

CONSTRAINTS FACED BY THE PEACH GROWERS OF PUNJAB

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ABSTRACT

The study was conducted in Amritsar district of Punjab to study the constraints in the adoption recommended peach cultivation practices on a sample of 110 peach growers. It was observed that most of the respondents were of medium age and educated up to matriculation and had medium land holding, medium family income and low extension contacts. The study revealed that the main constraints in adoption of recommended practices were lack of knowledge, lack of inputs, costly inputs and lack of skilled labour. It is recommended that more emphasis should be given on the practices such as training-pruning, fruit thinning, insect-pest control and disease control in extension training courses and other extension programmes as majority of the peach growers faced constraints in adoption of recommendations regarding these practices.

INTRODUCTION

Peach is the third most important fruit tree of the temperate areas of the world and is a rich source of Vitamin A and Iron. The world production of peaches for fresh market is about 13496 thousand metric tones. The estimated production of peach in India for the year 2001 was 120 thousand metric tones (Anonymous, 2001). In Punjab peach ranks eighth with respect to its area and production and cultivated mainly in the districts of Sangrur, Hoshiarpur, Nawanshahr, Ferozpur, Patiala, Amritsar, Mukatsar, Jalandhar and Ludhiana in the descending order of area and production (Anonymous, 2003). Peach is very important for Punjab markets because it comes in the market when there is scarcity of other fruits so it gets good market value.

Like other agricultural crops the production of peach depends upon the adoption of peach cultivation practices recommended by Punjab Agricultural University, Ludhiana after thorough research. The production of peach in Punjab was only 17745 metric tones from an area of 1183 hectares (Anonymous,

2003), which should have been more. This gap may be due to non-adoption of recommended practices for peach cultivation. Some of the basic reasons behind the non-adoption or partial adoption of recommended peach cultivation practices are non-availability of inputs, high cost of inputs, lack of skill and indifferent attitude of the farmers towards new technologies and at the same time jurisdiction of the HDO is very large. Due to complexity in different technologies sometimes farmers find it hard to understand or remember all the operations as a result of which they lag behind in adoption of recommended package of practices. To increase the adoption of peach cultivation practices by the peach growers, it is necessary to know the constraints encountered by the peach growers in the adoption of peach cultivation practices, so that extension efforts could be streamlined accordingly. Therefore, the present study entitled 'Constraints confronted by the peach growers of Punjab' was undertaken with the objective; to identify the constraints encountered by

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peach growers in the adoption of recommended peach cultivation practices.

METHODOLOGY

The study was conducted in purposively selected district Amritsar of Punjab state as this district ranked first in area under peach orchards as well as production of peach in the state. A list of all the 168 peach growers in Amritsar district was obtained from the office of Deputy Director of Horticulture, Amritsar. Out of these 163 were retained who had minimum one acre area under orchard. These were distributed in 16 blocks. By using the method of probability proportionate to the number of peach growers in each block, a sample of 110 peach growers was selected. Keeping in

view the objectives of the study an interview schedule was prepared in consultation with the experts from the Department of Horticulture, PAU, Ludhiana, members of advisory committee and by consulting related literature. Data were collected by using personal interview approach.

RESULTS AND DISCUSSION

Profile of the respondents

The profile of the respondents has been presented in Table 1. The data given in the table indicate that 41.82 percent of the respondents were in the age group of 35 to 50 years and 56.36 percent were educated up to matric. Fifty per cent of the respondents were having medium size of

Table 1: Distribution of peach growers according to their personal characteristics (n=110)

