

ADOPTION LEVEL OF THE CHILLI GROWERS IN BALLARI DISTRICT KARNATAKA

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Abstract: *Adoption behavior of Chilli(Capsicum annum)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 there 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 adoption (54.17%) followed by low (35.83%) and high level of adoption (10.00%) regarding Overall adoption of recommended cultivation practices of chilli.*

Key words: *Adoption level, knowledge, constraints, socio-economic life.*

1. 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, Byadagikaddii 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 per cent 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 assessed and their major constraints faced by the chilli growers in ballari district of Karnataka state.

2. METHODOLOGY:

The research study on adoption behaviour of chilli growers was conducted during the year 2017-2018 in Siruguppa taluka of Ballari district of Karnataka. In the present investigation, Descriptive 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 manipulatable 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. The investigation comprised of survey procedure and the data was collected by personal interview method, administering the self-structured questionnaires on the chilli growers.

The extent of adoption of production practices in chilli production was known by the respondents. 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 adoption 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.

3. RESULTS AND DISCUSSION:

ADOPTION LEVEL OF CHILLI GROWERS

Table 1: Adoption levels of the respondents in chilli cultivation

S. No.	Statement	Fully Adopted		Partially Adopted		Not Adopted	
		F	%	F	%	F	%
1	Recommended chilli varieties in your area are:						
	a) Byadagi chilli	80	66.67	30	25.00	10	8.33
	b) Sindhur	10	8.33	10	8.33	100	83.34
	c) Jwala	10	8.33	30	25.00	80	66.67
	d) Others	10	8.33	10	8.33	100	83.34
2	Suitable soil for chilli cultivation is:						
	a) Clay soil	60	50.00	40	33.33	20	16.67
	b) Clay loom soil	20	16.67	20	16.67	80	66.66
	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	10	8.33	20	16.67	90	75.00
	b) June – July	80	66.67	20	16.67	20	16.66
	c) September – October	20	16.67	20	16.67	80	66.66
	d) Others	0	0.00	0	0.00	0	0.00
4	Suitable time of nursery sowing chilli crop is:						
	a) January – February	20	16.67	20	16.67	80	66.66
	b) June – July	60	50.00	35	29.17	25	20.83
	c) September – October	10	8.33	10	8.33	100	83.34
	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(OP.V)	30	25.00	10	8.33	80	66.67
	c) 250-300gms/ha(hybrid)	20	16.67	20	16.67	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	10	8.33	10	8.33	100	83.34
	b) Private company	90	75.00	10	8.33	20	16.67
	c) Any University	20	16.67	20	16.67	80	66.66
	d) Others	0	0.00	0	0.00	0	0.00
7	Spacing between plant to row is:						
	a) 30x30cm	40	33.33	60	50.00	20	16.67
	b) 45x30cm	110	91.67	10	8.33	0	0.00
	c) 60x60cm	20	16.67	30	25.00	70	58.33
	d) More than this	0	0.00	10	8.33	110	91.67
8	Seed treatment with:						
	a) Trichoderma viride	90	75.00	20	16.67	10	8.33
	b) Pseudomonas sp.	20	16.67	90	75.00	10	8.33
	c) Chemical fungicides	20	16.67	40	33.33	60	50.00
	d) Others	0	0.00	0	0.00	0	0.00
9	Required soil PH for chilli crop is:						
	a) 5	0	0.00	10	8.33	110	91.67
	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	66.67	20	16.66
	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	100	83.34	10	8.33	10	8.33
	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	30	25.00	20	16.67	70	58.33
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 chilli cultivation at the is:						
	a) Before flowering	20	16.67	60	50.00	40	33.33
	b) After flowering	60	50.00	60	50.00	0	0.00
	c) All time	20	16.67	40	33.33	60	50.00
	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	30	25.00	30	25.00	60	50.00
	d) Glyphosate	10	8.33	20	16.67	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	70	58.34	40	33.33	10	8.33
	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	90	75.00	20	16.67	10	8.33
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)	15 q/acre	20	16.67	30	25.00	70	58.33
d)	10 q/acre	10	8.33	10	8.33	100	83.33

