrilabour	12	10.00
	Agri + business	23	19.16
	Agri + Service	9	07.50
05.	**Landholding**		
	Marginal	71	59.16
	Small	40	33.33
	Medium	07	05.83
	Large	02	01.66
06.	**Annualincome**		
	Low(>50k)	66	55.00
	Medium(50-1lakh)	24	20.00
	High(1lakh &above)	30	25.00
07.	Source of Information		
	Low(16-19)	30	25.00
	Medium (20-21)	52	43.33
	High (22-24)	38	31.67
08.	**Scientificorientation**		
	Low(14-15)	40	33.33
	Med(16)	65	54.17
	High(17)	15	12.50
09.	**Massmediaexposure**		
	Low(6-8)	46	38.33
	Medium(9-11)	70	58.33
	High (12-13)	04	03.33
10.	**Riskorientation**		
	Low (12-	54	45.00

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

A majority of (71.67%) of farmer were fromthemiddleagegroup,similarfindingby**Perke*etal*.(2018),**Inselectedvillage54.2%literate while 45.80 % of illiterate respondent,majorityoftherespondentsweredoingAgricultureonlyi.e63.33percent,with 59.16 per cent of farmer had marginal landholding ,55% of respondent had low income.It Reveals that the majority of respondents,accountingfor77.50%ofthetotalsample, 43.33 % of respondent have medium sourceofinformation,Maximumfarmerhadmediumlevelof Scientificorientationi.e 54.17%andbasedontheanalysisofthedataobtainedfromthe120respondents,itisevidentthatthemajorityoffarmers,accounting for 58.33% of the total sample,had a high level of mass media exposure.Similar finding was also reported by **MelkarandMazhar(2018).**

Table2:Distributionofrespondentsbasedon Extent ofKnowledge

S.No.	**Statements**	**Evaluation**		
		FC F(%)	**PC F(%)**	**NC F(%)**
1	Soiltype	108 (90%)	12 (10%)	0 (0%)
2	Varities	102 (85%)	15 (0%)	0 (0%)
3	Seasonof growing	112 (93.33 %)	08 (6.67 %)	0 (0%)
4	Pigeonpeacannotbegrownins oilssubjectedto water stagnation.	107 (89.16 %)	13 (10%)	0 (0%)
5	Seedtreatment	12 (10.00 %)	73 (60.08 %)	35 (29.17 %)
6	Inter-croping	10 (8.33 %)	37 30.08 %)	73 (60.83)
7	Spacing for Pigeonpea	24 (20.00 %)	09 (7.5%)	87 (72.50 %)
8	‘Intercultivation	33 (27.50 %)	04 (3.3%)	82 (68.33 %)
9	Besttimeofsowing	98 (81.60 %)	13 (10.83 %)	09 (7.5%)
10	Plantprotection	62 (51.7 %)	58 (48.33 %)	0 (0%)
11	Recommendedquantityof farm yardmanure	16 (13.33 %)	39 (32.5 %)	65 (54.17 %)
12	Sowingby using country seeddrill	28 (23.33 %)	51 (42.5 %)	41 (34.16 %)
13	Seedraterequired	70 (58.33 %)	36 (30.00 %)	14 (11.67 %)
14	Seedtreatmentwith fungicides	22 (18.33 %)	25 (20.8 %)	73 (60%)

15	Weedmanagement	112 (93.34 %)	07 (5.83 %)	1 (0.83 %)
16	Knowledge about insectandpest	91 (75.84)	18 (15%)	11 (9.16 %)
17	Pestmanagement	42 (35%)	43 (35.83 %)	35 (29.17 %)
18	Insectmanagement	39 (32.5 %)	48 (40%)	33 (27.5 %)
19	Harvesting	113 (91.46	07 (5.83	0 (0%)

Table4.

OverallLevelofknowledgeofimprovedproductiontechnologyofPigeonpeagrowers

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 respondentshadamediumlevelofknowledgeaboutPigeon pea production practices. A significantproportionofPigeonpeafarmers,approximately 28.33%, had a low level ofknowledge, while 10.83% of the surveyedfarmers had a high level of knowledge aboutPigeonpeapracticessimilarfindingby**Chahandeand Ghadge(2016)**

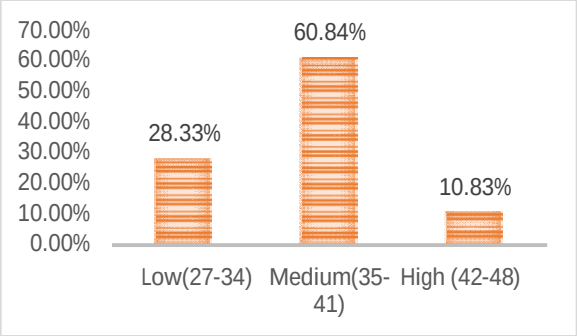

Fig1.

Distributionoftherespondentsonthebasis of Knowledge level of farmers aboutPigeonpea practices

Table3:Relationbetweenprofileofrespondents with knowledge improved Pigeonpeapractices

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	Maritalstatus	-0.098(NS)
6	Familytype	0.114**
7	Landholding	-0.130(NS)
8	Income	-0.299
10	Source of Information	0.752*
11	ScientificOrientation	0.985*
12	Mass Media exposure	0.946*
13	Riskorientation	0.828*

***= Correlation is significant at the 0.01%levelof probability**

****=Correlationissignificantatthe0.05%levelof probability**

NS=Non-significant

Accordingtotable3.Concludedthatindependent variable educational qualificationandfamilytypepositivelyandsignificantly

correlatedat0.05percentlevelofprobabilityand age,caste,sourceofinformation,scientific orientation, mass media exposureandriskorientationwerepositivelyan dsignificantly correlated with knowledge withpigeonpeagrowerat0.01%probability.Th erefore null hypothesis were rejected forgender,maritalstatus,landholdingandinco me were negatively and not significantlycorrelated with knowledge about Pigeon peagrower at0.05% ofprobability.

Conclusion

Thestudyconcludedthatmostoftheresponden t in the study area belonged to theMiddle age group(36-55),54.17percentliterate respondent and 77.7 per cent farmerbelong to nuclear family. The respondentsweredependentfortheirlivelihoo donAgriculture, Labor, Services and Business.Themaximumnumberofrespondent shavingmediumlevelscientificorientation,m assmediaexposure,extensioncontactandkno wledge level in the study area and someindependent variables like age, caste, sourceof information, scientific orientation, massmediaexposureandriskorientationwere positively and significantly correlated withknowledge with pigeon pea grower at 0.01%probability.(Include recommendation)

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