

# Training Needs of Potato Growers in Boxanagar block of Tripura

**Author: K. K. Jha**

**Affiliation : Nagaland University, SASRD Medziphema, Nagaland-797106**

**e mail: [kkjhanurd@rediffmail.com](mailto:kkjhanurd@rediffmail.com)**

## ABSTRACT

Potato is one of the most important crops in India. India is the second largest producer of potato after China. At present China is the biggest potato producer, and almost one third of all potatoes harvested globally comes from China and India. In India 46.609 million tons of potato production was obtained in the year 2013 - 2014 from an area of 2.032 million ha with an average productivity of 22.5 t/ha. Potato is also an important crop in the North Eastern region of India. Assam has the maximum area under potato and Tripura is having the highest productivity of potato amongst the north eastern states in India. Tripura having an area of 5.4 thousand ha under potato cultivation has an average productivity of 19.68 tonnes/ha which is below the average national productivity. A research study was undertaken in 2014 with an objective to assess the training needs of potato growers in the Sepahijala district of Tripura. Potato growers were randomly selected from Boxanagar rural development block under Sepahijala district of Tripura. Data analysis was done using SYSTAT 12 software. The findings revealed that majority of the farmers had training needs in the area of insect pest management followed potato diseases management and balanced use of manures and fertilizers. The variables Age, Education, Information sources utilization, and Knowledge had significant association with the variable "Training Needs" of the potato farmers. The study recommended for strengthening the mass media information sources utilization by the respondents and organizing training by the concerned organizations in the identified areas of training needs.

**Key Words:** *Training needs, Potato cultivators,, Boxanagar, Tripura.*

## INTRODUCTION

Potato (*Solanum tuberosum* L.) is one of the most important food for providing food and nutritional security in the world. Potato is an annual, herbaceous, dicotyledonous and vegetatively propagated plant. In India 46.609 million tons of potato production was obtained in the year 2013 - 2014 from an area of 2.032 million ha with an average productivity of 22.5 t/ha (National Horticultural Mission, 2014). The state of Uttar Pradesh is leading in potato production with 15.013 million tons from an area of 0.616 million ha having an average productivity of 24.371 t/ha and sharing about 33.21 per cent of the potato production of India.. Potato is also an important crop in the North East region of India comprising the states of Assam, Arunachal Pradesh, Mizoram, Nagaland, Manipur, Meghalaya, Tripura and Sikkim. North East region covers almost 9% of the area of the country and about 4.5% of its population.

Potato is a highly nutritious, easily digestible, wholesome food containing carbohydrates, proteins, minerals, vitamins and high quality dietary fibre. Fresh potato contains about 80 per cent water and 20 per cent dry matter of which 60-80 per cent is starch. It has low fat content and high vitamin C. A single potato of 150 g can meet 100 mg of vitamin C requirement. Potato is also a good source of iron, vitamins B<sub>1</sub>, B<sub>3</sub> and B<sub>6</sub> and important minerals. Potato also contains dietary fiber, which benefits human health.

The state of Tripura has a total geographical area of 10492 sq. Km. About 27 per cent of area is under cultivation. Potato is one of the important major commercial crops of Tripura. In NE region, the state of Assam has the maximum area (77,000ha) and production (6,20,000 t) of potato crop. The credit of highest productivity of potato in the NE region goes to Tripura from an area of 5.4 thousand ha and productivity of 19.68 tonnes per ha,

however its productivity is lower than the average productivity of India (22.5 t/ha).

### STATEMENT OF PROBLEM

Though potato is a potential crop of Tripura state, it is not leading in area under potato in the NE region. Farmers don't have adequate knowledge

### RESEARCH QUESTIONS

1. What is the socio-economic status of the potato growers?
2. What are training needs of potato growers?
3. How the training needs can be prioritized?

### METHODOLOGY

#### Research Design

Ex-post facto research design was followed for accomplishing the present work since the phenomenon happened earlier.

#### Sample

The present study was conducted in Sepahijala district, which was randomly selected out of the eight districts of Tripura. One rural development (RD) block viz; Boxanagar was selected randomly under this district for the present study. Two villages were randomly selected from the Boxanagar block. The list of all the potato growers in the selected villages was prepared and thirty farmers were selected randomly from each of these villages making a sample size of 60 potato growers.

#### Instruments

A well structured pre -tested interview schedule was prepared for data collection. Before the actual interview was conducted in the selected villages, a sample of 20 respondents which did not constitute the respondent sample was selected for pretesting the schedule. Data were collected based on personal interview as well as focused group discussions.

#### Analysis

Data obtained from the respondents were tabulated, and classified. Statistical analysis was done using

about the latest technology in potato cultivation and therefore, expansion of cultivated area under potato is very limited. Taking cognizance of these inputs a study was undertaken in the year 2014 with the following research questions:

#### Results

SYSTAT-12 software for calculating mean, standard deviations.

#### Socio- economic characteristics of the potato growers

It was evident from the Table 1 that majority (76.67%) of the respondents were middle aged, male (100%) belonged to Muslims community (75%), had education up to high school (36.67%), having medium family size (60%) with nuclear family type (63.33%). Most (81.66%) of the farmers had medium size of land holding with low level of information sources utilization as in case of 68.33 per cent and majority (46.67%) had low knowledge level of improved potato cultivation.

#### Training Needs of the Potato Growers

Table 2 revealed that majority (65%) of the farmers had maximum training needs in the area of insect pest management followed by potato diseases management as in case of 56.67 per cent and balanced use of manures and fertilizers as reported by 46.67 per cent.