* Multiple responses obtained, F=Frequency, %=Percentage

Table 1: Adoption level of respondents in Chilli cultivations

- The above data revealed that 83.34 per cent of the respondents are not adopted the Sindhur chilli varieties followed by Jwala (66.67 %) and Byadgi (8.33%) chilli varieties respectively. However, 66.67 per cent of the respondents were fully adopted Byadgi chilli followed by Jwala and Sindhur varieties (8.33%). Most of the respondents (25.00%) were partially adopted both Byadgi and Jwala chilli followed by Sindhur variety (8.33%).
- Majority of the respondents (75.00%) not adopted sandy loom soil followed by clay loom soil (66.66%) and clay soil (16.67%). Meanwhile 33.33 to 50.00 per cent of the respondents were partially and fully adopted clay soil followed by clay loom soil (16.67% each) and sandy loom soil (16.67% and 08.33%) respectively.
- 75 per cent of the respondents were not adopted January-February as suitable time for transplanting chilli crop followed by September-October (66.66%) and June-July (16.67%). 66.66 per cent of them were fully adopted June-July followed by September-October (16.67%) and January-February (8.33%). 16.67 of the respondent were partially adopted all the durations as suitable time for transplanting chilli crop respectively.
- Majority (83.34%) of them were not adopted September-October as suitable time for nursery sowing chilli crop followed by January-February (66.66%) and June-July (20.83%). Whereas, 50 percent of the respondents were fully adopted June-July for nursery sowing chilli crop followed by January-February (16.67%) and September-October (8.33%). Similarly, 29.17 per cent of the respondents were partially adopted June-July followed by January-February (16.67%) and September-October (8.33%).
- Most of the respondents (75.00%) were fully adopted seed rate for 1kg/ha (variety) followed by 300-400gms/ha (25.00%) and 250-300gms/ha (16.67%). Meanwhile 66.67 per cent of them were not adopted seed rate as 300-400gms/ha and 250-300gms/ha followed by 1kg/ha (16.67%). Less number of respondents (08.00 to 17.00%) were partially adopted the entire seed rates per hectare.
- 83.34 per cent of the respondents were not adopted seed certification office to get certified chilli seeds followed by any university (66.66%) and private company (16.67%). Whereas 75.00 per cent of the respondents were fully adopted private company to get certified chilli seeds followed by any university (16.67%) and seed certification office (8.33%). However, Less number of respondents (8.00 to 17.00%) were partially adopted the all the certified chilli seeds.
- 91.47 percent of them were fully adopted 45x30cm spacing between plant to row followed 30x30cm (33.33) and by 60x60cm (16.67). 58.33 per cent of them were not adopted 60x60cm spacing between plants to row followed by 30x30cm (16.67%). Whereas 50 percent of the respondents were partially adopted 30x30cm spacing followed by 60x60cm (25.00%) and 45x30cm (8.33%).
- 75.00 per cent of the respondents were fully adopted *Trichoderma virideseed* treatment followed by *Pseudomonas sp.* (16.67%) and chemical fungicides (16.67%). Similarly 75.00 per cent of them were partially adopted *Pseudomonas sp.* followed by *Trichoderma viride* (16.67%) and chemical fungicides (33.33%) seed treatments. However 50.00 per cent of the respondents were not adopted chemical fungicides seed treatment followed by *Pseudomonas sp.* And *Trichoderma viride* (8.33% each).
- 91.67and75.00 per cent of respondents were not adopted 5 and 7 pH for soil followed by 6 pH soil (16.67%). Meanwhile 50 percent of them were partially adopted 6 pH followed by 7 pH (16.67%) and 5 pH (8.33%). Whereas 33.33 per cent of the respondents were fully adopted 6 pH and 8.33 per cent were said 7 pH required for chilli crop soil.
- 66.66 per cent of the respondents were partially adopted compost as manure for chilli cultivation. Whereas 50.00 of the respondents were fully adopted organic manure and remaining half of them were not adopted animal manure for chilli cultivation. Similarly 33.33 per cent of them were partially adopted animal manure and not adopted organic manure (33.33%). 16.67 per cent of them were fully adopted animal manure and compost for chilli cultivation. 50.00 per cent of them were partially and not adopted any other manure for chilli cultivation respectively.
- 58.33 per cent of the respondents were fully adopted 10t/ha amount of FYM followed by 20t/ha (33.33%) and 25t/ha (29.17%). Half of them were partially adopted 20t/ha and remaining half were not adopted 25t/ha amount of FYM. However 20.00 to 25.00 per cent of the respondents were partially adopted 10t/ha and 25t/ha. Similarly 16.67 per cent of them were not adopted 10t/ha and 20t/ha amount of FYM.
- 83.34% were fully adopted nitrogen and potassium fertilizer as supplementary nutrient followed by phosphorous (75.00%) and any other (25.00%). Whereas 16.67 per cent of them were partially adopted any

