

## TRAINING NEEDS OF POTATO GROWERS TOWARDS IMPROVED TECHNOLOGIES

Vishal Raina\*, Rakesh Khajuria \*\* and Bharat Bhushan\*\*\*

### ABSTRACT

Potato along with brinjal, tomato, cabbage and cauliflower account for nearly 60 percent of vegetable production in India. Potato is the most important crops in India in terms of 1863000 Ha acreage area and 42339000 MT production. Out of it, 15424 MT have been exported to different countries of the world. Commercial cultivation of potato is highly remunerative in such situation since it provides higher yield/unit area and high economic return in short time. The sample consisted of 120 potato growers. The results revealed that a majority of farmers needed a medium to high level of training in areas like seed treatment, optimum dose of fertilizer, identification of insects/disease & their control measures, identification of weeds storage, proper use of rain water and marketing of storage.

### INTRODUCTION

Training is essential to induce motivation, create confidence and inculcate efficiency in an individual. Training is also inevitable for imparting new knowledge and updating the skills of the farmers. Training of farmers had assumed further importance and urgency in the context of the high yielding varieties and improved practices in agriculture and allied fields. Thus training plays a very important role for human resource development. Potato is an integral part of daily diet in all walks of society. They are cheaper and are better source of protective foods. Daily consumption of sufficient potato (vegetables) could help to prevent major diseases such as cardiovascular diseases and certain cancers (WHO, 2002). The present production could be increased considerably if the available technology is effectively transferred to the farmers. Training has become a critical input especially in view of the growing sophistication in agricultural technology as well as its cost intensive nature. However, no training programme would bring desirable changes in the knowledge, skill, attitudes and other behavioural components unless it is a need-based programme. Our training programmes need to focus more on transferring of new technology from the confines of laboratories and research institutes to the farmers and make them result oriented. Its profitability needs

to be enhanced further, but still profitability of potato growing is beset with many constraints faced by the potato growers due to production and marketing. So, therefore the potato grower's needs to be properly trained in the latest improved cultivation practices for realizing more productivity and production of crop.

### RESEARCH METHODOLOGY

The study was purposively conducted in two blocks of Jammu district of the J&K state namely, Arnia and Bishnah which are leading blocks in potato production. Since potato is the most important crops of the area in terms of acreage and production, only those farmers were taken as the respondents of the study who had grown potato as major crop under vegetables cultivation. The list of villages in the area block wise was prepared and six villages were selected randomly from each block and ten farmers from each village making a sample of 120 respondents were selected for the study. The farmers were personally interviewed during the months of November-December, 2012. The training needs of potato growers were identified in terms of 'knowledge gap' which was operationalized as the difference between the existing level of knowledge and the maximum or full level of knowledge with respect to production technology recommended for potato crops. The gaps in farmers 'knowledge' were called as 'Training need

\* JAEO, Deptt of Agriculture, Jammu.

\*\* AEO, Deptt of Agriculture, Jammu.

\*\*\* Deputy Registrar (Acad.), SKUAST, Jammu.

score' which was calculated by subtracting the mean knowledge score from the full knowledge score *i.e.*, 2. Based on these scores the training needs were identified. Scores were then stratified into three levels of training need *i.e.*, low, medium and high training needs by using mean training need score for better interpretation of results.

## RESULTS AND DISCUSSION

The data incorporated in table 1 indicate mean training need scores and the extent of importance of training need against each component of potato cultivation. The following subject matter areas were suggested by the respondents according to their importance for training under each major farm practice.

### **Training needs of farmers in various areas in potato cultivation**

#### **(i) Agronomic practices**

The components seed treatment, seed rate and improved varieties and the mean score 2.81, 2.37 and 2.31 of respectively were assessed to be more important for training. The sowing time component was considered as low important for training. This may be due to the reason that these aspects were considered to be more important for higher yields by the farmers.

