



The Relationship between Socio-Economic Characteristics with the Knowledge Level towards Respondents of Black Gram Production Practices

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ABSTRACT

Black gram (*Vigna mungo*) is a pulse crop belongs to family leguminacea. The study was conducted during 2019-20 to assess the socio-economic characteristics with the knowledge level of respondents' orientation in Yemmiganur block of Kurnool district of Andhra Pradesh. Total 120 respondents were selected randomly from 6 villages and results revealed that improved production practices of black gram were medium. The analysis showed that majority of the respondents had medium level of age group; possess education at primary school, medium land size holders, only farming as an occupation, medium annual incomers with small family size, medium extension contact, medium mass media exposure, medium market and risk orientation.

KEYWORDS- Socio-economic characteristics, Black gram production practices, Knowledge, Correlation, Regression.

INTRODUCTION

Among the pulse crops Black gram (*Vigna mungo* L.) is an important summer legume. Its also known as urd bean, mung bean, black map. It's the fourth most important short-duration pulse crop in India due to its nutritional and industrial values. The coastal Andhra region in Andhra Pradesh is famous for black gram after paddy. The Guntur District ranks first in Andhra Pradesh for the production of black gram. Black gram has also been introduced to other tropical areas mainly by Indian immigrants. The crop is resistant to adverse climatic conditions and improve the soil fertility by fixing atmospheric nitrogen in the soil. It has been reported that the crop produces equivalent to 22.10 kg of N/ha., which has been estimated to be supplement of 59 thousand tones of urea annually. The pulse 'Black gram' plays an important role in Indian diet, as it contains vegetable protein and supplement to cereal based diet. It contains about 26% protein, which is almost three times that of cereals and other minerals and vitamins. Besides, it is also used as nutritive fodder, especially for milch animals.

CLIMATE

During kharif, it is cultivated throughout the country. It is best suited to rice fallows during rabi in southern and south-eastern parts of India. Black gram needs relatively heavier soils than green gram.



SOIL

Black gram can be grown on variety of soils ranging from sandy soils to heavy cotton soils. The most ideal soil is a well drained loam with pH of 6.5 to 7.8.

SEED RATE AND SOWING

Optimum sowing time mid June subject to availability of moisture/rainfall. Seed rate is 15-20 kg/ha for kharif and 25-30 kg/ha for spring or rabi. Row-to-row distance is 30-35 cm for kharif and 25 cm for rabi or spring.

IRRIGATION

The pulse crops in Rabi and Pre rabi seasons are mostly grown on residual soil moisture condition. However irrigation should be provided at critical growth stage i.e flowering and pod development stage.

YIELD

A well managed crop of Urd may produce 12 - 15 quintals grains/ha.

OBJECTIVE:

- 1. Content analysis of level of knowledge on selected production technology of black gram growers.**
- 2. To find out the correlation of selected independent variables with the level of knowledge.**
- 3. To find out the multiple Linear Regression Analysis of Profile Characteristics of Black gram growers with their Level of Knowledge.**

METHODOLOGY

The present study was conducted in Yemmiganur block of Kurnool district of Andhra Pradesh has been purposively selected in 2019-20. Six villages (Banavasi, Devibetta, Divamdinne, Garlandinne, Gudikal, Thimmapuram) were selected randomly. A well structured interview schedule was prepared and pre-tested for the study. The sample population of 120 respondents has been selected based on random sampling method from the selected 6 villages. Relevant questions on black gram production practices were collected with well structured interview followed by personal interview method. For the purpose of the study statistical analysis of the coded data, appropriate statistical tools were used viz., frequency, percentage and ranking. The data was tabulated, analysed and interpretations were drawn as below.



RESULTS AND DISCUSSION

1. Content analysis of level of knowledge on selected production technology of black gram growers.

n=120

S.No.	Particulars	Knowledge			
		Correct		Incorrect	
		F	%	F	%
1.	Recommended time of sowing is in the month of November – December.	110	91.66	10	8.33
2.	Sowing shall be taken up 3-4 days prior to the harvest of paddy.	102	85	18	15
3.	The suitable variety is LBG – 752	70	58.33	30	25
4.	The recommended seed rate per acre is 15 – 20 kg	64	53.33	56	46.66
5.	The recommended method of sowing is Broadcasting	120	100	-	-
6.	The recommended chemical used for seed treatment against seed borne diseases is Captan/ Carbendazim / Mancozeb.	32	26.66	88	73.33
7.	The recommended chemicals used for seed treatment against sucking pests is Carbosulfan/ Imidacloprid / Thiamethoxam.	68	56.66	52	43.33
8.	Seed treatment with Rhizobium culture helps in increasing yield.	18	15	102	85
9.	1 - 2 irrigations should be given when there are no rains.	60	50	60	50
10.	Spraying of 2% Urea at flowering and pod formation stages is essential.	25	20.83	95	79.16
11.	The duration of rabi black gram varieties grown ranges from 75 - 95 days.	70	58.33	50	41.66