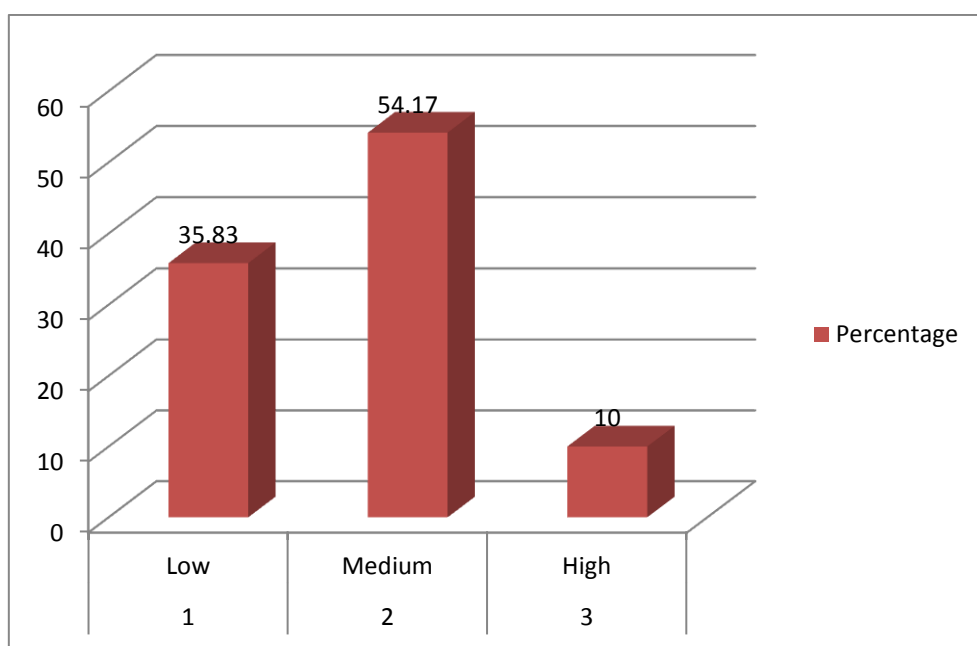
other fertilizers. Less per cent of the respondents (08.33%) were partially and not adopted all the fertilizer as supplementary nutrient.

13. Majority of the respondents (83.34%) were not adopted 100:50:50 dose of fertilizer for chilli cultivation followed by 30:60:30 (50.00%) and 120:80:80 (08.33%). Meanwhile 66.67 per cent of the respondents were fully adopted 120:80:80 dose followed by 30:60:30 (16.67%) and 100:50:50 (08.33%). Same way 33.33 per cent of them were partially adopted 30:60:30 dose followed by 120:60:60 (25.00%) and 100:50:50 (08.33%).
14. Half of the respondents were fully adopted after flowering for weed control in chilli cultivation by before flowering and any time (16.67% each). 50.00 per cent of the respondents were partially adopted both before and after flowering to control weed in chilli cultivation and 33.33 per cent were controlled weed at any time of cultivation. Similarly half of them were not adopted all time to control weed followed by before flowering (33.33%).
15. 75.00 per cent of the respondents were fully adopted *Pendimehaline* herbicide followed by *Fluchloraline*(66.67%), *Atrazine* (25.00%) and *Glyphoste*(08.33%). One fourth of them were partially adopted *Fluchloraline*and *Atrazine* herbicide followed by *Glyphoste*(16.67%)and*Pendimehaline*(08.33%). However 75.00 per cent of the respondents were not adopted *Glyphoste*followed by *Atrazine* (50.00%), *Pendimehaline* (16.67%) and *Fluchloraline* (08.33%).
16. 66.67 per cent of the respondents were fully adopted irrigation after sowing followed by weekly intervals (50.00%) and after transplanting (33.33%). Half of them were partially adopted irrigation after transplanting followed by weekly intervals (41.67%) and after sowing (25.00%). Less number of respondents (08 to 17 per cent) were not adopted all different irrigation in chilli cultivation.
17. 58.34 per cent of the respondents were fully adopted chilli-maize as successful intercropping and partially adopted chilli-coriander respectively followed by chilli-onion. Whereas, half of them were fully and partially adopted chilli-onion successful intercropping in chilli and 25.00 per cent of the respondents was partially adopted chilli-coriander intercropping.

Table 2: Overall adoption of chilli growers about recommended cultivation practices

n=120

Sl. No.	Categories	Frequency	Percentage
1	LOW	43	35.83
2	MEDIUM	65	54.17
3	HIGH	12	10.00
	Total	120	100.00
		Mean=4.1	SD=1.30



Overall adoption of recommended cultivation practices of chilli by the selected respondents is presented in Table 2. The results revealed that, considerable percentage of respondents (37.50%) belonged to the medium adoption

category, while 52.50 per cent and 10.00 per cent of the respondents belonged to the 'low' and 'high' adoption categories, respectively.

4. CONCLUSIONS:

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

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