

KNOWLEDGE OF FARMERS TOWARDS RECOMMENDED MUSTARD PRODUCTION TECHNOLOGY IN ROHTAS DISTRICT OF BIHAR

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ABSTRACT

The study was conducted in Rohtas District of Bihar to measure the knowledge of farmers towards mustard production technology in Rohtas district of Bihar. A total number of 120 respondents were selected purposively from five villages under Seosagar block based on the maximum number of Mustard growers in the district. The data were collected by personnel interview method by using pre structured interview schedule and later appropriate statistical analysis was done to draw logical conclusion. The study revealed that majority 60.00 per cent of the respondents belonged to middle aged group. All the independent variables included in the study revealed that most 43.33 per cent of respondents had medium level of knowledge towards production technology of Mustard crop, followed by 39.17 per cent and 17.5 per cent of respondents with low and high level of knowledge respectively. All the 9 independent variables i.e., age, education, annual income, land holding, occupation, economic motivation, extension contact, risk bearing capacity, mass media exposure, were positively and significantly correlated with overall knowledge of farmers towards production technology of Mustard crop.

KEYWORDS: Knowledge, Mustard, Positive and Significant

Article History

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INTRODUCTION

The food grain production has increased from a level of 50.83 million tonnes in 1950-51 to over 259 million tonnes in 2012-13. This significant achievement in food grain production is due to adoption of high yielding varieties, chemical fertilizers and other critical inputs or as a result of green revolution. (Source: Agricultural statistics at a Glance 2012-13)

Indian mustard (*Brassica juncea*) is cultivated throughout the country in rabi season. The major Mustard and mustard growing states are Rajasthan, Haryana, Uttar Pradesh., Madhya Pradesh, Gujarat and Bihar, representing 80 per cent of the national hectareage area. These states are contributing 86.72 per cent of total Mustard and mustard production. Area of Mustard in Bihar is 82 thousand ha, 0.76 lakh tonnes and 926kg/ha, respectively. The major constraints in production are use of traditional varieties, inadequate moisture availability at sowing and late sowing of Mustard particularly in rice-fallow areas, broadcasting method of sowing and use of high seed rate, and aphid, Bihar hairy caterpillar, Alternaria blight, white rust and downy mildew. (Source: ICAR)

Considering the importance of Mustard and mustard group of crops in the Indian economy there is urgent need for undertaking the basic & strategic research for stabilizing and increasing the production & productivity of mustard in our country.

Mustard and mustard crop can be grown under varied agroclimatic conditions and its adaptability to soil is also remarkable. But the average yield of Mustard and mustard is very low as compared to the other countries. This has been basically due to the lack of knowledge about improved package of practices of Mustard and mustard cultivation by majority of the farmers. Generally, there is a time lag between origin of a technology and its awareness among farmers. Improved technology of Mustard and mustard cultivation is not fully adopted by the farmers and still it is grown traditionally. There is a need for awareness of recommended cultivation technology of Mustard and mustard crop by the farmers, so that production and income of farmers can be raised.

For oilseeds, Government of India implemented Integrated Scheme of Oilseeds, Pulses, Oil Palm and Maize (ISOPOM) from 2004-05 to 2013-14. During 2013-14, there was a record of oilseeds production with of 32.89 million tonnes. From the year 2014-15 onwards, National Mission on Oilseeds and Oil Palm (NMOOP) is under implementation to achieve oilseeds production of 35.51 million tonnes by the end of 12th Plan. The Mission is being implemented in 23 States during 2014-15 (**Anonymous 2015**).

RESEARCH METHODOLOGY

Descriptive research design was adopted for the study as it describes the characteristics or phenomena that are being studied. The present study was conducted in Rohtas district of Bihar. Out of 19 blocks in Rohtas district, Seosagar block is selected purposively based on the maximum number of Mustard growers in the district. From selected block, five villages were selected randomly thus a total number of 120 respondents were taken based on the maximum number of Mustard growers in the district.

OBJECTIVES OF THE STUDY

- Ñ To assess the socio-economic profile of the respondents.
- Ñ To examine the knowledge of respondents towards improved Mustard production technology.

