

Effectiveness of SRTI Farmers Training Programme : A Class - room Study

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Training is a process by which the desire knowledge, attitude, skill and ideas are inculcated, fostered and reinforced in an organism' (Lynton and Parek, 1967). It is a common extension teaching approach. Change agents are often use it to disseminate the innovation among the farmers. Scientist of SRTI also realized the importance of progressive farmers' training in 1989. Since then, the institute organizes training courses for progressive cane growers in every year. The training classes of progressive cane growers is equipped with charts, slides, transparencies. The training is also conducted in practical field. The study was undertaken to find out the effectiveness of farmers training programme in following aspects :

1. The gaining of knowledge by the cane growers through SRTI training,
2. To study the influence of age, education, family size, cane farm size, extension contact and pre-training knowledge of the cane growers on knowledge gain.

The study was conducted in the growers of Mongalbari and Sakunerchara centre of Joypurhat sugar mills area. Using randomized pretest-post test design, data were collected through a specially prepared and pre-tested questionnaire. The same model questionnaire was used in pre and post test. Data were collected from two batches of trainee growers. Total population size was 60, 30 in each batch of training. Data were collected from 26 growers selected randomly and equally from two batches. The knowledge test were consist of 14 simple questions regarding the production technologies of sugarcane and knowledge was measured by using a specially developed rating scales according to the questions. Hence, the highest provable score was 140 and the lowest was 'zero'. The results were statistically analysed and arranged in the Tables 1, 2 and 3. Table 1 shows the attributes of the variables. Average age group of the sample was 33, minimum 18, maximum 48 with a standard deviation of 8.5. Average family size of the sample growers was observed 7.3 with a range of 4 to 18 and standard deviation 3.6. Average year of schooling was much higher than national average as because the trainee growers were selected from advanced cane growers, mentioned earlier. It was 10.0, minimum 5 to maximum 16 with a standard deviation of 2.6. But the size of cane farm were observed as minimum as 0.1 ha to maximum 7.5 ha with standard deviation of 1.7 and average 1.2. Average score of extension exposure of the sample farmer was 8.7, and minimum 2 to maximum 15 with a standard deviation of 3.9. Pre-test knowledge score was as minimum as 15.7 to maximum 75.7 with a standard deviation of 17.1 and mean value of 41.00. Average post-test knowledge score was also obtained. It was 78.00. The range was 40 to 102 with a standard deviation of 16.2. Hence

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Table 1. General attributes of the sample growers.

Variables	Mean	Standard deviation	Minimum	Maximum
1. Age (Years)	33.0	8.5	18.0	48.0
2. Family size	7.3	3.6	4.0	18.0
3. Education (year)	10.0	2.6	5.0	16.0
4. Cane farm size (ha.)	1.2	1.7	0.1	7.5
5. Extension contact (Per month)	8.7	3.9	2.0	15.0
6. Pre-training knowledge score	41.0	17.1	15.7	75.7
7. Post-training knowledge score	78.0	16.2	40.0	102.1
8. Knowledge gain score	37.2	15.4	5.0	63.5

Table 2. Correlations among different variables with knowledge gain through training.

Variables	r-value
1. Age	0.07694
2. Family size	-0.02953
3. Education	0.39837*
4. Cane farm size	-0.33213
5. Extension Contact	0.48791*
6. Pre-training knowledge	-0.50896**
7. Post-training knowledge	0.42265*

* Significant at 0.05 level.

** Significant at 0.01 level.

Table 3. Regression analysis of significant variables.

Variables	Regression coefficient	Standard error	t-value
Education	0.061	0.082	0.749
Extension Contact	0.120	0.055	2.179*
Pre-training knowledge	-0.975	0.014	-67.408***
Post-training knowledge	0.968	0.016	59.309***
Constant	0.013		

 $R^2 = 0.997$, $F = 1742.75$

* Significant at 0.05 level

*** Significant at 0.001 level

average gain in knowledge by the sample growers was 37.2. The range was 5 to 63.5 with a standard deviation of 15.4.

