बिहार सरकार
गन्ना उद्योग विभाग

पत्रांक–01 / विकास–16360 / 2025– 59 स्वी० / cc पटना, दिनांक– 06 मई, 2026

प्रेषक,

अनिल कुमार झा, भा०प्र०से०
ईखायुक्त, बिहार, पटना।

सेवा में,

महालेखाकार,
बिहार, पटना।

द्वारा– **आंतरिक वित्तीय सलाहकार।**

विषय : **राज्य योजना अंतर्गत "State Varietal trial for quick release from SVRC of latest sugarcane varieties developed at SRI, Pusa and Promising varieties of other centres against red rot with high yield and sugar recovery in Bihar" के कार्यान्वयन हेतु पाँच वर्षो (2026–27 से 2030–31 तक) के लिए कुल 113.75 लाख रू0 की योजना क्रियान्वयन की स्वीकृति तथा इसके अन्तर्गत वित्तीय वर्ष 2026–27 (प्रथम वर्ष) के लिए राज्य योजना के तहत कुल 21.75 लाख रू0 (इक्कीस लाख पचहत्तर हजार रूपये मात्र) रूपये की निकासी एवं व्यय की स्वीकृति।**

आदेशः **स्वीकृत।**

महाशय,

उपर्युक्त विषयक राज्य में गन्ना उत्पादन, उत्पादकता एवं चीनी रिकवरी में वृद्धि तथा रेड रॉट रोग के प्रति प्रतिरोधी उन्नत किस्मों के त्वरित परीक्षण एवं प्रसार के उद्देश्य से ईख अनुसंधान संस्थान, पूसा (समस्तीपुर) द्वारा समर्पित परियोजना प्रस्ताव के आलोक में राज्य योजना अंतर्गत "State Varietal trial for quick release from SVRC of latest sugarcane varieties developed at SRI, Pusa and Promising varieties of other centres against red rot with high yield and sugar recovery in Bihar" के कार्यान्वयन हेतु पाँच वर्षो (2026–27 से 2030–31 तक) के लिए कुल 113.75 लाख रू0 की योजना क्रियान्वयन की स्वीकृति तथा इसके अन्तर्गत वित्तीय वर्ष 2026–27 (प्रथम वर्ष) के लिए राज्य योजना के तहत कुल 21.75 लाख रू0 (इक्कीस लाख पचहत्तर हजार रूपये मात्र) रूपये की निकासी एवं व्यय की स्वीकृति दी जाती है।

2. इस योजना का क्रियान्वयन ईख अनुसंधान संस्थान, पूसा (समस्तीपुर) द्वारा किया जाएगा। योजनांतर्गत निम्नलिखित कार्य यथा– विभिन्न स्थलों पर उन्नत गन्ना प्रभेदों का परीक्षण एवं रेड रॉट स्क्रीनिंग, गन्ना प्रभेदों का मूल्यांकन एवं चयन के अंतर्गत बिहार के विभिन्न कृषि–जलवायु क्षेत्रों के लिए उपयुक्त लाल सड़न प्रतिरोधक प्रभेद, उच्च सुक्रोज एवं अधिक उपज देने वाले प्रभेदों का चयन, सर्वेक्षण एवं परामर्श सेवायें, अनुशंसित एवं अधिसूचित प्रभेदों का बीज गुणन तथा प्रसार किया जायेगा।

3. इस योजना का कार्यान्वयन ईख अनुसंधान संस्थान, पूसा, समस्तीपुर के द्वारा परियोजना प्रस्ताव के अनुरूप किया जायेगा। स्वीकृत परियोजना प्रस्ताव की प्रति संलग्न है।

