Journal of Pharmacognosy and Phytochemistry
Available online at www.phytojournal.com

E-ISSN: 2278-4136
P-ISSN: 2349-8234
JPP 2017; SP1: 625-628

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Constraints and suggestions of the Chilli farmers in Bhiwapur Panchayt Samiti of Nagpur District

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Abstract
The study revealed that the important constraints were more labour charges, shortage of labour at the time of harvesting, grading and bagging of chilli produce, non-remunerative prices during the time of glut in market, lack of knowledge about current market prices, less knowledge about correct quantity of insecticides, seed are costlyand shortage of water are the major constraints while adoption of recommended chilli cultivation practices. Important suggestions to overcome the constraints wereminimum support prices should be fixed by the government, reduce the labour problem by providing mechanized agricultural Inputs, reduce the middle men's interfere in marketing of chilli, provide storage facilities at Nagpur level, irrigation facility should be provided throughout of the year.

Keywords: Constraints, Suggestions, Adoption.

Introduction
Among vegetables grown in our country. Chilli [*Capsicum annuum* (L.)] is an important spices crop, belongs to genus *capsicum* under solanaceae family. It is a crop of tropical and sub-tropical regions and requires a warm humid climate. Though, chilli can be grown in many types of soils, well drained loamy soils rich organic matter of soils, well drained loamy soils are ideal for its cultivation. It is indispensable spice crop used in every Indian cuisine due to its colour (due to presence of pigment capsanthin), pungency (due to an alkaloid'capsaicin'), taste, appealing odours and flavors. Chilli fruits are rich source of vitamin A, C and E. In recent days, it is gaining popularity as vegetable as well as spice crop apart from its medicinal value as it prevents heart attack by dilating the blood vessels(www.ikisan.com).Chilli is origin of Mexico and it brought by Portuguese from Brazil in 1585 in Goa. Since then it has rapidly spread throughout the country and commonly considered as red pepper.
The top ten chilli producing countries are India, China, Ethiopia, Myanmar, Mexico, Vietnam, Peru and Pakistan. India accounted for more than 85% per cent of the world production in 2015, the lion's share taken by India with 56% per cent (Source: FAO).
In India chilli grown in almost all states of the country. In Maharashtra, chilli is grown on area of 99.50 hectares contributing to the production of45.60 tonnes with productivity of0.46tonnes /ha In Maharashtra major chilii growing districts are Nanded, Jalgaon, Dhule, Solapur, Nagpur, Amravati, Chandrapur and Osmanabad District. Out of these districts Nagpur selected for study becausetotal area and production in Nagpur district under chilli cultivation is 14100 ha and 20090 tonnes, respectively in Nagapur Bhiwapur panchyat samiti major chilli growing area((Anonymous, 2015-2016).

Matrials and Methods
The present research study was conducted in Nagpur district of Vidhrbha region in Maharashtra state. In Nagpur district Bhiwapur panchyat samiti were purposively selected for the research. Ten villages in Bhiwapur panchyatsamiti were purposively selected for research. These villages are considered on basis of area under chilli crop. From each village fifteen chilli growers were selected comprising total 150chilli farmers were selected for the research work. An interview schedule was developed with the help of scientists of Dr. P. D. K. V., Akola. Data was collected with the help of interview schedule. Personal interview method was used for data collection. For the analysis of collected data simple statistical techniques like frequency, percentage, standard deviation and coefficient of correlation were used. Oneshot case study research design with "Ex-Post-Facto"research approach was used present study. The findings were suitably interpreted and necessary conclusions and interfaces were drawn.

Results and Disscussion

Table 1: Constraints faced by the chilli growers in chilli cultivation (N=150)

