

Scientific Methods of Cultivation of Sugarcane

Project Report
Submitted by

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Funded by

Muzaffarnagar Truck & Transport Association
Muzaffarnagar



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मुजफ्फरनगर ट्रक एंड ट्रांसपोर्ट एसो.

पत्रांक -

दिनांक -

6 जून 2019

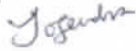
सेवा में,

डॉ के. एस. बर्मन
कृषि विभाग,
श्री राम कॉलेज, मुजफ्फरनगर

आदरणीय डॉ बर्मन जी,

मुझे सूचित करते हुए हर्ष का अनुभव हो रहा है कि आपके अनुसन्धान कार्य हेतु हमारी एसोसिएशन की ओर से रु 10,000/- की धनराशि स्वीकार की गई है। यह धनराशि गन्ने की खेती के वैज्ञानिक तरीके पर आपके अनुसन्धान कार्य को पूरा करने में सहयोग देगी, ऐसी हमारी कामना है।

भवदीय



(योगेन्द्र मोहन तायल)

सचिव

मुजफ्फरनगर ट्रक एंड ट्रांसपोर्ट एसोसिएशन

संलग्न:

चेक संख्या : 886981

दिनांक: 4 जून 2019

राशि : रु 10000/-

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Utilization Certificate

S.N.	Detail of sanction of Fund with Project name and Duration	Amount
1.	60-Day project on Scientific Methods of Cultivation of Sugarcane, Date of Sanction of Fund- 06-06-2019 as per Sanction Letter	10000.00
	TOTAL	10000.00

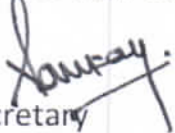
It is Certified that out of Rs. 10000.00 (Rs. Ten Thousand Only) of grants sanctioned by M/s Muzaffarnagar Truck and Transport Association during the year 2019-20 in favor of Shri Ram College, Muzaffarnagar, a sum of Rs. 10000.00 has been utilized for the purpose of the project for which it was sanctioned and that the balance of Rs. Nil remaining unutilized at the end of the year has been surrendered. The Extra amount (if any) is met out by Shri Ram College.

2. Certified that we have satisfied our self that the conditions on which the grant was sanctioned have been duly fulfilled/are being fulfilled and that we have exercised the following checks to see that the money was actually utilized for the purpose for which it was sanctioned.

Kinds of checks exercise-

- 1 Checking of cash book
- 2 Checking of payment vouchers.
- 3 Checking of expenses bills.

For Shri Ram College


Secretary

Place: Muzaffarnagar
Date: 31-08-2019


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For Goel Rakesh & Co.
Chartered Accountants



Rakesh Kumar Goel
Proprietor

M. No. 071858
FRN : 003374C

Scientific Method of Cultivation of Sugarcane

Sugarcane occupies an important place among commercial crops. The general area under sugarcane cultivation in the country is 47.32 lakh hectares during 2017.18. Uttar Pradesh, the leading sugarcane producing state in the country, is producing sugarcane in a total area of 23.40 lakh hectare in 2017.18, which is about 50% of the total sugarcane production area of the country. Agro-climate depends on inter-crop profitability, irrigation facilities and resource availability with farmers and timely payment of sugarcane by mills, etc.

Land selection: Loamy soil is suitable for all sugarcane species.

Sowing time: The time of October-November is considered very good for early varieties of sugarcane, as compared to spring sowing in autumn gives 20.25 percent more yield.

Spring sowing: February for late varieties of sugarcane. The time of March is considered to be very good for the species of sugarcane.

Climate: Warm climate is considered good for sugarcane cultivation. For good growth, the temperature is 26.32 °C.

Plowing the field: One deep plowing, two to three ploughing, or cultivator, make a 20.30 cm deep well. Medium to black alluvial and smooth loamy soils are best for cultivation.

Sowing methods:

1. Well/Med drain method
2. SSNI method
3. Budchip Method

1. Well/Med drain method

Usually one or two pieces of sugarcane are sown end to end in a deep groove made 20.35 cm by weed drain method, and immediately after this, 2.3 cm is covered with soil.

2. SSNI Method

ICRISAT and WWLF project have developed SSI method of sugarcane production which is yielding encouraging results.

With SSI i.e. Sustainable Sugarcane Initiative (Long Term Sugarcane Production Method), more production per unit of sugarcane, minimum seed rate and efficient use of land and fertilizers can be done in less water without harming the environment, whose main formula is as follows.

1. By SSN method of sugarcane carefully a . A bud is removed and planted in a tray filled with coco pits to prepare a nursery from single bud pieces of sugarcane.
2. It is useful to transplant the plants at the age of four weeks (25.30 days).
3. Proper distance (5 by 2 feet) should be kept between the plants in the main field.
4. For effective use of land and other resources, intersecting gaps should be made.

