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Knowledge Level of the Chilli Growers in Ballari District Karnataka

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Abstract:- Adoption behaviour of Chilli(Capsicum annuum) growers in Siruguppa taluka of Ballari district (Karnataka)".was taken up with the objectives to elicit information regarding profile characteristics of chilli growers, knowledge and adoption level of chilli growers in improved farm cultivation in chilli cultivations, and socio economic life and constraints use in the farm chilli cultivation and seek their suggestion to overcome the constraints was carried out during the year 2017-18 in Ballari district which having maximum area and production of chilli. The study revealed that majority chilli growers had medium level of knowledge (38.34%) followed by low (32.50%) and high level of knowledge (29.16%) regarding Overall knowledge of recommended production practices of chilli.

Keywords:- *Knowledge level, socio-economic life, constraints, adoption.*

I. INTRODUCTION

Chilli is cultivated in almost all the states in India but, Andhra Pradesh is the largest producer accounting for more than 50% of total chilli output in the country. Karnataka is the second largest producer contributing for about 10-15% of total production in the country. Rest of the output is spread across a number of states including Maharashtra, Orissa, Rajasthan and Tamil Nadu. In Karnataka, chilli is grown on an area of 89,556 hectares with the production of 1.12 tonnes and productivity of 1245 kg/ha (Anon., 2015a). A number of chilli varieties are being cultivated in the state; however, Byadagi chilli, Byadagi kaddii and Jwala are the popular varieties in Karnataka. Among these Byadagi chilli variety is more popular in northern Karnataka because of its mild pungency, high capsanthin pigment and its performance under rainfed conditions besides high export potential. This region includes certain districts like Gulbarga, Raichur, Ballari, Vijayapura, Koppal, Gadag, Dharwad and Haveri. More than 70.00 percent of area under chilli comes under these regions. These districts had 67,118 ha of area under chilli with 1.03 lakh tonnes of production and 2.13 t/ha productivity (Anon., 2015b). The following study was conducted and their level of adoption and knowledge were assed and their major constraints faced by the chilli growers in ballari district of Karnataka state.

II. METHODOLOGY

The research study on adoption behavior of chilli growers was conducted during the year 2017-2018 in Siruguppa taluka of Ballari district of Karnataka. In the present investigation, ex-post-facto research design was employed. This design was appropriate because the phenomenon had already occurred. Ex-post-facto research is the most systematic empirical enquiry in which the researcher does not have any control over independent variables as their manifestation has already occurred or as they are inherent and not manipula table thus, inferences about relations among variables were made without direct intervention from concomitant variation of independent and dependent variables. The Ballari district comprises of ten talukas, among siruguppa taluka will be selected based on the highest area under chilli cultivation. There are 86 villages in selected taluks. From selected taluka ten villages will be selected randomly. From each village 12 farmers will be selected randomly. Thus, the total sample size was 120.

Knowledge was operationally defined, as the extent to which chilli production techniques was knew by the respondents. For the present study an operational measure for knowledge was developed by constructing a "teacher made knowledge test". The knowledge test was constructed based on the package of practices developed for chilli cultivation. Lists of 20 cultivation practices were developed for the purpose and each practice was administered in the form of questions to respondents to obtain the response from chilli growers. The questions were provided with multiple choice answers. The questions and answers pertaining to knowledge test were carefully designed in consultation with experts. The questions covered full range of cultivation practices beginning from variety selected till the crop yield. Frequency percentage calculated each statements.

