

Success Story under RKVY

1. **Title** - Physiological approaches for winter rationing management in sugarcane under subtropical conditions”, ICAR-Sugarcane Breeding Institute, Regional Centre, Karnal .
2. **Category**- Agriculture
3. **Year of sanction**: 2017-18

Significant achievement/success story

The success of the sugarcane farming operation depends on the productivities of plant and ratoon crops. Ratoon cropping is an established practice in sugarcane agriculture contributing significantly to the overall profitability. Ratoons are cheaper to grow by around 25–30 % since no cost is involved on fresh seed material and land preparation, besides saving in irrigation and crop maintenance through reduced crop duration. In India, the ratoon cane productivity at national level stands at 58 t/ha against 85 t/ha for plant cane. Ratooning is a practice of growing full crop of sugarcane from sprouts of underground stubble left in the field after harvest of the plant (main) crop. Ratooning of sugarcane is a common practice throughout the world and ratoon occupies almost 50 per cent of the total area under sugarcane cultivation and contributes 30% to the total cane production in the country. The area under ratoons is relatively greater in the tropical states (50% - 55%) than in the sub-tropical states (40% - 45%). In sugarcane farming, ratooning saves the cost of seedbed preparation, seed material and planting operations. Ratoons help in extending the crushing period of sugar mills as they mature earlier than the plant crop. The decline in cane yield in successive ratoons is common in most of the sugarcane growing areas. The average yield gap between plant and ratoon crop in the country is 20% - 25%. One of the major bottlenecks in increasing the productivity of ratoon crops in the sub tropics is the poor sprouting of stubbles in winter-harvested cane. This is one of the major reasons affecting the productivity of a ratoon crop of early-ripening sugarcane varieties, which are normally harvested under sub-optimal temperatures during early crushing period (December/January). Low temperature induces various biochemical changes in stubble buds i.e. reducing sugars, IAA, ATPase activity, total soluble protein content, acid invertase etc. which causes less sprouting in winter. The poor sprouting of a ratoon crop, which occupies nearly one million hectare in sub-tropical India, can be accounted for low sugar productivity in this region. To solve this problem in Haryana and other part of subtropical India a project on “Physiological approaches for winter rationing management in sugarcane under subtropical conditions” was proposed and sanctioned by the state level sanctioning committee of RKVY, Haryana during the year 2017-18 for Rs. 100 lakh. The project is implemented by time and activities are initiated to achieve the mentioned objective. Benefits and lacunas are mentioned below:

Benefits of Haryana’s farmers under RKVY project:

1. We organised a training programme for 100 sugarcane farmers of Haryana on 10.09.2018 to aware them about high quality and high yield sugarcane varieties (developed by SBIRC, Karnal), ratoon management practices, inter-cropping module, mechanization, seed saving and water saving technologies to increase their productivity and income.
2. Celebrated kisan diwas on 23.12.2018 with 60 farmers at the centre.
3. Prepared soil health card of 50 farmers to aware them about the nature of soil and the right fertilizer that is to be used to increase their productivity.
4. Purchased Instruments which enhanced our facility to do more farmers oriented activity and research at the centre.

Lacunas:

1. Budget was released at very late stage so it is difficult to utilize it within given time period. Hence, it should be validated for next season i.e. 2019-20.

2. Fund is not available for man power, which is very important for effective work of project.

Supporting images



Figure 1: Organised Training programme for 100 sugarcane farmers of Haryana on 10.09.2018 and Celebrated Kisan Diwas on 23.12.2018



Figure 2: Instruments viz. pH meter, EC meter (2 no.), Chlorophyll fluorescence meter, IRGA and chlorophyll meter purchased under RKVY Project