S. No.	Characteristics	Category	Frequency	%age
1.	Age (Years)	21 - 35	45	40.91
		35 - 50	46	41.82
		50 - 64	19	17.27
2.	Education	Illiterate	12	10.91
		Upto Matric	62	56.36
		Undergraduate	20	18.18
		Graduate and above	16	14.55
3.	Operational Land Holding	Small (3-5 acres)	18	16.36
		Medium (5-15 acres)	55	50.00
		Large (15-35 acres)	37	33.64
4.	Area Under Orchard	1 - 3 acres	74	67.27
		3 - 6 acres	24	21.82
		6 - 9 acres	7	6.36
		9 - 12 acres	5	4.55
5.	Area Under Peach	1 - 2 acres	66	60.00
		2 - 4 acres	29	26.36
		4 - 6 acres	9	8.18
		6 - 8 acres	6	5.46
6.	Family Income (Rs.)	Low (40,000 - 70,000)	21	19.09
		Medium (70,000 - 1,50,000)	58	52.73
		High (1,50,000 - 4,00,000)	31	28.18
7.	Income From Peach. (Rs.)	No Income Yet	13	11.82
		10,000 - 60,000	65	59.09
		60,000 - 1,10,000	18	16.36
		1,10,000 - 1,60,000	14	12.73
8.	Extension Contacts (scores)	Low (Less than 6)	98	89.09
		Medium (6 to 12)	9	8.18
		High (Above 12)	3	2.73
9.	Age of Orchard	One year	7	6.36
		Two years	6	5.45
		Three years	3	2.73
		Four years and more	94	85.46

Table 2: Constraints encountered by the respondents for non-adoption/partial adoption of the recommended practices for peach cultivation. (n=110)

S. No.	Practices	Constraints	F	%age*
1.	Recommended varieties (n=8)	- Lack of knowledge	2	25.00
		- Non-availability of nursery plants	6	75.00
		- High cost of nursery plants	3	37.50
		- High yield of other varieties	1	12.50
2.	Pits made (n=47)	- Non-availability of labour	16	34.04
		- Financial problem	16	34.04
		- Lack of time	10	21.28
		- Falling of plants	23	48.94
3.	Pit size (n=20)	- Lack of knowledge	10	50.00
		- Lack of labour	9	45.00
		- Lack of time	2	10.00
4.	Pits filled (n=21)	- Lack of knowledge	4	19.05
		- Lack of labour	8	38.09
		- Bad weather	1	04.76
		- Lack of time	9	42.86
5.	Insecticides mixed in pit (n=42)	- Non-availability	18	42.86
		- Less chemical	2	4.76
		- Lack of knowledge	25	59.52
6.	Planting distance (n=7)	- Lack of knowledge	3	42.86
		- Filling of plants	3	42.86
		- As recommended by HDO	2	28.57
		- For new experience	1	14.28
7.	Training and pruning (n=95)	- Lack of knowledge about method of training and pruning	31	32.63
		- Lack of skilled labour	42	44.21
		- Costly	24	25.26
		- Lack of time	12	12.63
		- Yield decreases	32	33.68
8.	Fruit thinning (n=90)	- Lack of knowledge	38	42.22
		- Lack of labour	28	31.11
		- Costly procedure	46	51.11
		- Lack of time	16	17.78
		- Yield decreases	34	37.78
9.	Irrigation (n=64)	- Water required for paddy	9	14.06
		- Lack of knowledge about proper schedule	21	32.81
		- Lack of irrigation sources	12	18.75
		- Shortage of electricity	25	39.06
		- Lack of canal water	18	28.13
		- Intercropping	12	18.75
10.	Manure and fertilizer (n=96)	- High cost of diesel	8	12.50
		- Lack of knowledge about dose and time	32	33.33
		- Lack of FYM	2	02.08
		- Non-availability of fertilizer	20	20.83
		- High cost	35	36.46
		- Lack of time	3	03.12
		- Intercropping	10	10.41
- Lack of tractor trolley	2	02.08		
11.	Insect-pest control (n=89)	- High cost of insecticides	11	12.36
		- Lack of knowledge about insects and insecticides	32	35.95
		- Non-availability of quality insecticides	28	31.46
		- Lack of spraying equipment	16	17.98
		- Lack of skilled labour	12	13.48
		- Unfavorable weather conditions	3	03.37
12.	Disease control (n=95)	- As advised by dealer	22	24.72
		- Problem of identification of diseases	35	06.86
		- Lack of knowledge about proper control measures	29	30.53
		- Non-availability of chemical/fungicides	20	21.05
13.	Fruit packing (n=68)	- As advised by dealer	25	26.32
		- Lack of packing material	21	30.88
		- Lack of knowledge	22	32.35
		- Costly packing material	32	47.06
		- Traditional method	19	27.94

*Multiple response

operational land holdings (5 – 15 acres). Majority of the respondents (67.27%) were having one to three acres of land under orchard and sixty percent of the respondents had one to two acres of land under peach cultivation. Family income of majority of the respondents (52.73%) was medium (Rs. 40,000 – 70,000) whereas income from peach cultivation to majority of them (59.09%) was in range of Rs. 10,000 to 60,000. Majority of the respondents (85.46%) were having peach plants of four year and more age. Low extension contacts were reported by majority of the peach growers (89.69%).