III. RESULTS AND DISCUSSION

S. No.	Statement	Fully Corrected		Partially Corrected		Not Corrected	
1	Recommended chilli varieties in your area are:	F	%	F	%	F	%
	a) Byadagi chilli	80	66.67	30	25.00	10	8.33
	b) Sindhur	20	16.67	20	16.67	80	66.67
	c) Jwala	40	33.33	60	50.00	20	16.67
	d) Others	10	8.33	10	8.33	100	83.34
2	Suitable soil for chilli cultivation is:						
	a) Clay soil	80	66.67	20	16.67	20	16.66
	b) Clay loom soil	20	16.66	20	16.67	80	66.67
	c) Sandy loom soil	10	8.33	20	16.67	90	75.00
	d) Don't know	0	0.00	0	0.00	0	0.00
3	Suitable time for transplanting chilli crop is:						
	a) January – February	80	66.67	20	16.66	20	16.67
	b) June – July	80	66.67	20	16.66	20	16.67
	c) September – October	20	16.67	20	16.66	80	66.67
	d) Others	0	0.00	0	0.00	0	0.00
4	Suitable time of nursery sowing chilli crop is:						
	a) January – February	20	16.66	20	16.67	80	66.67
	b) June – July	40	33.33	60	50.00	20	16.67
	c) September – October	20	16.67	20	16.67	80	66.66
	d) Other	0	0.00	0	0.00	0	0.00
5	Seed rate for one hectare is:						
	a) 1kg/ha(variety)	90	75.00	10	8.33	20	16.67
	b) 300-400gms/ha(0P.V)	30	25.00	10	8.33	80	66.67
	c) 250-300gms/ha(hybrid)	20	16.67	20	16.66	80	66.67
	d) Don't know	0	0.00	0	0.00	0	0.00

6	Certified seed of chilli can be obtained from:						
	a) Seed certification office	90	75.00	10	8.33	20	16.67
	b) Private company	30	25.00	10	8.33	80	66.67
	c) Any University	20	16.67	20	16.66	80	66.67
	d) Others	0	0.00	0	0.00	0	0.00
7	Spacing between plant to row is:						
	a) 30x30cm	0	0.00	10	8.33	110	91.67
	b) 45x30cm	110	91.67	10	8.33	0	0.00
	c) 60x60cm	40	33.33	60	50.00	20	16.67
	d) More than this	0	0.00	10	8.33	110	91.67
8	Seed treatment with:						
	a) Trichodermaviride	90	75.00	20	16.67	10	8.33
	b) Psudomonas sp.	20	16.67	90	75.00	10	8.33
	c) Chemical fungicides	0	0.00	40	33.33	80	66.67
	d) Others	0	0.00	0	0.00	0	0.00
9	Required soil PH for chilli crop is:						
	a) 5	10	8.33	20	16.67	90	75.00
	b) 6	40	33.33	60	50.00	20	16.67
	c) 7	10	8.33	20	16.67	90	75.00
	d) Others	0	0.00	0	0.00	0	0.00
10	Type of manure is required for chilli cultivation is:						
	a) Organic manure	60	50.00	20	16.67	40	33.33
	b) Animal manure	20	16.67	40	33.33	60	50.00
	c) Compost	20	16.67	80	66.66	20	16.67
	d) Any other	0	0.00	60	50.00	60	50.00
11	Amount of FYM/ha is:						
	a) 10 t/ha	70	58.33	30	25.00	20	16.67
	b) 20 t/ha	40	33.33	60	50.00	20	16.67