Sl. No.	Constraints	Frequency	Percentage
A	**Preparatory tillage.**		
1	Non availability of labour at a proper time.	132	88.00
2	More labour charges.	145	96.66
B	**Seed and sowing**		
1	Lack of knowledge about the seed treatment	70	46.66
2	Seed of improved varieties costly	124	82.66
3	Non availability of improved seeds in time	115	76.66
4	Lack of knowledge about improved varieties	30	20.00
C	**fertilizer and irrigation**		
1	Non availability of fertilizer and Farm Yard Manure(FYM) at proper time	46	30.66
2	Chemical fertilizers and insectides are costly	90	60.00
3	Less knowledge about proper doses of fertilizer application	60	40.00
D	**Inter cultivation,**		
4	Non availability of labour for intercultivation.	130	86.66
5	Shortage of water at the time of critical stages	120	80.00
6	Load shading problem	32	21.33
E	**Plant protection**		
1	Less knowledge about disease and pest identification	84	56.00
2	No knowledge about insecticides etc.	87	58.00
3	Less knowledge about correct quantity of insecticides.	130	86.66
4	Non availability of fertilizers and insectides in time(quality and quantity of fertilizers and insctides)	96	64.00
F	**Problem in marketing**		
1	Shortage of labour at the time harvesting, grading, and bagging of chilli produce.	140	93.33
2	Problem in transportation of produce	84	56.00
3	Fluctuating prices of chilli produce in market	110	73.33
4	Irregular demand for chilli produce	44	29.33
5	Non remunerative prices during the time of glut in market	138	92.00
6	High cost of transportation by truck / tractor	86	56.66
7	Lack of knowledge about current market prices	134	89.33
G	**Storage**		
1	Non availability of storage facility for chilli produce	44	29.33
2	Great loss of deterioration of chilli for want of storage facility	59	39.33
H	**Any other**		
1	Lack of knowledge about appropriate stages of the crop and appropriate doses of application of fertilizer at that stages	110	73.33
2	Fruit rot due to unseasonal rains	40	26.66
3	High cost of packing material	76	50.66
4	Inadequate sources of finance/lack of credit capital at proper time	74	49.33

1. Constraints in adoption of recommended practices as perceived by farmers

A. Preparatory tillage

It was observed that from the above Table -1 at the time of preparatory tillage while adoption of recommended chilli cultivation practices the constraints were non availability of labour at a proper time (88.00%), and more labour charges (96.66%).Steps should be taken by government to provide various machinery to the small and marginal farmers with subsidiary rates this should reduce the labour problem some extent.These findings were in line with the findings of Naik *et. al*. (2006).

B. Seed and sowing

During the seed and sowing the constraints are lack of proper knowledge about the seed treatment (46.66 %), seeds of improved varieties are costly (82.66%), non-availability of improved seeds in time (76.66%) and lack of knowledge about improved varieties (20.00%).So sufficient technical staff is needed to guide the farmers about improved varieties at the time of beginning of crop season. Extension functionaries have to educate the farmers about package practices of chilli through training programs and various activities such as group discussion, field visits etc. This findings In tune with the findings of Badodia. *et. al.* (2006) [4].

C. Fertilizer and irrigation

It was observed that less than half of the respondents (30.66%) of the respondents facing non availability of fertilizer and Farm Yard Manure (FYM) at proper time, chemical fertilizer and insectides are costly (60.00%), less knowledge about proper dose of fertilizer (40.00%).The farmers need to be educated and motivated touse the correct doses of fertilizers and manures, so that they can get the high returns by reducing the expenditure. The traders also sometimes created artificial stock deficit, which made the farmers to perceive this problem. Steps should be taken by the government to provide sufficient fertilizers on subsidized rates. And posting of sufficient technical staff needed to guide chilli farmers on package practices. These findings were in line with Devi (2012) [5], Rai *et.al*. (2010) [12].

D. Inter cultivation

Availability of labour for inter cultivation (86.66%), shortage of water (80.00%) and load shading problem (21.33%). Steps should be taken government to provide various machinery to the small and marginal farmers with subsidy rates can make minimize the labour some extent. Similar type of findings were reported byPrasad (2002) [11].

E. Plant protection measures

At the time of plant protection measures the constraints were less knowledge about disease and pest identification (56.00 %), lack proper knowledge about insecticides (58.00%), majority of respondents were (86.66%), less knowledge about correct quantity and doses of insecticides, (64.0%) were non availability of fertilizers and insectides in time(quality and quantity of fertilizers and insctides).Steps should be taken by the government to provide sufficient timely and easily available plant protection chemicals to the farmers, availability of inputs is a critical factor for adoption. Steps should be taken by the government to provide sufficient timely and easily available plant protection chemicals to the farmers, availability of inputs critical factor for adoption. These findings were in line withthe findings of Kiranmayi (2013) [7].

