Success Story

on

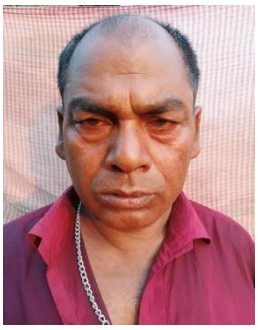
Ring-pit method of sugarcane cultivation in Dhalai District, Tripura

Tanmoy Bhowmik, Abhijit Debnath, A K Mohanty, A K Singha, R Bordoloi

Corresponding address: KVK Dhalai, Salema- 799278, Email – kvkdhalai@gmail. com

"*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*."

Name: **Mr. Uttam Sinha**
Village: Debicherra, Dhalai District, Tripura
District: Dhalai
State: Tripura
Mobile: 6009397688
Crop year: 2021-22



Title:

Promotion of **Ring-pit** Method of Sugarcane Cultivation in Dhalai District of Tripura: a success story

Situation:

Before getting introduced to KVK Dhalai, **Mr. Uttam Sinha** was cultivating sugarcane in his own way as continues for 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 are 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. The 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.meter area
- Incidence of rodents due to not following intra-row spacing
- Low productivity of existing technology

Initiative:

The Debicherra village of the Dhalai district of Tripura is considered one of the production hubs of sugarcane. The village is located under the Durga Chowmuhani Block. It is situated 25 km away from the district Head Quarter Ambassa.

Intervention & Extension tool:

On-farm Testing (OFT)/ Front line demonstrations (FLDs), Training, and extension activities. The village was selected on the basis of Participatory Rural Appraisal (PRA) exercises. Extension activities such as field days for publicity of technologies, diagnostic visits, Farmers – Scientist Interaction, and group discussions to learn the farmer's problems were conducted to solve the problems. Provided critical interventions like introducing High Yielding varieties, chemical fertilizer, PPC, and cash assistance for land preparation, sowing intercultural operation, harvesting, etc.

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, topsoil, 5 kg of farm yard manure (FYM), 100g of gypsum, and 125g of superphosphate are added to the pits. They are then well watered before planting.

Sugarcane Setts (@ 20 setts having 2 to 3 buds) per pit is used. The pit depth is kept at 45cm. Hence, about 2700 pits are constructed per acre using this "*ring pit*" approach. Sugarcane setts dipped in 0.2 % Solution of Bavistin to avoid fungal infection. Per pit 5 ltr of 20 EC *Chloropyriphos* were applied. 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.

Key Result/ Interesting fact:

By adopting the "Ring Pit" technique to grow sugarcane, in **Mr. Uttam Sinha's** field has seen an increase in sugarcane production of around 98000 kg/ha whereas in the 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 the conventional one, which was 1.85. Now the farmers are ready to take the "ring pit" method of sugarcane cultivation technique in their field for future cultivation and after seeing his success nearby farmers of the same locality also got influenced and want to adopt this new technology.

Impact:

The impact of the program was visible with the increase in production, the productivity of the crop as well as the adoption of the crop. The ring pit method of sugarcane growing also uses less water and nutrients. This technique improves the efficiency of fertilizer utilization while also using less water. Moreover, no plowing and lodging is needed, saving on manpower and machining costs. The demonstration is well accepted by the farmers as it is result-oriented. More than 80 farmers are now adopted this technology in the villages and nearby area.

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

The lesson learned in this process is that farmers are ready to adopt the ring pit techniques which will result in 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 cost.

Challenging point

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

2. How did you face these challenges?

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

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

Development of a cluster of "model villages" for demonstrating the 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.

4. **Supporting quotes and images:**

Fig. field preparation

Fig. planting of setts

Fig. crop at tillering stage

Fig. crop at formative stage

Fig. crushing of canes

Fig. juggery making

Fig. Field visit by scientist of KVK Dhalai