Constraints in adoption of recommended practices:

The knowledge of majority of the respondents about the recommended peach cultivation practices was medium. Majority of the respondents followed recommendation about the choice of varieties, irrigation and plantation spacing. On the other hand, majority of the respondents did not adopt recommendations about training, pruning fruit thinning and packing of fruits and about half of the respondents didn't made pits for planting. All the respondents adopted nitrogenous fertilizers but only half of the respondents adopted recommended doses of manures and fertilizers and used recommended plant-protection measures against various insect-pests. The adoption of recommended plant-protection measures against diseases was also low. Following are the constraints, which the peach growers expressed in order to justify the non-adoption of the recommendations about various peach growing practices (Table 2).

It was observed that majority of the respondents confronted different type of constraints in the practices related to manures and fertilizers (87.27%), disease control (86.36%), training and pruning (86.36%), fruit thinning (81.82%), insect-pest control (80.91%), fruit packing (61.82%) and irrigation (58.18%). Constraints in adoption of the practices related to pit making, mixing of pesticides in the pit, filling of pits, pit size, varieties to be planted and the planting distance to be maintained were expressed to be confronted by 42.73, 38.18, 19.09, 18.18, 7.27 and 6.36 per cent of the peach growers respectively.

It was expressed by the peach growers who faced constraints in adoption of recommended varieties (7.27%) that non-availability of nursery plants was the main constraint, which was faced by three-fourth of them. Lack of knowledge, high cost of nursery plants and low yield of the recommended varieties were the other constraints expressed by 25.00, 37.50 and 12.50 per cent of the farmers who did not planted recommended varieties. Sutra et al (1997) also reported high cost of cuttings of the recommended varieties as one of the major constraints in adoption of selected scientific technologies in grape cultivation.

Among the respondents who faced constraints in the digging of pits (42.73%), about half did not made pits and planted the trees at less distance than recommended because they felt that the plants may fall. About one third of them expressed non-availability of labour and lack of money as constraints in digging pits for plantation whereas one fifth of them expressed that they had not adequate time for this operation. Among the 18.18 per cent of the total respondents who did not made pits of recommended size, about half

expressed lack of knowledge and skilled labour as constraints whereas one tenth of them expressed lack of time as the constraint. Lack of labour (38.09%) and lack of time (42.86%) were the main constraints expressed by the peach growers who faced constraint in filling the pits according to the recommendations (19.09%). Other constraints faced by the peach growers regarding this practice were lack of knowledge (19.05%) and bad weather (4.76%). Lack of knowledge (59.52%) and non-availability of the chemicals (42.86%) were main constraints expressed by the peach growers who did not mix the chemicals in the pits (38.18%). Recommended amount of the chemical was not mixed by 4.76 per cent of the respondents who felt constraints in this practice, as the chemical was not available in the sufficient amount.

Lack of skilled labour was main constraints in pruning and training of peach plants, which was faced by about half of the peach growers who faced constraints in pruning and training of the peach plants (86.36%). Among the peach growers who did not adopt the training and pruning practices, 44.21, 33.68 and 32.68 per cent expressed the lack of skilled labour, decrease in the yield of trained-pruned trees and lack of knowledge about the method of training and pruning respectively as the constraints in the adoption of training and pruning. About one-fourth of the non-adopters expressed the training and pruning practices to be costly whereas constraint of lack of time was expressed by 12.63 per cent of them.

Like training and pruning constraints in the adoption of fruit thinning were also faced by large number of the peach growers (81.82%). About fifty per cent of them did not adopt fruit thinning as they feel it is a costly procedure whereas 42.22 and 37.78 per cent of them expressed lack of knowledge and decrease in the yield of the

orchard if thinning is done respectively as the constraints in non-adoption of fruit thinning. About one-third of them expressed costly labour as constraint whereas 17.78 per cent of them did not have sufficient time to have the fruits thinned.