F. Marketing and storage

It is clear from Table-1 during the marketing and transporting the constraints were shortage of labour at the time harvesting, grading and bagging of chilli produce (93.33%), problem in transportation of produce 56.00 per cent, fluctuating prices of chilli produce in the market (73.33%), irregular demand for chilli produce (29.33%), majority of respondent (92.00%) were facing non remunerative prices during the time of glut in market, high cost of transportation by truck / tractor (56.66%), lack of knowledge about current market prices (89.33%).At the time of storage the constraints were non availability of storage facility for chilli produce (29.33), great loss of deterioration of chilli for want of storage facility (39.33%). Construct godowns for storage of the produce. There are sufficient cold storages available to the farmers, but they had taken extra charges and is no guarantee to their produce and the government should give the information about market prices, and it is better to increase the support price to chilli. Then only farmers adopt new technologies in their field. These findings were in line with Ambedkar *et.al.* (2013) [1].

H. Other minor constraints

It was evident from Tbable-1 were lack of knowledge about appropriate stages of the crop and appropriate doses of application of fertilizer at that (critical) stages (73.33%), Inadequate sources of finance (49.33%),fruit rot due to unseasonal rains (26.66%), high cost of packing material (50.66%). Give training to the farmers various aspects on chilli crop. The farmers had to depend on private money lendersfor readycredit at the time of purchase of inputs, there was no institutional credit. So felt lack ofcredit facilities as a major problem. The Government should give timely credit support through banks. This findings Intune with the findings of Ambedkar*et.al.* (2013) [1], Arathy (2011) [3].

Table 2: Suggestions given by the farmers for better adoption recommended package of practices of chilli (N=150)

Sl. No	Suggestions	Frequency	Percentage (%)	Rank
1	Minimum support prices should be fixed by the government	130	86.66	I
2	Provide storage facilities at Nagpur level	76	50.66	IV
3	Irrigation facility should be provided throughout of the year	72	48.00	V
4	Supply of good quality of inputs right time	81	54.00	III
5	Reduce the labour problem by providing mechanized agril.inputs	98	65.33	II
6	Provide technical guidance right time	68	45.33	VI
7	Reduce the middle men's interfere in marketing of chilli	54	36.00	VIII
8	Establishment of rural markets at Bhiwapur level	61	40.66	VII
9	Provide credit at low rate of interest in rural areas	35	23.33	X
10	Provide disease resistance varieties	47	31.33	IX

Chilli growers were as asked to make suggestions to overcome the problems in adoption of recommended practices. The suggestions along with their ranks are given in table-2

It could be observed from Table 2 thatmore than three fourth of the chilli growers (86.66%) give the suggestion minimum support prices should be fixed by the government, reduced the labour problem by providing mechanized agril. Inputs(65.330%),supply of good quality of inputs right times (seeds, fertilizers, FYM and insectides) (54.00%)and provide storage facilities at Nagpur (district) level(50.66%),irrigation facility should be provided throughout of the year(48.00%).

Near about (45.33%) of the chilli growers had suggested to provide technical guidance at right time, establishment of rural markets at bhiwapur (panchyatsamiti) level (40.66%), reduce the middle men's interfere in marketing of chilli (36.00%), provide disease resistance varieties (31.33%), provide credit at low rate of interest in rural areas (23.33 %). These findings are in line with Gopiram (2005) [6] and in Suggestions given by the farmers for better adoption recommended package of Practices of chilli.

Conclusion

From the above study it is concluded that the more labour charges, shortage of labour at the time harvesting, grading and bagging of chilli produce, non-remunerative prices during the time of glut in market, lack of knowledge about current market prices, non-availability of labour for proper time are the most frequently occurred and regularly faced constraints. Suggestions to overcome the constraints were minimum support prices should be fixed by the government, reduce the labour problem by providing mechanized agricultural Inputs, and reduce the middle men's interfere in marketing of chilli. The government should give emphasis on these constraints and organization of short training courses for on the improved chilli cultivation practices, which will help to increase the knowledge level of the farmers. Government should establish agricultural markets and reduce the middle men's interference.

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