12.	Anthracnose, Cercospora and Alternaria leaf spot can be controlled by spraying twice @15 days interval using Mancozeb@2.5g/lre/ (or) Hexaconazole (Contaf) @ 2ml/lre/ (or) Copper Oxy Chloride(Blax) @ 3g/lre	107	89.16	13	10.83
13.	Intensity of dominant weeds can be controlled by spraying of Imazethapyr(Pursuit).	42	35	78	65
14.	Post-emergent weed problem of Echinochloa colonum and other grasses can be controlled by spraying of Quizalofop p ethyl(Turga Super)@ 400ml / acre (or) Fenoxoprop p ethyl(Whip Super) @ 250ml / acre.	14	11.66	106	88.33
15.	Powdery mildew disease can be controlled by spraying Carbendazim(Bavistin) @ 1g / lre/ (or) Thiophanate methyl (Topsin-M) @ 1ml / lre/ (or) Copper Oxy Chloride (Blox) @ 3g / lre	53	44.16	67	55.83

Table 3.1 :-Information output of knowledge

2. Distribution of black gram growers according to their overall level of knowledge

S.No.	Knowledge	Frequency	Percentage
1.	Low (<16)	24	20
2.	Medium (16-21.74)	71	60
3.	High (>21.74)	25	20
	Total	120	100.00

Mean = 18.87

S.D.= 2.87

Table 3.2 :- Overall Level of Knowledge of the respondents



3. Correlation coefficient of profile characteristics of black gram growers with their level of knowledge.

S.No.	Independent variables	Correlation coefficient 'r'
1.	Age	0.713**
2.	Education	0.558**
3.	Size of land	0.006 ^{NS}
4.	Occupation	-0.018 ^{NS}
5.	Annual income	0.114 ^{NS}
6.	Family size	0.099 ^{NS}
7.	Extension contact	0.653**
8.	Mass media exposure	0.795**
9.	Market orientation	0.801**
10.	Risk orientation	-0.021 ^{NS}

Table 3.3 :- Correlation of selected independent variables with the level of knowledge

** - Correlation is significant at the 0.01 level

NS - Non Significant

It is evident from the above table that computed 'r' values of age, education, extension contact, mass media exposure, market orientation were significant to the extent of knowledge. The other variables such as farm size, family size, annual income, occupation and risk orientation did not show any significant relationship with level of knowledge on selected black gram production technology.



4. Multiple linear regression analysis of profile characteristics of black gram growers with their level of knowledge.

S.No.	Profile characteristics	Regression coefficient
1.	Age	0.041
2.	Education	-0.035
3.	Size of land	0.131
4.	Occupation	-0.029
5.	Annual income	-0.047
6.	Family size	-0.065
7.	Extension contact	0.005
8.	Mass media exposure	0.501
9.	Market orientation	0.712
10.	Risk orientation	-0.001

Table 3.5: Multiple linear regression analysis of profile characteristics of black gram growers with their level of knowledge

From the above table the MLR equation can be fit as $Y = 31.773 + 0.041x_1 + -0.035x_2 + 0.131x_3 + -0.029x_4 + -0.047x_5 + -0.065x_6 + 0.005x_7 + 0.501x_8 + 0.712x_9 + -0.001x_{10}$ Table 4.16 revealed that the coefficient of determination “ R^2 ” value was significant, as the value of “ a ” was found significant. The “ R^2 ” value of **0.7446** indicated that all the selected 10 profile characteristics put together, explained about **74.46 per cent** variation in the level of knowledge of black gram growers. Remaining 25.54 per cent is due to the extraneous effects of the other characteristics. Hence, it could be stated that the variables selected to a large extent explained the variation in level of knowledge of the black gram growers.

The profile characteristics namely age, mass media exposure and market orientation were found to be positively significant towards extent of knowledge. Remaining variables viz. education, farm size, family size, occupation, annual income, extension contact and risk orientation are non significant in this analysis.



This implied that age, mass media exposure and market orientation were contributed significantly to the prediction of the variation in the level of knowledge of the black gram growers about the selected production technology.

CONCLUSION

It has been concluded that level of knowledge of respondents towards black gram production were medium, this might be due to their habitual inclination to set pattern of black gram cultivation over the years using indigenous varieties without any change. This is leading them to have no interest in gaining advanced information. The other reason for this trend could be the small to medium holdings, medium innovativeness, scientific orientation, economic orientation, market orientation, medium mass media exposure and extension contact. Correlation table above showed that significant relationship between age, education, extension contact, mass media exposure, market orientation. The farmers should increase more as a black gram growers in the village with new technological practices to increase the annual income, and should have the ability to take risks which will improve the existing medium level of knowledge towards black gram production practices. Whereas, “R²” value was significant, as the value of “a” was found significant. The “R²” value of 0.7446 indicated that all the selected 10 profile characteristics put together, explained about 74.46 per cent variation in the level of knowledge of black gram growers.

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