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Ring-Pit Method of Sugarcane Cultivation: A Success Story

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Farmers Name : **Mr. Uttam Sinha**
Village : **Debicherra**
District : **Dhalai**
State : **Tripura**
Mobile : **+916009397688**
Crop year : **2022-23**

Situation

Before getting introduced to KVK Dhalai, Mr. Uttam Sinha was cultivating sugarcane in his own way as continues from many years. He used to cultivate sugarcane by following conventional methods where the setts (Stem cuttings or sections of sugarcane stalks usually having three buds used for planting sugarcane) are grown in rows of 90 cm spacing and is arranged in a series without maintaining adequate intra- row spacing. As a result, the appearance of germinated Setts is very thin, which ultimately affects the number of canes in each Sett and its development. Major intervention was not initiated by Mr. Uttam Sinha which caused low yielding of 6 tonnes per hectare. His net profitability was lower than the expected potential.

Major constraints of the conventional practice

- Proper intra-row spacing is not followed
- Intercultural operation becomes challenging
- Less number of millable canes per sq. m area
- Incidence of rodents due to not following intra row spacing
- Low productivity of existing technology

Initiative

The Debicherra village of Dhalai district of Tripura is considered as one of the production hubs of sugarcane. The village is located under Durgachawmuhani block. It is situated 25 km away from district headquarter Ambassa. The village was selected on the basis of a Participatory Rural Appraisal (PRA) exercises. Extension activities such as field days for publicity of technologies, diagnostic visits to solve the problems, Farmers – Scientist Interaction and group discussions to learn the farmer's problems were conducted. Provided critical interventions like introducing High Yielding varieties chemical fertilizer, PPC and cash assistance for land preparation, sowing intercultural operation, harvesting etc.

Fig. 1 Field visit by scientist of KVK Dhalai

Overview of the technology

Sugarcane Setts are planted and cultivated in circular "pits" using the "ring pit" method, with a spacing of 180 cm between rows and 150 cm between individual pits in a row. The pits are dugged manually (as the farmer is a marginal one). Then, top soil, 5 kg of farm yard manure (FYM), 100g of gypsum and 125g of super phosphate are added to the pits. They are then well watered before planting. Sugarcane Setts (@ 20 setts having 2 to 3 buds) per pit are used. Pit depth is kept 45cm. Hence, about 2700 pits are constructed per acre using this "ring pit" approach. Care is taken to ensure that just thirty mother shoots are allowed to grow once the Setts are planted. If the suggested set of activities is fully implemented, this technology can produce 800-1100 quintals/acre, which is roughly around two times as much as the usual way.

Fig. 2 Ring-pit method of sugarcane cultivation

Key Result/ Interesting fact

By adopting the "Ring Pit" technique to grow sugarcane, in **Mr. Uttam Sinha** field have seen an increase in sugarcane production of around 98000 kg/ha where in conventional method the average yield was 62000 kg/ha . The yield was 58% higher than the conventional method of planting. Farmers now get an average net income of Rs.257621 per hectare, compare to the conventional one where Rs. 146536 per hectare was obtained. The B:C ratio was 2.13 compared to conventional one where it was 1.85. Now the farmers is ready to take ring pit method of sugarcane cultivation technique in his field for future cultivation and by seeing his success nearby farmers of the same locality also got influenced and wants to adopt this new technology.

Impact

The impact of the program was visible with the increase of production, productivity of the crop as well as adoption of the crop. The demonstration is well accepted by the farmers as it is result oriented.

1. What did you learn in this process? What is difficult or challenging?

The lesson learnt in this process is that farmers are ready to adopt the ring pit techniques which will result better yield than the conventional method. But initially the land preparation is a bit high but if the technique is followed properly the net income will compensate the initial costing.

Challenging point

The challenging part is lack of proper knowledge of application irrigation water in the critical stages, improper inter cultivation operations and pest and disease management in the economic threshold level

2. How did you face these challenges?

Motivated the farmers and to change the attitude of the farmers towards conventional method, proper training was given from KVK Dhalai to easily adopt the new technique.

3. If you were to do it again, what would you do differently?

Development of cluster of "model villages" for demonstrating ring pit method of cultivation and adopting farmers' participatory mode to suit their cropping systems.

Selection of village leaders among farmers to enhance their capabilities towards healthy crop production.

Farmer's general opinion

"Happy to adopt ring pit method of sugarcane cultivation with the guidance of KVK Dhalai which made the cultivation practice easy with high productivity and economic returns."

-Mr. Uttam Sinha

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