	c) 25 t/ha	35	29.17	25	20.83	60	50.00
	d) Others	0	0.00	0	0.00	0	0.00
12	Fertilizer supplement the nutrient is:						
	a) Nitrogen	90	75.00	10	8.33	20	16.67
	b) Phosphorous	90	75.00	20	16.67	10	8.33
	c) Potassium	100	83.34	10	8.33	10	8.33
	d) Any other	10	8.33	20	16.67	90	75.00
13	What is the optimum dose of fertilizer for chilli cultivation (Kg/Acre) NPK is:						
	a) 30:60:30	20	16.67	40	33.33	60	50.00
	b) 100:50:50	10	8.33	10	8.33	100	83.34
	c) 120:80:80	80	66.67	30	25.00	10	8.33
	d) Any other	0	0.00	0	0.00	0	0.00
14	Weed are controlled in chiili culitivation at the is:						
	a) Before flowering	20	16.66	80	66.67	20	16.67
	b) After flowering	20	16.67	90	75.00	10	8.33
	c) All time	40	33.33	40	33.33	40	33.34
	d) Other	0	0.00	0	0.00	0	0.00
15	Application of weedicides or herbicide for chilli is:						
	a) Pendimethaline	90	75.00	10	8.33	20	16.67
	b) Fluchloraline	80	66.67	30	25.00	10	8.33
	c) Atrazine	10	8.33	20	16.67	90	75.00
	d) Glyphosate	20	16.67	10	8.33	90	75.00
16	Number of irrigation required for chilli is:						
	a) After sowing	80	66.67	30	25.00	10	8.33

	b) After transplanting	40	33.33	60	50.00	20	16.67
	c) Weekly intervals	60	50.00	50	41.67	10	8.33
17	Common diseases of chilli is:						
	a) Damping off	60	50.00	40	33.33	20	16.67
	b) Anthracnose	40	33.33	70	58.34	10	8.33
	c) Chilli wilt	50	41.67	50	41.67	20	16.66
	d) Leaf curl	70	58.33	30	25.00	20	16.67
18	Common pest of chilli is:						
	a) White fly	70	58.33	30	25.00	20	16.67
	b) Gram caterpillar	30	25.00	60	50.00	30	25.00
	c) Chilli mite	80	66.67	10	8.33	30	25.00
	d) Others	10	8.33	20	16.67	90	75.00
19	Successful intercropping in chilli is:						
	a) Chilli – Onion	60	50.00	60	50.00	0	0.00
	b) Chilli – Maize	70	58.33	30	25.00	20	16.67
	c) Chilli – Coriander	40	33.33	70	58.34	10	8.33
	d) Others	0	0.00	0	0.00	0	0.00
20	Yield obtained per hectare is:						
	a) 20 q/acre	80	66.66	20	16.67	20	16.67
	b) 25 q/acre	20	16.67	40	33.33	60	50.00
	c) 15q/acre	20	16.67	30	25.00	70	58.33
	d) 10q/acre	10	8.33	10	8.33	100	83.34

Table 1. knowledge levels of the respondents in chilli cultivation

➢ Major findings

- The above data revealed that 83.34percent of the respondents are not correct the other chilli variety, followed by 66.67 percentof the respondents are not correct the Sindhur variety 16.67 percent Jwala and 8.33 percent Byadagi variety. Followed by 66.67 percent of the respondent's fully correct Byadagi varieties, 33.33percent Jwala varieties, 16.67 percent Sindhur varieties & 8.33 percent other varieties are fully correct and 50.00 percent of the respondents partially correct the Jwala varieties, 25.00 percent of respondents correct Byadagi & Sindhur varieties partially. Only 10.00 percent of the respondents partially correct other varieties.
- 75 percent of the farmers not correct sandy loom soil is suitable soil for chilli cultivation followed by 66.67 percent clay loam soil, 16.66 percent clay soil &50.00 percent of the respondents partially correct and 50percent not correct the suitable soil for chilli cultivation.
- 66.67 percent respondents fully correct the June-July is suitable time for transplanting chilli crop followed by 66.67 percent Jan-Feb, 16.67 percent Sep-Oct. 16.66 percent of the respondents partially correct the all the suitable time transplanting & 66.67 percent not correct Sep-Oct is followed by 16.67 percent Jan –Feb and June-July.

- In time of Nursery sowing chilli crop is 66.66 percent of the respondents not correct Sep-Oct is Nursery sowing time followed by 66.67 percent not correct Jan-Feb, 16.67 percent June-July. 50.00 percent of the respondents partially correct June-July is suitable for Nursery sowing & followed by 25percent Jan-Feb, 16.67 percent Sep-Oct.