Centre of Excellence 2025-26 (sanction)-4

4. योजना अंतर्गत स्वीकृत राशि की निकासी विशेष कार्य पदाधिकारी–सह–निकासी एवं व्ययन पदाधिकारी, गन्ना उद्योग विभाग द्वारा सचिवालय कोषागार, विकास भवन, पटना से की जायेगी तथा तथा ईख अनुसंधान संस्थान, पूसा (समस्तीपुर)/डॉ० राजेन्द्र प्रसाद केन्द्रीय विश्वविद्यालय, पूसा, समस्तीपुर को उनके द्वारा समर्पित पूर्व प्राप्ति रसीद के आलोक में Comptroller, Dr. RPCAU, Pusa को उनके बैंक Punjab National Bank, शाखा– RAU, Pusa, Samastipur, Bihar, खाता संख्या– **4512002100000922**, IFSC Code No.–**PUNB0451200** में CFMS के माध्यम से सीधे अन्तरण द्वारा भुगतान सुनिश्चित किया जायेगा।

5. इस योजनांतर्गत प्रथम वर्ष के लिए स्वीकृत कुल 21.75 लाख रू0 (इक्कीस लाख पचहत्तर हजार रूपये मात्र) रूपये वित्तीय वर्ष 2026–27 में राज्य योजनान्तर्गत बजट प्रावधान के तहत निम्न शीर्ष से विकलनीय होगा–

क्रम संख्या	बजट शीर्ष	विषय शीर्ष	निकासी हेतु स्वीकृत राशि/ विकलनीय राशि (लाख रू0)
1.	<u>सामान्य वर्ग–</u> मुख्य शीर्ष 2401–फसल कृषि कर्म–उप मुख्य शीर्ष–00–लघु शीर्ष–108 वाणिज्यिक फसलें मांग संख्या–45 उप शीर्ष–0109 ईख विकास विपत्र कोड– 45–2401001080109	33 01 सब्सिडी	21.75
	योग–		**21.75**

6. आगामी वर्ष के लिए राशि के विमुक्ति हेतु ईख अनुसंधान संस्थान, पूसा, समस्तीपुर द्वारा योजना कार्य का प्रगति प्रतिवेदन एवं व्यय की गयी राशि का विस्तृत विवरण के साथ समय–समय पर उपयोगिता प्रमाण पत्र एवं फलाफल प्रतिवेदन विभाग को अनिवार्य रूप से समर्पित किया जायेगा। योजना कार्यान्वयन में वित्तीय नियमावली का अनुपालन सुनिश्चित कराने का पूर्ण दायित्व निदेशक, ईख अनुसंधान संस्थान, पूसा, समस्तीपुर की होगी।

7. ईखायुक्त, बिहार योजना के सर्वोच्च नियंत्री पदाधिकारी होंगे। क्षेत्रीय स्तर पर उप निदेशक, ईख विकास, पूसा एवं संबंधित सहायक निदेशक, ईख विकास के द्वारा समय–समय पर योजनाओं का अनुश्रवण एवं पर्यवेक्षण किया जायेगा।

8. वित्त विभाग के पत्रांक–2561 (वि0)2 दिनांक–17.04.1998 का अनुपालन निकासी एवं व्ययन पदाधिकारी द्वारा सुनिश्चित किया जायेगा।

9. योजना प्रस्ताव पर विभागीय स्थायी वित्त समिति की दिनांक–21.04.2026 को आयोजित बैठक में स्वीकृति प्राप्त है।

10. राज्यादेश प्रारूप एवं प्रस्ताव पर वित्त विभागीय संकल्प संख्या–12888/वि० दिनांक–03.12.2024 की कंडिका–2 (क) के आलोक में अपर मुख्य सचिव, गन्ना उद्योग विभाग, बिहार, पटना का अनुमोदन संचिका सं0–01/विकास–16360/2025 के पृष्ठ सं0–07/टि0 पर दिनांक–05.05.2026 को प्राप्त है।

11. राज्यादेश प्रारूप में आंतरिक वित्तीय सलाहकार की सहमति संचिका सं0–01/विकास–16360/2025 के पृष्ठ सं0–07/टि0 पर दिनांक–05.05.2026 को प्राप्त है।

12. वित्त विभाग के पत्रांक 7355 दिनांक 05.10.2007 के आलोक में महालेखाकार से प्राधिकार पत्र की आवश्यकता नहीं है।