Table 2, shows the correlations of different independent variables with knowledge gain through training by the growers. It also shows that the influence of education, extension contact, pre-training and post-training knowledge had the strong and significant relationship with the gaining of knowledge through SRTI training. Bhaskaram and Mahajan (1968) also observed that education had a close and positive relationship with response to extension teaching in respect of retention of knowledge. Age, family size and cane farm size were insignificant in relationship with knowledge gain. The variable age was influenced positively but family size and cane farm size were influence negatively. Which implies that the larger size of family and farm holding, the smaller gaining of knowledge through training. These findings were also related with Ramanna and Channegowda (1990), who observed that there was no influence of age and farm size of the participant farmers of group meetings on their gain in knowledge of sunflower cultivation. Pretest knowledge scores was also correlated negatively. It implies that the participants who had a lower knowledge were more beneficent than those, who possessed a comparatively higher knowledge before training. On the other hand, more educated growers were more beneficent in gaining knowledge as because education correlates positively (Table 2). Similar findings were also observed in Karnataka, India, that literate farmers were reported to have gained more information or high information. (Nagnur, 1986).

Regression analysis was also done and shown in Table 3. From the table, it was also shown that pre-training and post-training were highly significant (0.001 level) and correlate in different dimentions, whereas extension contact also expressed a significant role in gaining knowledge. R^2 value (0.997) was also expressed a higher percentage of total variability in this aspect.

Thus, it can be concluded that the SRTI growers training programme had a significant role on gaining knowledge. Hence, emphasis should be given on this programme to disseminate the newly developed technologies among the progressive cane growers.

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Performance of Advanced Potato Clones as Intercrop with Sugarcane

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Sugarcane is a long duration crop usually requiring 10-14 months to mature under the agroclimatic conditions of Bangladesh. During this long period, the poor farmers practice intercropping with sugarcane in order to raise overall crop productivity and to increase their income. Therefor, growing of wintercrops with sugarcane as intercrop is becoming very popular to avoid competition between crops (Kanwar, 1975; Agarwal and Mathuria, 1976; Rahman et al. 1978). Among all inter crops growing with sugarcane potato has been found profitable by majority of the investigators at various places (Imam *et al*, 1982). They reported increase in net profit varied from 29 to 68 percent (Kanwar, 1975; Imam *et al*, 1982; Hossain, 1984). In the recent past, it has been seen that among all the potato varieties/clones Kufrishinduri showed better performance as intercrop with sugarcane (Anon. 1981). Besides Kufrishinduri, some other modern varieties/clones of potato are grown by the farmers as intercrop with sugarcane. Therefore, an experiment has been conducted during 1987-88 crop season at SRTI farm for evaluating the performance of different potato varieties/clones to find out the most potential varieties/clones suitable for intercropping with sugarcane.

Six different varieties/clones of potato such as Kufrisinduri, Kufrilalima, Cardinal, clone 720088, clone 800224 and local were tested with sugarcane variety Isd-16. The experiment was laid out in a randomized complete block design with three replications. Weeding, mulching, fertilization and irrigations were done as per normal practice. Pests and diseases were controlled by mechanical and chemical methods. Data on tillers was taken at optimum plant population stage attaining in the month of May. The data recorded on sugarcane and potato are summarised in the Table 1. All the data were analysed statistically following the Dunkans New Multiple Range test. The adjusted yield of sugarcane was found out by adding the sugarcane equivalent yield of potato concerned with the yield of sugarcane of the plot.