- In seed rate knowledge 75.00 percent respondents fully correct 1kg/ha (variety) seeds followed by 25.00 percent (300-400gm/ha o p v). 16.67 percent [250-350gm /ha (hybrid)]. 16.67percent partially correct 250-300gm/ha (hybrid), 8.33percent 1kg/ha (variety) & 300-400gm/ha (hybrid). 66.67 percent not correct the 300-400gm/ha and 66.67 percent 250-300gms/ha followed by 16.67percent 1kg/ha.

- In certified seed obtained from knowledge 75.00 percent of the respondents fully correct seed certification office followed by 25.00 percent private company. 16.67 percent any agri university. 16.67 percent respondents not correct seed certification office followed by 66.67 percent any university, 66.67 percent private company respectively.
- Spacing between plants to row obtained from knowledge 91.67 percent of the respondents fully correct 45x30. And 50.00 percent of the respondents partially correct the space between plant to row is 60x60cm followed by 8.33 percent respondents 30x30cm & 8.33 percent respondents 45x30cm & more than this respectively. 91.67 percent of the respondents not correct the 30x30cm followed by 91.67 percent more than this 16.67 percent 60x60cm respectively.

- 75percent respondents fully correct seed treatment is Trichoderma viridae followed by 16.67 percent Pseudomonas sp. 75.00 percentrespondents partially correct the pseudomonas sp followed by 33.33 percent chemical fungicides, 16.67 percent Trichoderma viridae. 66.67 percent respondents not correct chemical fungicide followed by 8.33 percent Trichoderma viridae& Pseudomonas sp.

- 75.00 percent of the respondents not correct the 5pH is required soil pH for chilli crop. Followed by 75.00 percent 7 pH, 16.67 percent 6pH. 50 percent respondents partially correct 6 pH followed by 16.67percent respondents 5 pH, 7pH respectively. 33.33 percent respondents are fully correct 6pH is required for chilli crop followed by 8.33percent 5, 7 pH is required respectively.
- Type of organic manure required for chilli crop 66.66 percent of respondents partially correct compost followed by 50.00 percent of any other 33.33 percent Animal manure 16.67 percent organic manure respectively. 50.00 percent respondents not correct Animal manure & any other & 33.33 percent organic manure respectively. 50.00 percent of the respondents fully correct organic manure is required followed by 16.67 percent Animal manure & Compost respectively.
- Amount of FYM / ha is 58.33 percent respondents fully correct 10t/ha followed by 33.33 percent respondents 20t/ha & 29.17 percent respondents 25t/ha respectively. 50.00 percent respondents partially correct 20t/ha followed by 25.00 percent respondents 10t/ha, 20.83 percent respondents 25t/ha respectively.
- Fertilizer supplement of nutrients 75.00 percent of the respondents fully correct Nitrogen & Phosphates followed by 83.34 percent of potassium, 8.33 percent any other fertilizer respectively. 75.00 percent respondents not correct any other fertilizers followed by 16.67 percent respondents Nitrogen 8.33 percent Potassium & Phosphate respectively.
- 83.34 percent respondents not correct the 100:50:50 dose of fertilizer for chilli cultivation (kg) NPK followed by 50.00 percent respondents 30:60:30 & 8.33 percent respondents 120:80:80 respectively. 66.67 percent respondents 120:80:80 dose followed by 16.67 percent 30:60:30 & 8.33percent 100:50:50 respectively. 33.33 percent respondents partially correct the 30:60:30 is recommended dose & followed by 25percent respondents 120:80:80 respectively.
- In weed control, 75.00 percent of respondents are partially correct after flowering followed by 66.67percent before flowering &33.33 percent all time respectively. 33.33percent respondents fully correct all the time followed 16.67percent after flowering & 16.66 percent before flowering. 33.34 percent respondents not correct all the time followed by 16.67percent before flowering & 8.33percent after flowering respectively.
- Herbicides used for chilli (75.00percent) respondents fully correct pendame tha line followed by 66.67percent fluchloroline 16.67percent glyphosate & 8.33percent atrazine respectively. 75percent respondents not correct atrazine & glyphosate respectively.
- Irrigation required for chilli is 66.67 percent fully correct after sowing followed by 50.00 percent weekly & 33.33 percent after transplanting respectively. 50.00 percent respondents partially correct after transplanting followed by 41.67 percent weekly 25.00 percent after sowing. 25.00 percent respondents not correct the time of irrigation required.
- Diseases of chilli 58.33 percent of the respondents fully correct leaf curl followed by (50percent) damping off 41.67 percent) chilli wilt & (33.33percent) anthracnose. (58.34percent) respondents partially correct anthracnose followed by (41.67percent) chilli wilt (33.33percent) damping off (25percent) leaf curl respectively. 45percent of the respondents not correct about all the diseases.
- Common pest of chilli (66.67percent) respondents are fully correct chilli mite followed by (58.33percent) white fly (25percent) gram caterpillar & 8.33percent other respectively. (50percent) respondents are partially correct gram caterpillar followed by (25percent) white fly &16.67percent other (75percent) respondents not correct other pest followed by 50percent chilli mite & gram caterpillar & (16.67percent) white fly respectively.
- Successful intercropping in chilli is 58.33percent respondents fully correct (chilli-maize) followed by 50.00percent respondents (chilli-onion) & (33.33percent) chilli-coriander. (58.34percent) respondents are partially correct chilli-coriander