RESULTS AND DISCUSSION

Table 1, it shows that 60.00 per cent of the respondents belong to the middle age group. It can be clearly seen that 40.83 per cent of the respondents are illiterate. In terms of annual income 64.17 per cent of the respondents have medium level of income (i.e., 50000 – 100000) and 48.33 per cent has land holding below 2.5 acres. It is significantly visible that 35.00 per cent of the respondents are having agriculture & labour as their occupation. It is also evident that 52.50 per cent of the respondent has low level of extension agent contact. It is depicted in table that 40.84 per cent of the respondents have medium level of economic motivation and 50.00 per cent of the respondents have medium level of risk bearing capacity. It is seen that 43.33 percent of the respondent showed medium level of mass media exposure. Similar finding is also reported by **Mandavkar et al. (2013)**

Table 2, shows that a majority of the respondents 43.33 per cent has medium level of knowledge towards improved Mustard production technology. 70 per cent of the respondents, fully agreed that there should be proper seed bed preparation by ploughing & harrowing. 68.33 per cent of the respondents, disagree in when it came to the use of high yielding variety i.e., Kudrat Vandana, Kudrat Gita etc. 81.67 per cent of the respondents disagreed on having knowledge of seed treatment with chemicals. 83.33 per cent of the respondents also disagreed about scientific sowing time rather preferred conventional time. 70.83 per cent of the respondents partially agreed about suitable spacing in Mustard plant. 74.17 per cent of the respondents were partially agreed on the doses of fertilizer in optimum amount. 72.50 per cent of the respondents partially agreed that irrigation at critical period is must for production. 77.50 per cent of the respondents were partially agreed in knowing intercultural operations

such as weeding & hoeing. 68.33 per cent of the respondents disagree on using chemicals as weedicides. 55.83 per cent of the respondents partially agreed on having the knowledge about the diseases of Mustard. 72.50 per cent respondents disagreed on having the knowledge of suggested harvesting time. 70.00 per cent respondent disagreed on gaining the yield up to 25 quintal/ha. 60 per cent respondent fully agreed on the texture of soil Mustard is grown. 67.50 per cent respondent fully agreed on having the knowledge of soil pH from 6.0 to 7.5. Similar finding is also reported by **Dutta (2017)**.

Table 3, reveals that 43.33 per cent of the respondents had medium level of knowledge towards improved Mustard production technology. Considerable percentage of respondents were found having low level 39.17 per cent and high level 17.50 per cent of knowledge respectively. Similar finding was also reported by **Prasad (2011)**.

Table 4, it is concluded that the independent variables i.e., age, education qualification, land holdings, economic motivation, extension agent contacts, risk bearing capacity, mass media exposure were positively and significantly correlated with knowledge of the respondents towards recommended Mustard production technology at 0.01% of probability, hence, null hypothesis was rejected for these variables. Whereas, independent variable such as annual income and occupation were positively and significantly correlated with knowledge of the respondents towards recommended Mustard production technology, at 0.05% of probability. Therefore, the null hypothesis was rejected for these variables. The similar findings were also reported by **Singh et al. (2019)**.

Table 1: Socio-Economic Profile of the Respondents

S. No	Independent Variables	Category	Frequency	Percentage
1.	Age	Young (Up to 35 years)	22	18.33
		Middle(36-55 years)	72	60.00
		Old (above 55 years)	26	21.67
2.	Education	Illiterate	49	40.83
		Primary Education	12	10.00
		Junior high Education	13	10.83
		High Education	14	11.67
		Intermediate	15	12.50
		Graduate & above	17	14.17
3	Annual income	Low (<50000)	16	13.33
		Medium (50000 – 100000)	77	64.17
		High (>100000)	27	22.50
4	Land holding	<2.5 acre	58	48.33
		2.5 – 5 acres	49	40.33
		>5 acre	13	10.84
5	Occupation	Agriculture	38	31.67
		Agriculture + Labour	42	35.00
		Agriculture + Business	22	18.33
		Agriculture + Animal husbandry	18	15.00
6	Economic motivation	Low (9 – 11)	37	30.83
		Medium (12 –13)	49	40.84
		High (14 – 15)	34	28.33
7	Extension contacts	Rarely (6 – 9)	63	52.50
		Medium (10 – 12)	37	30.83
		High (13 – 15)	20	16.67
8	Risk bearing capacity	Low (6 – 10)	40	33.33
		Medium (11 – 14)	60	50.00
		High (15 – 18)	20	16.67
9	Mass media exposure	Low (4 – 8)	40	33.33
		Medium (9 – 12)	52	43.33
		High (13 – 16)	28	23.34