#### **(ii) Manures and fertilizers**

The data received on this aspects shows that optimum dose of fertilizer, fertilizer based on soil test recommendations were considered as high extent of training with mean score of (2.36) and (2.35) respectively whereas, preparation and application of compost/FYM were considered as low important training areas.

#### **(iii) Plant protection**

It is evident from the table 1 that subject matter areas like identification of diseases and their control measures (2.89) and identification of pest and their control (2.86) were considered more important areas where as preparation of spray solution and its application (2.54) found less important training areas. The respondent farmers might have shown high need in above areas because the diagnosis and identification of right cause may be highly technical and skill full job.

#### **(iv) Weed control**

Scientific methods of weed control requires basic skills in identification of weed (2.45) and knowledge of the herbicides (2.51) which were denoted as more important training areas by the farmers whereas, preparation of spray solution and their application and intercultural operation were the areas in which farmers were less desirous of training. Since the farmer of the study area were still operating with the traditional methods of weed control and were least involved in weed control.

#### **(v) Soil and water management**

The data on the aspects of soil and water management shows that the techniques of storage and proper use of rain water attain first rank with mean score of 2.84 having high extent of training need.

#### **(vi) Harvesting and storage**

The study revealed that marketing of storage component got the top rank with high training needs and the processing component had been placed at the bottom of ranking with low training need and mean score 1.98. This may be because of the reason that advance technology is being generated in these areas, therefore, farmers showed their interest to get updated with the latest development in the area.

### **Opinion of farmers regarding training programme organization:**

The training needs of the farmers are not only concerned with contents of the training programme. In addition, a need based training programme has to be in accordance with the choice of vegetable growers with respect to time, place, duration and method of training. In view of this, the respondents of the study were asked to give their preference on all these aspects (Table 2).

#### **Suitable time for training**

As regards the time of training, 65 percent of respondents preferred suitable time of training as 2-3 week before cropping season start. More than one forth (29.16%) of the respondents preferred time of training to be of 1-2 week before cropping season start and the remaining 5.8 per cent time of training of 3-4 week before cropping season start.

#### **Duration of training**

The findings of the study revealed that sev-

**Table 1: Training needs of farmers in potato farm practices**

S.No	Farm practices	Mean score	Extent of training needs	Rank
<b>A Agronomic component</b>				
1	Improved varieties	2.31	High	III
2	Seed rate	2.37	High	II
3	Sowing time	1.73	Low	VI
4	Method of sowing	2.16	Medium	IV
5	Seed treatment	2.81	High	I
6	Spacing	2.08	Medium	V
<b>Average mean score</b>		<b>2.24</b>	<b>S.D.= 0.54</b>	
<b>B Manure and fertilizer component</b>				
1	Identification of important fertilizer	1.91	Medium	IV
2	Optimum dose of fertilizer	2.36	High	I
3	Time and method of fertilizer application	1.91	Medium	III
4	Fertilizer based on soil test recommendations	2.35	High	II
5	Preparation and application of FYM/Compost	1.76	Low	V
<b>Average mean score</b>		<b>2.06</b>	<b>S.D.= 0.28</b>	
<b>C Plant protection component</b>				
1	Identification of disease and control measures	2.89	High	I
2	Identification of insects and control measures	2.86	High	II
3	Preparation of spray solution and application	2.54	Low	III
<b>Average mean score</b>		<b>2.76</b>	<b>S.D. = 0.09</b>	
<b>D Weed control component</b>				
1	Identification of weeds	2.51	High	I
2	Knowledge of herbicides	2.45	High	II
3	Preparation of spray solution and application	2.08	Medium	III
4	Inter-culture operations	2.00	Low	IV
<b>Average mean score</b>		<b>2.26</b>	<b>S.D. = 0.19</b>	
<b>E Soil and water management component</b>				
1	Leveling-bundling-terracing	2.48	Medium	II
2	Storage and proper use of rain water	2.84	High	I
3	Plantation of local trees/grasses	2.22	Low	III
<b>Average mean score</b>		<b>2.51</b>	<b>S.D. = 0.26</b>	
<b>F Harvesting and post harvesting component</b>				
1	Time and method of harvesting	2.10	Medium	III
2	Processing	1.98	Low	IV
3	Marketing of storage	2.87	High	I
4	Seed production	2.76	Medium	II
<b>Average mean score</b>		<b>2.42</b>	<b>S.D. = 0.42</b>	

