



## Treatment for in-plant germination of sugarcane

### CONSOLATION

**Beni Singh** (77) was born in a poor farmer's family in Rohtak in Haryana. He has studied up to the higher secondary and spent his childhood in the village, helping his father in the fields and in cattle rearing. After his father passed away, he discontinued his studies due to circumstances at home and then went on to Paliya in Lakhimpur Khiri, Uttar Pradesh, where he bought two bigha of land and started cultivation. A highly respected person in Paliya, he was sarpanch for fifteen years in twenty villages of his area. He is very fond of reading and writing. Realising the fact that there was no doctor in the entire area, he concentrated on obtaining knowledge in Ayurveda and brought books from Delhi and Ayurvedic and Homeopathic medicines from Lucknow and subsequently opened his clinic and started serving the poor. He is famous by the name of 'Dr. Beni Singh' in the entire area. Singh has three daughters and two sons who are all educated. One of his sons is the sarpanch of the village.

### Address

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### Scouted by

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**Genesis** Sugarcane is one of the most important crops in India and increasing its production is every farmer's dream. One nagging problem that sugarcane farmers face is the delay in planting fresh seedlings and harvesting of previous crops. There was no available technology for developing of sugarcane nurseries. Beni Singh was constantly involved in trying to increase the harvest of sugarcane as well as reduce the costs involved in cultivation. He thought of the new method of sugarcane germination after facing difficulties due to low crop production. One day, Beni Singh observed that buds on the sugarcane get germinated on the standing cane plants when they are exposed to light by removing the sheath. It is a common and well known phenomenon. But its application in preparing a cane nursery had not been hitherto tried. Beni Singh felt its potential in terms of saving precious time for farmers. Now farmers of nearby villages have adopted this method. In all his endeavours, his wife was a constant

pillar of support and his sons also helped him. He also remembers with gratitude the help offered by Ganna Singh Goha.

### The technique

Beni Singh's idea in a nutshell is that instead of sowing sugarcane setts (nodes) and then letting them germinate, one can induce the bud germination on the plant itself, cut the setts and sow the early germinated nodes.

### The entire procedure is as below:

First the healthy canes are selected and the sheaths around them are removed. The buds are then exposed to light till they germinate. Following this the land is prepared. In 25 days the buds grow up to one and a half feet and then the cane pieces are cut by the farmer carefully, leaving six inches on both sides of the node. A mixture of gomutra (cow urine-100 litres), red chillies (2 kg), Datura seeds (*Datura metel*-5 kg) and crushed Aak leaves (*Calotropis gigantean*-5 kg) is

prepared and the pieces of cane setts (nodes) are dipped in this mixture. This protects them from various pathogens and pests like termites.

### **Advantages**

The survival rate of sugarcane is almost 100% because the seeds have already germinated and the cost is reduced as uniform plantation is done. Dependence on chemical inputs is reduced because the sugarcane is planted when it is already one foot long. At least one month or more can be saved in the crop cycle which saves costs. Due to reduction of the crop cycle, labour charges are also saved. The yield is improved up to 10% due to uniform plantation and this results in uniform exposure to sun and air. Turn around time can be shortened. With this technique, good quality seeds may be produced at lesser cost.

### **In constant pursuit of innovations**

Beni Singh's contributions to the sugar cane industry are numerous. He has also succeeded in using organic methods in the cultivation of sugarcane. And adding lustre to his achievements, his experiments are not limited to sugarcane; he has also developed some remedies for illnesses affecting livestock. He has also developed a new high milk-producing breed of cow. Some of his significant innovations are given below:

### **21 feet tall Sugarcane without using any fertilizer, herbicide or insecticide:**

Beni Singh found out that if sugarcane stalks are tied at the right time then there is a great chance of considerable increase in length. When the sugarcane is four feet high, the sugarcane of adjacent rows are tied. The second knot should be made two feet above the previous one and when tying the third knot the first one should be cut open. The third knot is made amongst sugarcane stalks of adjacent plots. On making the fourth knot the second one is cut open. Thus the sugarcane plants are arranged in such a way that a square is formed. Some of the advantages of this technique are the sugarcane becomes tolerant to lodging, there is greater growth, early ripening and due to better exposure to sunlight and better elevation there is an increase in sugar content. The formation

also provides protection against damage by wild animals.

### **Selection and treatment of Sugarcane Seed (setts)**

According to Beni Singh the upper portion of the sugarcane stalk should be used for making seeds as the lower portion is not rich in sugar content. For this 1.5 ft long sugarcane stalks are cut and these are left for drying in the sun till the water evaporates. Then a pit of 1m X 1m and three feet deep is dug. Polythene is spread in it and it is filled with 10% solution of cow's urine, so that the urine solution penetrates the sugarcane stalk.

### **Traditional remedies**

- When cows or buffalo calves eat rotten fodder, they suffer from dysentery and they start passing blood in their faeces. Under such conditions ground and filtered *asode* leaves in the juice of sugarcane should be fed.
- Cow or buffalo calves sometimes suffer from intermittent cough or irregular breathing. For treatment, take ash of dry banana leaves (5 g), mix in clarified butter (25 g) and then add raw milk (250 ml). Feed this mixture to the calf.
- If wounds are kept open and not washed, then fly tacks lay eggs over it and then there are chances of insect infection in the wound. For treatment, the wound should be washed with water to which potassium permanganate has been added, then filled with grounded Kadui bach (*Acorus calamus*) or with a mixture of warm turpentine oil and camphor or a paste of dry tobacco leaves and alum could be sprinkled over it.

### **Accolades and awards**

In 1984-85 he got a gold medal for producing 250 tons of sugarcane per hectare and he was honoured for coming first in his region. In 1985 he got an opportunity to visit Philippines and Australia along with a farmer delegation of the Uttar Pradesh Government. In 1987 he got a yield of 300 tons per hectare with each sugarcane stalk weighing an average of eight kilograms and having a height of 21 feet, for which he was honoured in Coimbatore. From 1987-1990 he was featured on Doordarshan New Delhi five-six times and also on Lucknow All India Radio.