अनुलग्नक–यथोक्तः

विश्वासभाजन

ईखायुक्त, बिहार।

ज्ञाप संख्या–01/विकास–16360/2025– 59 स्वी0/cc पटना, दिनांक– 06 मई, 2026

प्रतिलिपि– कोषागार पदाधिकारी, सचिवालय कोषागार, विकास भवन, पटना/वित्त विभाग (बजट शाखा), बिहार, पटना/कुलपति, डा0 राजेन्द्र प्रसाद केन्द्रीय कृषि विश्वविघालय, पूसा (समस्तीपुर)/निदेशक, ईख अनुसंधान संस्थान, पूसा, समस्तीपुर को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

ईखायुक्त, बिहार।

ज्ञाप संख्या–01/विकास–16360/2025– 59 स्वी0/cc पटना, दिनांक– 06 मई, 2026

प्रतिलिपि– विशेष कार्य पदाधिकारी–सह–निकासी एवं व्ययन पदाधिकारी, गन्ना उद्योग विभाग, बिहार, पटना/सभी सहायक निदेशक, ईख विकास तथा महाप्रबंधक/कार्यपालक अध्यक्ष, राज्य की सभी कार्यरत चीनी मिल/सचिव, बिस्मा/सभी विशेष ईख पदाधिकारी एवं ईख पदाधिकारी/बजट शाखा/लेखा शाखा, गन्ना उद्योग विभाग, बिहार, पटना को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

2. आई0 टी0 प्रबंधक, गन्ना उद्योग विभाग को विभागीय वेबसाईट पर अपलोड करने हेतु प्रेषित।

ईखायुक्त, बिहार।

ज्ञाप संख्या–01/विकास–16360/2025– 59 स्वी0/cc पटना, दिनांक– 06 मई, 2026

प्रतिलिपि– माननीय मंत्री, गन्ना उद्योग विभाग, बिहार, पटना के प्रधान आप्त सचिव/अपर मुख्य सचिव, गन्ना उद्योग विभाग, बिहार, पटना के प्रधान आप्त सचिव/ईखायुक्त, बिहार के निजी सहायक को सूचनार्थ प्रेषित।

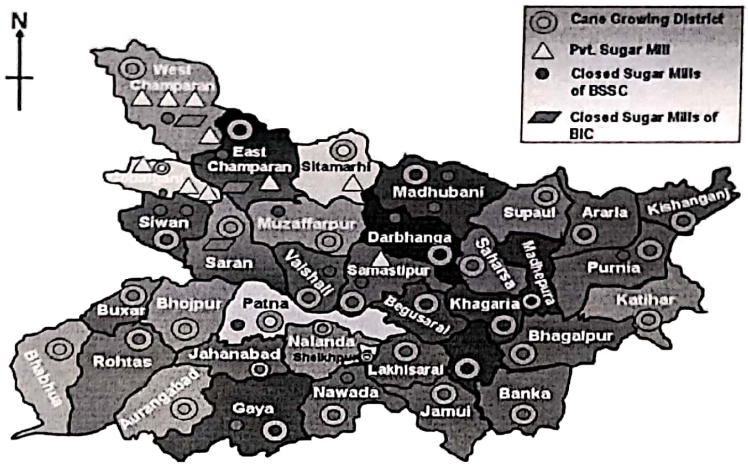
ईखायुक्त, बिहार।

Project Proposal

On

State varietal trial for quick release from SVRC of latest sugarcane varieties developed at SRI, Pusa and Promising varieties of other centres against red rot with high yield and sugar recovery in Bihar.

