Journal of Pharmacognosy and Phytochemistry

Available online at www.phytojournal.com

E-ISSN: 2278-4136
P-ISSN: 2349-8234
www.phytojournal.com
JPP 2020; 9(3): 326-328
Received: 16-03-2020
Accepted: 20-04-2020

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Socio-economic condition, problems in Chilli cultivation and suggestions obtained by Chilli growers in Abhanpur block of Raipur district

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Abstract
India is known as the 'The home of spices'**.** There is no other country in the world that produces as many kinds of spices as India. The climate of the country is suitable for almost all spices. There are over 80 spices grown in different parts of the world and around 50 spices are grown in India. Chilli is an important ingredient in day to day curries, pickles, chutnies, spices and vegetables. The study was conducted in Raipur district of Chhattisgarh state during the year 2011-12. Raipur district is situated in South Eastern part of Chhattisgarh state and lies at 21.16'N latitude and 81.35'E longitude with an altitude of 298 meter above the mean sea level. It comes under dry moist sub humid region and has an annual average rainfall of 1200-1400 mm, the maximum temperature goes as high as 48 ^{0}C during the summer season and minimum temperature as low as 6 ^{0}C during the winter season. Out of 4 blocks of Raipur district, only Abhanpur block was selected purposively for the present study, because chilli is cultivated in maximum area in this block. It was found that 30.62 per cent of the respondents were illiterate and 28.75 per cent were educated up to primary school level and 96.88 per cent respondents belonged to other backward caste, The result indicates that majority of the respondents (75.00%) had medium size of family (6 to 12 members) and 43.75 per cent respondents had marginal sized (up to1 ha.) land holding, 35 per cent respondents recording an annual income between Rs. 35,001to 60,000, The important problems faced by the chilli growers was found that majority of the respondents (75.00%) reported incidences of more pest and diseases, followed by high cost of pesticides (59.37%), non availability of fertilizers and pesticides locally (53.12%), inadequacy of labour at the time of picking (50.00%). The major suggestions proposed by the chilli growers that pest and disease resistant variety of chilli should be available was the main suggestion of the 62.50 per cent of the respondents. The other suggestions were fertilizers and pesticides should be available locally in subsidized rate (53.12%) and 43.25 per cent suggested availability of labour at the time of picking is very necessary.

Keywords: Chilli, family, labour, small, marginal and large

Introduction
India is known as the 'The home of spices'**.** There is no other country in the world that produces as many kinds of spices as India. The climate of the country is suitable for almost all spices. There are over 80 spices grown in different parts of the world and around 50 spices are grown in India. The spices that India can offer in abundant quantities are pepper, ginger, turmeric, chilli, cardamom, fenugreek, fennel, cumin, coriander, cinnamon, ajowan (bishop's weed), cassia, clove, nutmeg and mace. Chilli is an important ingredient in day to day curries, pickles, chutnies, spices and vegetables. Oleoresin, sauce and essence are prepared from chilli. chilli is used in various forms; as raw fresh green chopped chilli or ground to paste, broken split or whole form. To preserve chilli for longer time it is pickled or sun dried to get a red coat chilli which when powdered is used in pinch to get the desired level of pungency.

Methodology
The study was conducted in Raipur district of Chhattisgarh state during the year 2011-12. Raipur district is situated in South Eastern part of Chhattisgarh state and lies at 21.16'N latitude and 81.35'E longitude with an altitude of 298 meter above the mean sea level. It comes under dry moist sub humid region and has an annual average rainfall of 1200-1400mm, the maximum temperature goes as high as 48 ^{0}C during the summer season and minimum temperature as low as 6 ^{0}C during the winter season.