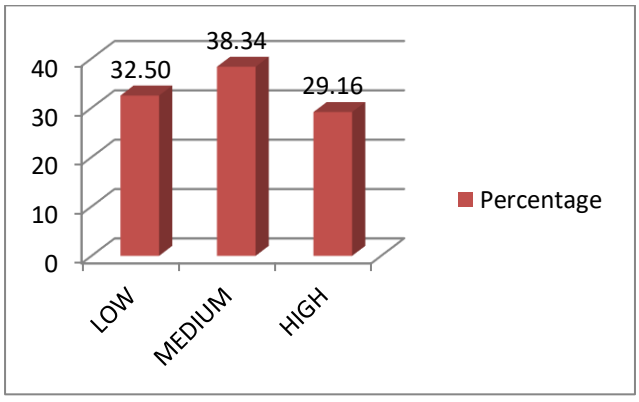
followed by (50percent) chilli-onion & (25percent) chilli & maize respectively. Only 16.67percent not correct (chili-maize) & 8.33percent respondents not correct chili & coriander inter cropping respectively.

- Yield obtained per acre is 83.34percent respondent not correct 10q/acrefollowed by 58.33percent 20q/acre 50.00percent respondents 25q/acre& (16.67percent) respondents 20q/acre respectively. 66.66percent respondents fully correct 20q/acre followed by (16.67percent) respondents 25q/acre (16.67percent) respondents 15q/acre respectively. 33.33percent respondents partially correct 25q/acrefollowed by (25percent) 20q/acre,(16.67percent) 20q/acre& (8.33percent) respondents 10q/acre respectively.

Sl. No.	Categories	Frequency	Percentage
1	Low	39	32.50
2	Medium	46	38.34
3	High	35	29.16
	Total	120	100.00
		Mean=8.05 SD=2.04	

Table 2. Overall knowledge of chilli growers about recommended cultivation practices

The overall knowledge of respondents he analysis of results, majority of respondents (38.34%) belonged to“ medium” knowledge level category while (32.50%)and(29.16%) belonged to ‘low and high’ knowledge categories, respectively.



IV. CONCLUSIONS

Hardly any research pertaining to this crop has been done up to date. It was felt that the findings with respect to knowledge level of chilli growers in production practices by the farmers would focus light on those areas where the cultivators were found that medium level of knowledge is majority.

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