**Table 2: Time, method, venue and duration of training preferred**

S.No	Particulars	No of respondents	Percentage
<b>A</b>	<b>Time of training</b>		
i	3-4 week before cropping season start	7	5.84
ii	2-3 week before cropping season start	78	65.00
iii	1-2 week before cropping season start	35	29.16
<b>B</b>	<b>Duration of Training</b>		
i	7-10 days	12	10.00
ii	3-5 days	84	70.00
iii	1-3 days	24	20.00
<b>C</b>	<b>Place of training</b>		
i	Village level	85	70.83
ii	Block level	13	10.84
iii	Subdivision level	7	5.83
iv	Agricultural University level	15	12.50
<b>D</b>	<b>Methodology of training</b>		
i	Training cum demonstration cum tour	90	75.00
ii	Training cum demonstration	27	22.50
iii	Lecture cum discussion	00	00
iv	Exhibition	3	2.50

enty per cent of the respondents preferred duration of training to be of three to five days, 20 per cent preferred training of one to three day duration, and the remaining 10 per cent training of seven to ten days duration.

#### Venue of training

In response to a question regarding farmers preference about the convenient place of training, 70.83 per cent desired training at the village level followed by agricultural university level (12.50%), block level (10.84%), and Subdivision level (5.83%) respectively as the venue of training. It seemed that farmers were not able to spare much time from their farm activities to attend the training outside their village.

#### Methodology of training

The finding in table 2 showed that majority of the farmer (75%) wanted to be educated in various component of potato cultivation this exhibit that farmer believe on 'learning by doing' and 'seeing is believing' tour provides them exposure to different and better ideas and experiences which the farmers can put to use in their own field situations for enhancing production.

## CONCLUSION

Training should be based on the need and interest of the farmers. Identification of the farmers, assessing the needs, locality, *etc.* will lead to the method of training. Again the priority areas are to be identified while formulating the training programmes. Also in order to make the training more effective and efficient, the programmes need to be conducted well in advance before the cropping season starts. Short duration as well as vocational training programmes at village level situation would be much result oriented. The farmers will be exposed to different ideas and experiences if they are educated in marketing of storage and various skills of potato production especially seed production techniques through training cum demonstration method.

## REFERENCES

- Anonymous. 2011. Horticulture database. Govt. of India, New Delhi.
- Lynton R.P, Pareek, U. 2011. *Training for Development*. Sage Publication India Pvt ltd. New Delhi. 3<sup>rd</sup> ed.

- Narayanaswamy, B., Nataraju. M.S. and Lakshminarayan. M.T. 2006. An analytical study on training needs of vegetable growers *Madras Agric. J.* **93** (7-12): 222-225.
- Tomar, L.S., Sharma, P.B. and Joshi, K. 2003. Study on Yield Gap and Adoption Level of Potato Production Technology in Grid Region. *Maha. J of Ext Edu*, **22** (1), pp 15-18.
- World Health Organization (WHO) 2002. Diet, nutrition and the prevention of chronic diseases: report of a joint WHO/FAO expert consultation, Geneva, 28 January to 1 February 2002, WHO technical report series; 916
- More, M.R., Jadhav, S.N. and Pendhke M.S. 2000. Impact of training of KVK on knowledge and adoption of cotton cultivation practices by farmers. *Maha. J of Ext Edu*. **19**: 335-337.
- Ravishankar, R. L. and Kattappa, Y. 1997. Adoption of improved potato cultivation practices in Karnataka. *Journal of Ext. Edu.*, **8** (4) : 1829-1830.



Received : November, 2013

Accepted : January, 2014