Out of 4 blocks of Raipur district, only Abhanpur block was selected purposively for the present study, because chilli is cultivated in maximum area in this block. Out of total 104 villages in Abhanpur block 11 villages namely Raveli, Champaran, Mundara, Sundarkera, Amdi, Bhurka, Khatti, Koliyari, Lakhana, Thanaud, and Julum were selected purposively for this study because in these villages maximum number of farmers were involved in chilli

cultivation. Out of total chilli growers in each selected village, 30 per cent farmers from each village were selected randomly, thus the total 160 farmers were selected for the present study.

Result and Discussion

The data presented in Table 01, it was found that 30.62 per cent of the respondents were illiterate and 28.75 per cent were educated up to primary school level, followed by 21.88 per cent of the respondents who were educated up to middle school level. Whereas, 11.87 per cent respondents were educated up to high school level, 5.00 per cent of the respondents were educated up to higher secondary school level and only 1.88 per cent of the respondents were educated up to college and above.

As regards to caste the majority of the respondents (96.88%) belonged to other backward caste, followed by 2.05 per cent who belonged to general caste, 0.62 per cent of the respondents belonged to the scheduled tribes and none of the respondents were found in the category of scheduled caste. The result indicates that majority of the respondents (75.00%) had medium size of family (6 to 12 members), followed by 15.62 per cent with small size of family (up to 5 members). Rest of the respondents (9.38%) belonged to big size of family (more than 12 members).

Table 1: Distribution of respondents according to their education, caste and size of family n =160

S. No	Characteristics	Frequency	Per cent
1.	**Education**		
	Illiterate	49	30.62
	Primary school	46	28.75
	Middle school	35	21.88
	High school	19	11.87
	Higher secondary	08	5.00
	College and above	03	1.88
2.	**Caste**		
	Schedule tribes	01	0.62
	Schedule caste	00	0.00
	Other backward caste	155	96.88
	General	04	2.50
3.	**Size of family**		
	Small (up to5members)	25	15.62
	Medium (6 to 12 members)	120	75.00
	Big (> 12 members)	15	9.38

Table 2: Distribution of respondents according to their size of land holding n=160

S. No.	Size of land holding	Frequency	Per cent
1.	Marginal (up to 1 ha)	70	43.75
2.	Small (1.1 to 2 ha)	54	33.75
3.	Medium (2.1 to 4 ha)	18	11.25
4.	Large (above 4 ha)	18	11.25
	Total	160	100

The data presented in Table 02, 43.75 per cent respondents had marginal sized (up to1 ha.) land holding. The majority of the respondents (61.25%) practiced farming (chilli cultivation) occupation with 35 per cent recording an annual income between Rs. 35,001to 60,000,

Table 3: Distribution of respondents according to their annual income n=160

S. No.	Annual income	Frequency	Per cent
1.	Up to Rs.35,000	42	26.25
2.	Rs. 35,001-60,000	56	35.00
3.	Rs. 60,001-1,00,000)	22	13.75
4.	More than Rs. 1,00,000)	40	25.00
	Total	160	100.00

Annual income of respondents is given in The data presented in Table 03, which shows that 35.00 per cent of the respondents were having their annual income ranged between Rs. 35,001- 60,000, followed by 26.25 per cent of the respondents who were having their annual income up to Rs 35,000. Whereas 25.00 and 13.75 per cent of the respondents were having their annual income more than Rs.1, 00,000 and Rs 60,001 to 1, 00,000, respectively.

Table 4: Problems faced by the chilli growers

S.N.	Problems	Frequ-ency	Per cent	Rank
1.	Complicated techniques of seed treatment	**68**	42.50	V
2.	Incidences of more pest and diseases	120	75.00	I
3.	Adverse effect of climate	30	18.75	XII
4.	Poor germination	65	40.62	VI
5.	Non availability of plant protection equipments	55	34.37	V III
6.	Non availability of fertilizers and pesticides locally	85	53.12	III
7.	Improper market facilities	35	21.87	XI
8.	Lack of skill about use of pesticides and equipments	60	37.50	V II
9.	Fear about poisonous effect on crop	45	28.12	IX
10.	Inadequacy of labour at the time of picking	80	50.00	IV
11.	High cost of pesticides	95	59.37	II
12.	Lack of knowledge about pest and diseases	40	25.00	X