CANE MAP OF BIHAR



Submitted to:

Sugarcane Industries Department Government of Bihar

Submitted by :

Dr. Balwant Kumar
Sr. Scientist-Cum- Associate Professor
Genetics & Plant Breeding,
SUGARCANE RESEARCH INSTITUTE
DR. RAJENDRA PRASAD CENTRAL AGRICULTURAL UNIVERSITY PUSA,
SAMASTIPUR, BIHAR-848 125

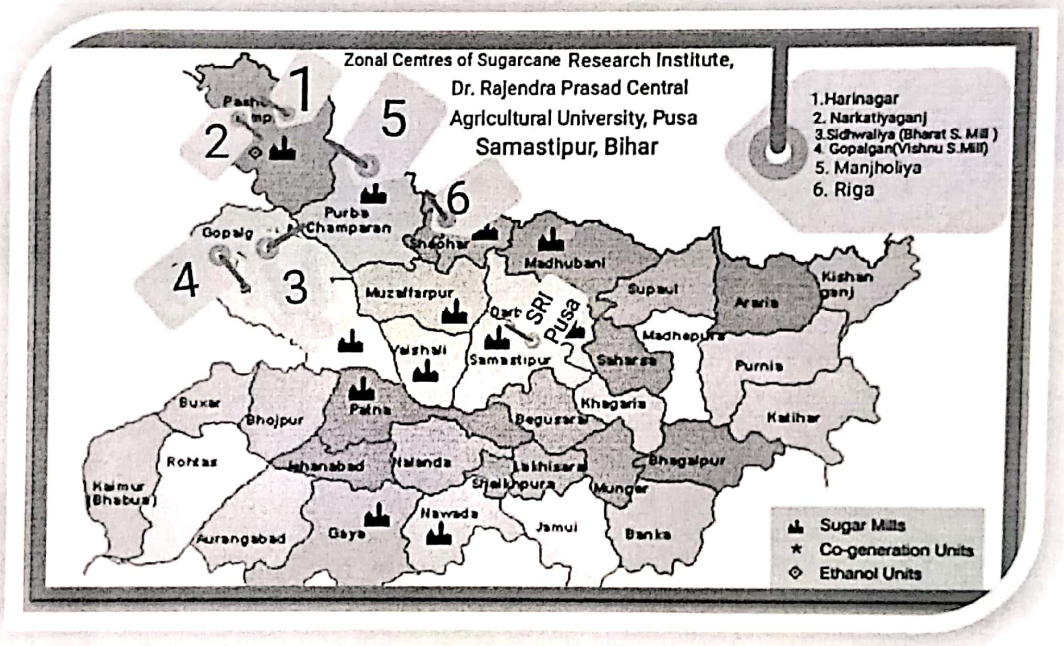
Project Proposal

Title of the project	:	State varietal trial **for quick release from SVRC** of latest sugarcane varieties developed at SRI, Pusa and Promising varieties of other centres against red rot with high yield and sugar recovery in Bihar.
Name of the Institute	:	Sugarcane Research Institute, RPCAU, Pusa (Samastipur)-848125, Bihar
Duration of the project	:	5 years
Year of start	:	2025 -2026and 2026-2027
Concept given by	:	**Dr. Devendra. Singh** Director, SRI, RPCAU, Pusa **&** **Sri Anil Kumar Jha** Cane Commissioner Sugarcane Industries Department, Govt. of Bihar, Patna
Principal Investigator	:	**Dr. Balwant Kumar** Associate Professor- cum - Sr. Scientist Department of Genetics and Plant Breeding SRI, DRPCAU, Pusa (Samastipur)-848125, Bihar
Co-Principal Investigators	:	1. Dr. D.N. Kamat Associate Professor- cum - Sr. Scientist Department of Genetic and Plant Breeding 2. Dr. Md. Minnatullah Associate Professor- cum - Sr. Scientist Department of Plant pathology 3. Dr. Anil Kumar Associate Professor- cum - Sr. Scientist Department of Entomology 4. Dr.Lalita Rana, Asstt. Professor- cum- Scientist Department of Agronomy 5. Dr. Sunita Kumari Meena Asstt. Professor- cum -Scientist Department of Soil Science 6. Dr B D Prasad, Associate Professor- cum - Sr. Scientist, Department of Agricultural Biotechnology & Molecular Biology, CBS&H ***Scientists of Other Centre /KVKs where trial will be conducted***
Total Budget Required	:	**Rs. 113.75 Lakh.** **(One crore thirteen lakh seventy five thousand only)**

Introduction

Sugarcane varietal improvement is widely recognized as the most effective means to enhance yield potential and sugar recovery in most sugar industries across the world, including India. Presently, only 10 sugar mills are operational out of 28 in Bihar, although the state was one of the pioneers in establishing the modern sugar industry during the British era. The first sugar mill, *Madhoura (Chapra)*, was established in 1904.

