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Technological gap in pepper cultivation practices in Uttar Kannada district, Karnataka

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ABSTRACT

The study was conducted in Uttar Kannada district of Karnataka during 2013-2014 with the sample size of 90 farmers. The ex post facto research design was used for the study. The findings revealed that majority of the respondents (63.33%) had medium level of technological gap in pepper cultivation practices. Least technological gap was observed in case of varieties, sowing time, planting material, planting method, method of harvesting, method of despiking and drying technique. However higher technological gap was noticed in spacing in coconut garden, pit size, filling materials used in the pits, bio-fertilizer and FYM application and correct dosage of chemicals used for pest and disease control.

Keywords: Pepper; cultivation; technological gap; respondents

INTRODUCTION

Black pepper is a perennial climbing vine grown for its berries and is extensively used as spice. It is valued for its characteristic pungency and flavour as an ingredient in food preparations and also as a condiment. It is therefore rightly considered as the 'king of spices'. Pepper is grown as a profitable mixed crop in almost all the coffee plantations, coconut and areca nut gardens. In Karnataka pepper is grown on 21061 hectares with an annual production of about 16000 tons/ha (Anon 2012). Spice Board (Ministry of Commerce and Industry) is the flagship organization for the development and promotion of Indian spices. The government of India has initiated many horticultural programmes in all the states to increase spice production. A number of improved production technologies are recommended to get maximum benefits out of pepper cultivation. Yet the growers are not following all the recommended technologies and their cultivation practices vary from one farmer to another according to their personal characteristics, availability of facilities for production, marketing pattern and problems in the cultivation of pepper. In the last one decade though the area and production of pepper in the state showed

a positive trend yet there is a decreasing trend in productivity. Among all the spices black pepper is predominantly cultivated in Karnataka. There are gaps in the dissemination of improved black pepper varieties in the state.

METHODOLOGY

The study was conducted during the year 2013-14 in Uttara Kannada district of Karnataka. Considering maximum area under pepper cultivation the top three Talukas viz Sirsi, Siddhapur and Yallapurtalukas of Uttar Kannada district were selected purposively for conducting the study. The ex post facto research design was used for the study. From each Taluka the top three villages having the maximum area under pepper cultivation were selected; from each selected village 10 farmers growing pepper crop were selected randomly. Thus the sample from each Taluka was 30 making a total sample size of 90 respondents. A pre-tested interview schedule was used to collect the data through personal interview method. The data collected were then tabulated and analyzed by using suitable statistical measures.

To study the technological gap in various components of pepper cultivation the following formula was used and the gap thus calculated was expressed in percentage :

$$\text{Mean technological gap} = \frac{\text{Standard score} - \text{Actual score}}{\text{Standard score}} \times 100$$

RESULTS and DISCUSSION

It was observed that nearly two third of the respondents (63.33%) belonged to medium technological gap category while 22.22 per cent belonged to high and 14.45 per cent of the respondents belonged to low technological gap category.

Majority of respondents had adopted simple practices and there were two groups of respondents who adopted most of the practices and who did not adopt even simple practices. The possible reasons for medium technological gap of the respondents might be due to medium knowledge of the respondents regarding recommended pepper cultivation practices. This clearly shows that there was immense scope for intensified extension efforts to increase the pepper production. This indicates the need for strengthening of extension efforts by the concerned extension agency to increase the knowledge and in turn increase adoption of recommended cultivation practices and ultimately reducing technological gap. The findings of the study are in agreement with the findings of Thorat (2003), Santosh Swamy (2006), Rajashekhar (2009) and Madhu (2010).

Table1. Distribution of respondents according to overall technological gap about pepper cultivation practices (n= 90)

Category	Frequency	Percentage
Low (mean – 0.425SD) (<14.77)	13	14.45
Medium (mean± 0.425SD) (14.77-17.02)	57	63.33
High (mean + 0.425SD) (>17.02)	20	22.22

Mean= 15.9, SD= 2.63

The results indicated that 71.11 and 44.44 per cent technological gap was found in the use of varieties Panniyur-1 and Panniyur-2 respectively. Majority of the farmers were not aware of the benefits of high yielding varieties of pepper. However there was no technological gap with respect to sowing time, planting material and planting methods. Higher technological gap (77.78%) was found in case of recommended spacing in coconut garden followed by pit size (42.22%).

There was technological gap of 77.78 and 37.78 per cent with respect to number of plants per hectare in coconut garden and filling materials used in the pits respectively. The reason might be unskilled labourers and lack of knowledge.

Cent per cent of technological gap was found regarding the use of chemical fertilizers during May-June followed by use in Sept-Oct (16.67%). A technological gap of 68.89 and 51.11 per cent was observed with respect to use of bio-fertilizers and FYM respectively. This could be due to lack of knowledge, non-availability of organic manures and high transportation cost.

Technological gap also existed in identifying the major pests (66.67%), correct dosage of chemicals (84.44%) and proper chemical to be used for pest control (84.44%). Similarly technological gap was observed in identifying the major diseases (64.44%), correct dosage of chemical to be used (84.44%) and proper chemical to be used for disease control (75.56%). There existed a tendency in the farmers to use pesticides at high concentrations; sprayings were not need based; many farmers did not know the difference between insecticides and fungicides. The results are in close agreement with the findings of Kiran (2003), Rajashekhar (2009) and Madhu (2010). There was high technological gap in case of method of despiking by manual rubbing (74.44%) and mechanical rubbing (27.78%). In case of drying method majority of the farmers followed sundry (77.78) and high (22.22%)

Table 2. Technological gap in adoption of recommended pepper cultivation practices (n= 90)

Practice	Mean technological gap
Recommended variety	
Panniyur-1	71.11
Panniyur-2	44.44
Sowing time (rainy– June-July)	0
Planting material	
Runner with 4 eye buds	0
Polybag plant	50
Type of planting method	
Mixed cropping	0
Spacing	
In coconut garden 8 x 8 m	77.78
In areca nut garden 2.7 x 2.7 m	21.11
Pits size (45 x 45 x 45 cm)	42.22
# plants/ha	
In coconut garden (156)	77.78
In areca nut garden (1370)	21.11
Filling material used in the pits	
3 parts surface soil + 2 parts FYM + 1 part sand + 2% *Thrichoderma* (filled in polybags)	37.78
FYM/acre (10 kg/plant)	51.11
Fertilizers/vine (g)	
Oilcake 250 g + 50 N + 20 P + 70 K (May- June)	100
Oilcake 250 g + 50 N + 20 P + 70 K (Sept- Oct)	16.67
Biofertilizer/acre (50 g *Azospirillum* + 50 g PSB)	68.89
Pest control	
Chemical used in pest control	66.67
Frequency of chemical used	84.44
Correct dosage of chemical	84.44
Disease control	
Chemical used in disease control	64.44
Frequency of chemical used	75.56
Correct dosage of chemical	84.44

Duration for the pepper plant to start yielding after 4 years	
06-08 months	0
Yield obtained per vine 1 kg	0
Method of harvesting	
Black Pepper	0
White pepper	43.33
Method followed for pepper despiking	
Mechanical rubbing	27.78
Manual rubbing	74.44
Drying method	
Sundry	22.22
Bamboo mat	77.78

gap wrt bamboo mat drying methods. High mechanized farming, high cost of labour and lack of skilled labour might be the reasons for these technological gaps.

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