Insect pest and disease management formed the weakest areas where most of the farmers liked to have training periodically. The least training need areas were identified as land preparation (88.33%), followed by making processed products (83.33%) and storage methods (80%) for potato. This result was in accordance with the study of Bhagat (1991) and Ganeson (1992). Srivastava *et al.* (2012) found that the highest training need was felt as plant protection measures followed by manures and fertilizer application, and land preparation and planting respectively.

#### Priority areas of training in potato cultivation

It was evident from Table 2 that majority (65%) of the potato growers needed training in controlling insect pest attack on potato crops. Among insect

pests, cutworms and white grubs were found to cause the most damaging effect. Most of farmers were unaware of the appropriate methods controlling insect pest as their information sources utilization was also very low. The next priority was

given to control of diseases (56.67%). Most prevalent fungal disease was late blight followed by bacterial disease i.e, brown rot. The losses caused by late blight are reported (Kumar *et al.* 2003) to range between 25 to 85 percent in terms of

**Table1: Socio-economic and personal characteristics of potato growers**

N=60

Sr. No.	Characteristics	Category	Frequency	Percentage
1.	Age (in Yrs) Mean =41.3 SD = 12.34	Old	06	10.00
		Middle aged	46	76.67
		Young	08	13.33
2.	Sex	Male	60	100.00
		Female	00	00.00
3.	Social Classes	Muslims	45	75.00
		OBC	01	01.67
		General	01	01.67
		SC	13	21.66
4.	Educational level	High school level	22	36.67
		+2 and above	15	25.00
		Illiterate	10	16.67
		Primary level	08	13.33
		Middle school level	05	08.33
5.	Family Size Mean = 5.48	Big	10	16.66
		Medium	36	60.00
		Small	14	23.33
6.	Family Type	Joint	22	36.66
		Nuclear	38	63.33
7.	Land holding Mean =4.52 Kani or 0.723 ha	Big	09	15.00
		Medium	49	81.66
		Small	02	03.33
.8.	Information sources utilization Mean=2.76	High	02	03.33
		Medium	17	28.33
		Low	41	68.33
9.	Knowledge	High	07	11.66
		Medium	25	41.67
		Low	28	46.67

**Table2: Training need areas perceived by the potato farmers ( N=60)**

Sr. No.	Training Need Areas	Most Needed	Needed	Not Needed
1	Land preparation	00.00	17(11.66%)	53(88.33%)
2	Selection of variety	3(5%)	18(30%)	39(65%)
3	Seed treatment	6(10%)	19(31.67%)	35(58.33%)
4	Irrigation Requirements	12(20%)	32(53.33%)	16(26.67%)
5	Use of Manures & Fertilizers	28(46.67%)	27(45%)	5(8.33%)
6	Control of insects	39(65%)	19(31.67%)	2(3.33%)
7	Control of diseases	34(56.67%)	19(31.67%)	7(11.67%)

8	Post harvest management	9(15%)	13(21.67%)	38(63.33%)
9	Use of improved farm implements	1(1.67%)	16(26.67%)	43(71.67%)
10	Storage methods	1(1.67%)	11(18.33%)	48(80%)
11	Processed Products	2(3.33%)	8(13.33%)	50(83.33%)

**Table3: Association of independent variables with ‘Training Needs’ of the Potato Farmers**

Sr.No	Independent Variables	Correlation coefficient ‘r’
1	Age	-0.6231**
2	Educational level	-0.4079**
3	Social Classes	-0.0865 <sup>NS</sup>
4	Family Size	0.0571 <sup>NS</sup>
5	Family type	0.0692 <sup>NS</sup>
6	Information Sources Utilization	-0.3981**
7	Land Holding Size	0.0841 <sup>NS</sup>
8	Knowledge	-0.7543**

\*\* - Significant at 1 %  $\alpha$  ; NS - Non Significant.

yield. 46.67 % of the farmers also expressed that they strongly need training in use of manures and fertilizers. Most of them were found ignorant about the benefits of balanced use of fertilizer. Though they were aware of the importance of using FYM, however, its availability as per the required doses was perceived as a problem.

#### Factors influencing training needs of the potato growers

Table 3 revealed that the variables Age, Educational level, Information sources utilization, and Knowledge exhibited negative and significant association with the variable “Training Needs” of the potato farmers. This implies that potato growing farmers young in age, having low level of education, low utilization of the various information sources for potato cultivation and possessing lower knowledge about the improved practices of potato cultivation had more training needs in the identified areas of training with respect to potato cultivation. Similar relationship of ‘Training Needs’ of farmers with variable ‘educational level’ was found by Singh and Gill (1982) & Mathiyazhagon and Singh (1986).

#### CONCLUSION

It may be concluded from the present study that majority of the potato growers were middle aged, had education up to high school level with nuclear family and medium size

of family. Most of them had medium size of land holding with low level of information sources utilization and low knowledge level about improved potato cultivation. Majority of the potato growers perceived training needs in the area of insect pest management followed by potato diseases management and balanced use of manures and fertilizers. Therefore training programmes may be organized to improve the knowledge and skills of farmers in relation to adoption of plant protection measures and balanced use of manures and fertilizers with respect to recommended potato cultivation practices.

#### ACKNOWLEDGMENTS

The author express his sincere thanks to Mr.Rajib Das from Tripura for rendering his contributions in collection of field data.

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