Research on sugarcane varieties and their evaluation was carried out at different farms under the supervision of scientists and technicians. Initially, the yield potential of local varieties was quite low—around 30–40 t/ha—and sugar recovery was only 7–8% up to 1930. However, after the establishment of the **Sugarcane Research Institute (SRI)** in 1932, systematic research work began at the grassroots level in the sugar factory command areas. This led to significant improvements, achieving more than 50 t/ha productivity and 9–10% sugar recovery by 1940.



Since then, many improved sugarcane varieties, namely **BO 14, BO 17, BO 32, BO 43, BO 47, BO 70, and BO 91**, have been developed by the Institute. Among these, **BO 47** and **BO 70** once revolutionized the sugar industry in Bihar due to their high cane yield and excellent recovery up to 1985. The variety **BO 91** has been cultivated mainly in non-sugar mill areas such as Darbhanga for *gur* (jaggery) production. These achievements highlight the importance of a strong varietal development programme and the need to further accelerate it for promoting entrepreneurship and generating rural employment.

Sugarcane holds a position of pride as a major agro-industrial crop of the country. The **sugar, gur, khandsari, and jaggery** industries—both in large and small sectors—are among the earliest agro-based industries in Bihar and the second largest in India after textiles. These

industries generate substantial employment in rural areas, both directly and indirectly, through agro-industrial linkages.

Every part of the sugarcane plant has its own economic significance. The cane is used for juice extraction, which is processed into sugar in large-scale manufacturing units and into *gur*, *khandsari*, and jaggery in small-scale units. The green tops of the plant serve as nutritious fodder for livestock, facilitating post-harvest field cleaning. **Bagasse**, a fibrous residue, is used in the paper industry and also serves as a fuel source for low-income households. **Molasses** is an important by-product utilized in alcohol and ethanol industries, while **press mud** is a rich organic source of nutrients for soil improvement and helps in reducing soil salinity.

In **Agro-Climatic Zone I** (comprising East & West Champaran, Gopalganj, Saran, Siwan, Sitamarhi, Vaishali, Madhubani, Darbhanga, and Samastipur districts), sugarcane has been a major crop of economic significance. Several sugar mills such as **Banmankhi, Warsaliganj, Guraru, Daltonganj, and Bihta** were also established in **Agro-Climatic Zones II and III (A & B)**, though these are now permanently closed.

Considering the importance of the sugarcane crop—its high profitability, employment generation potential, and role in strengthening the rural economy—it is highly desirable to increase the area under sugarcane cultivation across Bihar. This can be effectively achieved through coordinated efforts by the **administration and scientists of the two Agricultural Universities of Bihar**. Furthermore, establishing **khandsari and jaggery processing units** in rural areas will not only promote sugarcane cultivation but also support rural entrepreneurship and income diversification.

Sugarcane also holds **cultural and aesthetic importance** in Bihar, especially during festivals such as **Chhath Puja** and **Makar Sankranti**, when it is used in the preparation of traditional products like *gur* and *tilkut*.

To further strengthen sugarcane cultivation in Bihar, **newly developed clones** by the **Sugarcane Research Institute, Pusa (Bihar)** and varieties introduced from other states/Centre by sugar factories should be **screened for red rot resistance** and evaluated for their **yield and quality performance**. The identification and promotion of high-yielding, disease-resistant, and high-recovery varieties will play a key role in enhancing both productivity and sugar recovery in the state.

Rationale

There is an urgent need to **screen and identify sugarcane varieties** that combine **high yield potential, high sucrose content, and resistance to red rot**, while being adaptable to the **changing climatic conditions** across the agro-climatic zones of Bihar.