Table 2: Knowledge of Farmers towards Improved Mustard Production Technology

S. No.	Statement	Response		
		Fully Agree f %	Partially Agree f %	Disagree f %
1.	Field preparation: <ul style="list-style-type: none"> Seed bed preparation. 2-3 times ploughing & 2 harrowing. Planking after every ploughing. d) Prepared firm, moist, & uniform seed bed 	90 (75%)	24(20%)	6(5%)
2.	Improved variety: <ul style="list-style-type: none"> Kudrat Vandana Kudrat Gita Kudrat Soni 	8(6.67%)	30(25%)	82(68.33%)
3.	Seed & its treatment: <ul style="list-style-type: none"> treat with Apron 35 SD@ 6g/kg seed 	7(5.83%)	15(12.5%)	98(81.67%)
4.	Sowing time: (September – October)	0(0%)	14(11.67%)	106(83.33%)
5.	Spacing: <ul style="list-style-type: none"> row to row: 30 cm plant to plant: 10-15 cm c) depth: 4-5 cm 	10(8.33%)	85(70.83%)	25(20.83%)
6.	Fertilizer: NPK: - 90:60:40 FYM: - 15-20 tones	12(10%)	89(74.17%)	19(15.83%)
7.	Irrigation: <ul style="list-style-type: none"> 1st irrigation at flowering stage@30DAS 2nd irrigation at pod formation stage@60DAS. 	27(22.5%)	87(72.5%)	6(5%)
8.	Weeding & Hoeing operation: <ul style="list-style-type: none"> With help of hand hoe. Uprooted manually 	15(12.5%)	93(77.5%)	12(10%)
9.	Weed control: 1 st weeding @ 30-35 DAS	2(1.67%)	36(30%)	82(68.33%)
10.	Diseases: <ul style="list-style-type: none"> White rust Alternaria blight Powdery mildew 	38(31.67%)	67(55.83%)	15(12.5%)
11.	Harvesting: (Mid Feb to Feb end)	15(12.5%)	18(15%)	87(72.5%)
12.	Yield (per acre) <ul style="list-style-type: none"> average yield: 25 quintals/ha 	10(8.33%)	26(21.67%)	84(70%)
13.	Soil: Light to heavy loamy soil	72(60%)	33(27.5%)	15(12.5%)
14.	Soil pH: 6.0 to 7.5	81(67.5%)	28(23.33%)	11(9.17%)

Table 3: Distribution of Respondents According to their Overall Knowledge Level

S. No.	Category	Number	Percentage
1.	Low level knowledge (20 – 24)	47	39.17
2.	Medium level knowledge (25 – 29)	52	43.33
3.	High level knowledge (30 – 34)	21	17.50
	Total	120	100.00

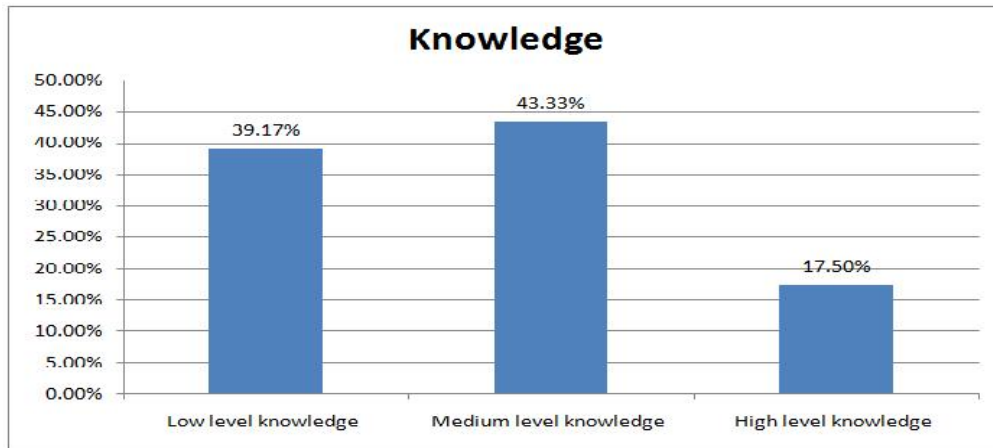


Figure 1: Distribution of Respondents based on their Overall Knowledge towards Production Technology of Mustard Crop.

Table 4: Association between Selected Independent Variables with Knowledge

S. No.	Variables	Correlation coefficient ®
1	Age	0.566*
2	Educational Qualification	0.713*
3	Annual Income	0.483**
4	Land Holding	0.942*
5	Occupation	0.150**
6	Economic Motivation	0.760*
7	Extension Contact	0.700*
8	Risk Bearing Capacity	0.931*
9	Mass media exposure	0.931*

*=Correlation is significant at the 0.01% level of probability

**= Correlation is significant at the 0.05% level of probability

CONCLUSIONS

It is concluded that the age of the majority of the respondents was middle and their educational level is low. Majority of the respondents possessed medium level of risk bearing capacity. Most of the respondents worked as agriculture & labour, medium level of income, economic motivation and land holding of the respondent is of low level. The overall knowledge of the respondents towards recommended Mustard production technology was found to be of medium level. The independent variables i.e., age, education qualification land holdings, economic motivation, extension agent contacts, risk bearing capacity and mass media exposure were positively and significantly correlated with knowledge of the respondents towards recommended Mustard production technology at 0.01% of probability.

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