Constraints in the adoption of recommendations about the irrigation timings were also faced by majority of the respondents (58.18%). Among them constraints of shortage of electricity, lack of knowledge about the proper irrigation schedule lack of canal water were expressed by 39.06, 32.81 and 28.13 per cent peach growers due to which they were unable to adopt the recommended irrigation timings. Other constraints in adoption of irrigation timings were lack of irrigation sources (18.75%), intercropping in the orchard which lead to change in the irrigation schedule according to that of the crop intercropped (18.75%), high water requirement of paddy (14.06%) and high cost of the diesel (12.50%). Brar (1992), Chand and Chand (1997) and Saraf and Soni (1999) reported scarcity of irrigation water as the main constraint in adoption of recommendations about irrigation.

Huge number of the peach growers (87.27%) faced constraints in the adoption of recommendation concerning manures and fertilizers. High cost of fertilizers (36.46%) and there non-availability (20.83%) were main constraints in using recommended fertilizers. The proper doses of manure and fertilizers were not applied and timings were not followed due to lack of knowledge (33.33%), intercropping (10.41%), lack of time (3.12%), lack of FYM (2.08) and lack of tractor-trolley (2.08%).

Majority of peach growers (80.91%) faced constraints in adoption of recommended practices of controlling insects in their peach orchards. Lack of knowledge about the identification of insect-pests and proper

insecticides (35.95%) and non-availability of quality insecticides (31.46%) were the main constraints expressed by the farmers in controlling insect-pests. About one-fourth of them expressed that they used those chemicals which were advised by the dealers and the dealers didn't advise about the recommended ones. Other constraints in the adoption of recommendation about insect-pest control were lack of spraying equipment (17.98%), lack of skilled labour (13.48%), high cost of the insecticides (12.36%) and unfavourable weather conditions (3.37%).

Similarly, constraints in the adoption of the recommendations about disease control were confronted by large number of the peach growers (86.36%). Lack of knowledge about identification of diseases (36.86%) and proper chemicals (30.53%) were the main constraints in controlling diseases. As in case of insecticides, about one-fourth of the peach growers selected the fungicide/chemical on the advice of the dealer whereas about one-fifth of the peach growers expressed non-availability of the recommended chemicals in their adoption.

Pandhu (1988) reported lack of knowledge as the major constraint in adoption of the recommended plant protection practices. Gill (1996a) reported lack of knowledge, non-availability of chemicals, financial problem, high cost of chemicals, lack of technical guidance and wrong advice of dealers as main constraints for non-adoption of plant protection measures.

Constraints in the packing of the fruits were also confronted by majority of the peach growers (61.82%). Fruits were packed in the baskets due to costly packing material (47.06%) and non-availability of proper packing material (30.88%). Lack of knowledge about proper packing material and method was the constraint expressed

by 32.35 per cent of the peach growers who did not pack their fruits. It was expressed by 27.94 per cent of the respondents who didn't followed recommendations that the traditional method of packing has been used by them for long time and due to their personal experience in packing through traditional way it does not affect the fruit quality.

Lack of knowledge was the major constraint, which hampered adoption of most of the peach cultivation practices. The studies conducted on different horticultural crops by Pandhu (1988), Brar (1992), Gill (1996a), Gill (1996b), Sharma (1998) and Saraf and Soni (1999) also underline these findings. Lack of the skilled labour was one of the major constraints which was also reported by Gill (1996a) in case of Litchi. Non-availability of the recommended input and high cost of the inputs were some other prominent factors that constrained the adoption of the recommended peach cultivation practices. The studies conducted by Gill (1996b), Sutar et al (1997) and Sharma (1998) on different horticultural crops also support these findings. The partial or non-adoption of high cost inputs is due to lack of financial resources of the farmers. The constraint of lack of financial resources in adoption of the recommended technologies was also reported by Brar (1992), Gill (1996a), Chand and Chand (1997) and Kadian (1999).

CONCLUSION

It can be concluded that unawareness about the recommended peach cultivation practices was the main constraint for non-adoption of recommended practices, so extension workers should educate the peach growers through appropriate extension methods. Detailed information on use of fungicides, pesticides, manures and fertilizers should be transferred through mass media and other information sources

of extension services. As huge number of peach growers expressed constraints in training –pruning, fruit thinning, insect-pest control, disease control practices etc., therefore more emphasis should be given on these practices in training courses and other extension programmes. Training courses should be organized for labourers for the training and pruning of the peach plants as lack of skilled labour is a prominent constraint in adoption of these practices.

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