At present, in many sugar factory command areas of Bihar, **several un-recommended sugarcane varieties** are being cultivated without proper testing. Many of these varieties are **lifted from other states** and lack systematic evaluation under Bihar's local conditions. This mechanism is a threat for the state like Bihar due to epidemic infection of diseases like red-rot.

The **Sugarcane Research Institute (SRI), RPCAU, Pusa, Bihar**, has been conducting **multi-location coordinated varietal trials** through its **six zonal centres** for nearly **nine decades** (Fig. 1). The Institute has a long history of following standardized varietal evaluation procedures and has significantly contributed to the varietal development programme in the state. Now functioning as a constituent unit of **Dr. Rajendra Prasad Central Agricultural University (RPCAU), Pusa**, the Institute presently operates only **one externally funded varietal development project** under the **All India Coordinated Research Project (AICRP) on Sugarcane**.

Given this situation, **additional funding support from the Department of Cane and Industries, Government of Bihar**, is urgently required to strengthen the programme for **developing and screening high-yielding, high-sugar, and red rot-resistant varieties** under the prevailing climatic scenario.

Currently, the most popular variety of Bihar, **Co 0238**, has become **susceptible to red rot**, and no effective substitute exists that matches its yield and sugar recovery potential. Therefore, it is imperative to **evaluate the performance of existing and newly developed sugarcane varieties and clones** for their **resistance to red rot, yield performance, quality attributes, and adaptability** to different soil and climatic conditions of Bihar under changing climate situations.

The proposed **coordinated varietal trials** will be conducted at **five locations** for **two consecutive years**, including **newly developed elite clones from SRI, Pusa**, as well as **promising varieties obtained from other states**. Based on data recorded on **yield, quality parameters, and red rot resistance**, the **best-performing varieties** will be identified and **recommended for large-scale cultivation** and **promotion by the Government of Bihar** to enhance productivity and sugar recovery in the state.

Objectives

1. To screen the elite clones developed by SRI, Pusa and other centres of the country for **resistance against red rot**.
2. To evaluate **early maturing clones/varieties** for **high yield** and **high sucrose content** for Bihar
3. To evaluate **mid-late maturing clones/varieties** for **high yield** and **high sucrose content** for Bihar
4. To evaluate the elite clones developed by SRI and other centres of the country varieties for waterlogged area of Bihar

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Technical Programme

Project Site: 5 locations from mill area of Bihar

Duration: 5 years (continued programme)

Plan of Work

- **Coordinated Varietal Trial:** Planting of sugarcane clones/varieties at five centres to record data on **cane yield, juice quality, and other productive traits** under local agro-climatic conditions.
- **Red Rot Screening:** Artificial **inoculation of red rot isolates** in all clones/varieties will be carried out for consecutive years following standard procedures, and **disease reactions (red rot scores)** will be recorded.
- **Evaluation and Selection:** Testing of all entries for **red rot resistance, yield performance** and **quality traits** across zonal centres. Selection of **red rot-tolerant, high-yielding, and high-sucrose varieties** suited to different agro-climatic zones of Bihar will be undertaken.
- **Survey and Advisory Services:** Periodic surveys of sugarcane-growing areas will be conducted to assess varietal performance, incidence of red rot, and farmers' adoption patterns. Advisory services will be provided to promote suitable varieties.
- **Reporting and Variety Release Proposal:** Compilation and analysis of multi-location data for preparation of **varietal release proposals** for the best-performing entries having high yield, high sugar content, and red rot tolerance.
- **Seed Multiplication and Dissemination:** Rapid **seed multiplication** of recommended and notified varieties will be undertaken through **single-bud plantlets (pro-tray method)** and **vertical seed multiplication** to ensure large-scale dissemination among farmers and sugar mills.