Data on tillering showed that purestand cane and cane intercropped with Kufrisinduri performed statistically equally well and producing the highest tiller numbers of $130 \times 10^3/\text{ha}$. Besides this, potato variety Kufrilalima and local variety showed indential responses in tillering of sugarcane indicating similar influence of Kufrilalima and local potato varieties on the tiller density of sugarcane. Further, clone 800224 exerted a higher negative effect on tillering of sugarcane. All the potato varieties/clones except Kufrisinduri significantly reduced the tillering of sugarcane when intercropped compared to the sole cane. Data on mean cane height showed that cane intercropped with potato did not influenced significantly. However, potato variety Kufrisinduri and clone 720088 induced higher stalk height of cane (2.6m) when intercropped with cane

Table 1. Performance of advanced potato clones/varieties as intercrop with sugarcane during 1987-88.

Treatments		Tillers (000/ha)	Mean height of cane (m)	No. of millable canes (000/ha)	Yield of cane (t/ha)	Yield of potato (t/ha)	Adjusted yield (t/ha)
T ₁	Pure stand STP cane	130.0 a*	2.5 a	103.7 d	63.2 c	—	63.2 c
T ₂	STP cane + Kufirisinduri	130.0 a	2.6 a	120.0 a	73.5 a	5.6 a	105.2 a
T ₃	STP cane + Kufrilalima	126.9 b	2.4 a	97.1 c	53.3 c	4.3 c	77.7 d
T ₄	STP cane + clone 720088	123.3 c	2.6 a	115.7 b	70.8 b	5.0 ab	99.1 b
T ₅	STP cane + clone 800224	120.0 d	2.3 a	109.8 c	72.2 ab	3.4 c	91.4 c
T ₆	STP cane + local Potato	125.3 bc	2.2 a	111.4 c	58.9 d	3.3 c	77.0 d

* Figures accompanied by similar letters do not differ significantly as per DNMR test at 5% level.

compared to the purestand cane (2.5m). Number of millable cane count revealed that significantly the highest number of millable canes ($12 \times 10^3/\text{ha}$) were produced in the treatment where cane was intercropped with Kufirisinduri followed by cane + Potato clone 720088 ($115.7 \times 10^3/\text{ha}$). The number of millable canes when intercropped with clone 880224 and local potato variety were at par ($109.8 - 111.4 \times 10^3/\text{ha}$) and statistically lower compared to the cane intercropped with Kufirisinduri variety. Significantly the lowest number of millable canes ($97.1 \times 10^3/\text{ha}$) were obtained where the potato variety kufrilalima was intercropped with cane compared to the purestand cane. Kufrilalima seriously affected the sugarcane resulting into lower number of millable stalk production. Minimum Adverse effect of Potato on tillering and millable cane production has also been reported elsewhere (Bhel and Narwal 1977; Anon, 1979; Bose, 1976). Yield of sugarcane was significantly affected due to different potato varieties/clones. Significantly the highest cane yield of 73.5 t/ha was obtained when intercropped with kufirisinduri compared to the sole cane. Potato clone 800224 also showed statistically identical response on the yield of cane. The lowest cane yield of 53.0 t/ha was recorded where cane was intercropped with kufrilalima potato variety indicating the severe detrimental effect of this potato variety on cane yield compared to the sole cane. This lower number of cane yield was possibly due to lower number of millable stalks. The higher yield of cane by intercropping with potato variety kufirisinduri has also been reported earlier (Anon; 1981). Among all the potato varieties kufirisinduri gave significantly the highest yield (5.0-6.0 t/ha) followed by clone 720088 (5.0 t/ha) whereas the potato yield obtained from clone 800224 and local variety were statistically at par (3.3 and 3.4 t/ha) and was the lowest among the tested varieties/clones of potato.

Data on adjusted cane yield further indicated that intercropping of potato variety kufirisinduri with sugarcane invariably gave the highest adjusted cane yield of 105.2 t/ha

compared to other potato clones. Significantly the lowest adjusted yield of 77.7 t/ha was obtained where kufrialima potato variety was intercropped with cane. In light of the results obtained in this experiment it could be concluded that potato variety kufri sinduri performed better and may be recommended for intercropping with sugarcane profitably in the Ganges River Flood Plain soils.

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