*Frequency based on Multiple Responses

Multiple responses were taken to ascertain the problems faced by the chilli growers during the adoption of recommended chilli production technology which are presented in Table 4

As for as problems faced by the chilli growers in adoption of recommended chilli production technology are concerned it was found that majority of the respondents (75.00%) reported incidences of more pest and diseases, followed by high cost of pesticides (59.37%), non availability of fertilizers and pesticides locally (53.12%), inadequacy of labour at the time of picking (50.00%), complicated techniques of seed treatment (42.50%), poor germination (40.62%), lack of skill about use of pesticides and equipments (37.50%), non availability of plant protection equipments (34.37%), fear about poisonous effect on crop (28.12%), lack of knowledge about pest and diseases (25.00%), improper market facilities (21.87%) and adverse effect of climate (18.75%) as the major problems faced by the chilli growers during the adoption of recommended chilli production technology.

Table 5: Suggestions obtained from the chilli growers to overcome the problems

S. No.	Suggestions	Frequency	Per cent	Rank
01	Pest and disease resistant variety of chilli should be available	100	62.5	I
02	Technical knowledge should be increased in various aspects of chilli production technology i.e. method of seed treatment, identification of pests and diseases, use of proper doses of fungicide and fertilizers	60	37.50	V
03	Increased awareness regarding use of pesticides and its effect on crop	44	27.50	IX
04	Fertilizers and pesticides should be available locally in subsidized rate	85	53.12	II
05	Market facilities should be provided	30	18.75	X
06	Availability of labour at the time of picking	70	43.25	III
07	Training programmes should be organized on plant protection measures at village level	54	33.75	VII
08	Availability of plant protection equipments locally at critical time	50	31.25	VIII
09	Good quality seed should be provided	58	36.25	VI
10	Storage facility should be provided	65	40.62	IV

*Frequency based on Multiple Responses

As regards to suggestions obtained from the chilli growers to overcome the problems (Table 05) faced by them during the adoption of recommended chilli production technology it was observed that pest and disease resistant variety of chilli should be available was the main suggestion as reported by 62.5 per cent of the respondents. The other suggestions were fertilizers and pesticides should be available locally in subsidized rate (53.12%), availability of labour at the time of picking (43.25%), storage facility should be provided (40.62%), technical knowledge should be increased in various aspects of chilli production technology i.e. method of seed treatment, identification of pests and diseases, use of proper doses of fungicide and fertilizers (37.50%), good quality seed should be provided (36.25%), training programmes should be organized on plant protection measures at village level (33.75%), availability of plant protection equipments locally at critical time (31.25%), increased awareness regarding use of pesticides and its effect on crop (27.50%), market facilities should be provided (18.75%).

Conclusion

It was found that most of the respondents (30.62%) were illiterate belonged to other backward class (96.88%), had medium size of family (75.00%) with six to twelve members.

The study revealed that 43.75 per cent respondents had marginal sized (up to1 ha.) land holding with 35 per cent recording an annual income between Rs. 35,001to 60,000.

The important problems faced by the chilli growers in adoption of recommended chilli production technology are concerned it was found that majority of the respondents (75.00%) reported incidences of more pest and diseases, followed by high cost of pesticides (59.37%), non availability of fertilizers and pesticides locally (53.1`2%), The major suggestions proposed by the chilli growers to overcome the problems faced by them during the adoption of recommended chilli production technology it was observed that pest and disease resistant variety of chilli should be available was the main suggestion as reported by 62.50 per cent of the respondents. The other suggestions were fertilizers and pesticides should be available locally in subsidized rate (53.12%), availability of labour at the time of picking (43.25%), storage facility should be provided (40.62%).

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