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5. In the traditional method to get 44000 sugarcane from one acre, 16000 pieces with three eyes are directly planted in the field and in the end only 25000 crushable sugarcane is obtained per acre, whereas in SSN method more than 5000 pieces of seedlings are planted. 45000-55000 crushable sugarcane per acre can be obtained due to

6. For this method, it is necessary to use organic manure and organic fertilizers.

7. In S.S.L method, inter-cultivation of crops like wheat, gram, potato, kidney bean, brinjal etc. is encouraged between two rows of sugarcane.

3. Budchip Method

For higher yield per unit and micro irrigation unit than the normal method, sugarcane seed reduction method like ascentipa, single bud sowing, sowing of seedlings prepared from single bud, sowing of seedlings prepared by tissue culture method, etc. can be used. Seedling prepared from single bud or seedling prepared from Budchip is gaining a lot of popularity.

Types of Budchip

1. Manned :

i) Unilaterally driven by one person

ii) Two-way driven by two persons

2. Motorized

1. Manned Rs. Bud chipper removes only part of the eye and some of the lump, since in the bud chipper only some part of the lump is removed with the eye, so the plant requires extra nutrients and extra care, 1.25 to 1.50 inches eye from a bud cutter The knot and some part of the internode are cut with it, which contains enough food material for sugarcane germination and the complete root bed for water absorption.

2. Motorized Rs. With the operation of the motor, the soft-attached knives, which are designed to cut pieces of fixed dimensions, are rotated back and forth or up and down at fixed intervals on the working platform Chip or single bud lump can break off the cane

Seed treatment:

For proper germination of the removed eyes, treat them with a solution of nutrients, insecticides like Chlorpyrifos at 2 ml per liter and fungicide like Carbendazim @ 1 g per liter of bud chips or single eye set for about 5-10 minutes.

Sugarcane Planting Methods:

1. Planting in flat beds:

It is very popular method on Northern India and in some parts of Maharashtra. Shallow furrows 8-10 cm deep are made. Distance between two rows should be kept 75-90 cm. Generally 3 budded setts are used to plant in the end to end planting system. The furrow is covered by 5-7 cm of soil and field is leveled by planking.


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2. Ridge and Furrow Method:

The method is generally adopted in areas with moderate rainfall but have drainage problem. Deep furrows are opened in 'v' shape 10-15 cm deep in North India and 20 cm in Southern India. It is also practiced in Eastern UP and in Peninsular India particular in heavy soils.

3. Trench Method or Java method:

It is very common in Java, some coastal areas and in areas where the crop grows very tall and strong winds are blown. 'U' shape trenches are made. The depth of trench is kept 20-25 cm and line to line space is kept 75-90 cm. Setts are planted in these trenches or in small furrows prepared in the centre of trenches by end to end method.

4. Rayungan Method:

It is the Indonesian term meaning-a developed cane shoot with single sprouted bud. A portion of field is selected for Rayungan production is left at harvesting time. The top of the cane is cut off which results auxiliary buds begin to sprout. For quick and effective sprouting fertilizer especially nitrogen in heavy dose is applied and field is irrigated. After 3-4 weeks sprouted buds are separated in single bud setts and transplanted on ridges. It is costly hence is not commonly adopted in India however is usually used for filling gap.

5. Distant Planting Method:

It was developed at Indian Institute of Sugarcane Research (IISR) Lucknow. In this method, single budded setts are planted in nursery @ 20 q/ha or 18000 setts/ha. After 45-60 days single budded setts are planted in the main field at a spacing of 90cm×50cm.

6. Pit Planting:

This method is very popular in Tillah soil in Assam and also in Kerala hilly tracts. Pits are made at the interspacing of 20-30cm in rows along the contours with row to row spacing of 75 cm, organic manure is placed at bottom of the pits. Cane setts are placed in the triangle in pits and covered with soil. This system can be used in rainfed agriculture and very useful in conserving the soil.

7. Skip Furrow Planting:

It is common in Orissa. It is hybrid of flat and trench method. In this method trenches are dug 45 cm apart and a gap of 90 cm is left after each two rows of cane.


8. Sabling or Sprouting Method:

Plants are sown in fertile soil with wide spacing, shallow planting frequent irrigations and adequate fertilization. Tillers soon after they develop their own roots are separated from the mother plant and planted separately. It is very successful in Java and Cuba.

9. Tjcblock Method:

Improved over Rayungan method because it takes care of proper availability of energy and nutrient to all the buds. Here stalks are cut off at its half length and planted vertically with node in the soil for rooting. The planted ones and the mother stalks are adequately irrigated and fertilized. Now the upper buds of both

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Tjeblocks and mother cane, which sprout in due course of time, are planted by cutting them into setts, as rayungans.

10. Bud Transplanting:

Sugarcane buds with half of its stalk can be planted in small polyphone sleeves filled with organic manure and soil and after they sprouted out, they can be transplanted in the main field. The polythene is tore at the bottom for the easy rooting. There is less mortality about 5 % only.

11. Algin Method of Sugarcane Planting:

In this method, Upper most nodes are collected while striping the canes for crushing; then it is planted in wheat field in rows after every 4 rows of wheat at 90 cm × 50 cm. The method was developed by Allahabad Agriculture Institute, Allahabad.



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