Year wise plan of work:

Work	2025-2026	2026-2027	2027-28	2028-29	2029-2030
Screening of the elite clones/ varieties against red rot at five locations					
Evaluate **the early maturity clones/ varieties for high yield and high sucrose content**					
Evaluate **the Mid-late maturity clones/ varieties for high yield and high sucrose content**					
• Data recorded by Young Professional Statistical analysis and submission of reports. • Preparation of release Proposal and its submission.					

Varietal Trial (Early) Plant

Entries (...):

Standard (2): and

Design: Randomized Block Design

Replication: Three

Plot size: Gross: 6m x 8r x 0.75m; Net: 5m x 6r x 0.75 m

: Gross: 6m x 6r x 0.75m; Net: 5m x 4r x 0.75m

Seed rate: 12 buds per meter

Date of planting: February-March

Crop duration: 10 months

Data to be recorded: For Plant crop Varietal Trial Early

1. Germination % (45 days)
2. No. of tillers ('000/ha) 120 days
3. No. of shoots ('000/ha) 240 days
4. CCS % (8 m & 10 m)
5. Sucrose % ,Brix % and Purity % (8 m and 10m)
6. Pol % cane (10 m)
7. Extraction % (10 m)
8. Fibre % (10 m)
9. Stalk Length (cm),
10. Stalk Length (cm),
11. Single Cane Weight (kg)
12. NMC at 10 months
13. Cane yield (t/ha)
14. Disease reactions
15. Insect pests reactions

Varietal Trial (Midlate) Plant

Entries (...):

Standard (2): and

Design: Randomized Block Design

Replication: Three

Plot size: Gross: 6m x 8r x 0.90m; Net: 5m x 6r x 0.90 m

: Gross: 6m x 6r x 0.90m; Net: 5m x 4r x 0.90m

Seed rate: 12 buds per meter

Date of planting: February-March

Crop duration: 12months

Data to be recorded: For plant crop Varietal Trial (Midlate) Plant

1) Germination % (45 days)
2) No. of tillers ('000/ha) 120 days
3) No. of shoots ('000/ha) 240 days
4) CCS % (10 m & 12 m)
5) Sucrose % ,Brix % and Purity % (10 m and 12m)
6) Pol % cane (12 m)
7) Extraction % (12 m)
8) Fibre % (12m)
9) Stalk Length (cm),
10) Stalk Length (cm),
11) Single Cane Weight (kg)
12) NMC at 12 months
13) Cane yield (t/ha)
14) Disease reactions
15) Insect pests reactions

Data to be recorded: For Ratoon

1. No. of tillers ('000/ha) 120 days
2. No. of shoots ('000/ha) 220 days
3. CCS % (9 m &11 m)
4. Sucrose % ,Brix % and Purity % (9 m and 11m)
5. Pol % cane (11 m)
6. Extraction % (11 m)
7. Fibre % (11m)
8. Stalk Length (cm),
9. Stalk Length (cm),
10. Single Cane Weight (kg)
11. NMC at 11 months
12. Cane yield (t/ha)
13. Disease reactions
14. Insect pests reactions

BUDGET: Rs.113.75lakh (One Crore thirteen lakh seventy five thousand only)

Particular	First year (Rs. in lakh)	Second year (Rs. in lakh)	Third year (Rs. in lakh)	Forth year (Rs. in lakh)	Fifth year (Rs. in lakh)	Total (Rs. in lakh)
Y.P @ RS.30000/-	4.00	4.50	5.00	5.50	6.00	25.00
POL/Hired Vehicle/land preparation/mechanization	2.00	2.00	2.00	2.00	2.00	10.00
Cost of cultivation	2.75	2.75	2.75	2.75	2.75	13.75
Chemical /glassware /quality analysis for juice /miscellaneous/etc.	3.00	3.00	3.00	3.00	3.00	15.00
Manpower for maintenance of experiments Man days X @ Rs.500/per days	9.00	9.00	9.00	9.00	9.00	45.00
Miscellaneous expenditure	1.00	1.00	1.00	1.00	1.00	5.00
Total	21.75	22.25	22.75	23.25	23.75	113.75

Expected outcome:

Sugarcane varieties will be developed, recommended and notified for cultivation in Bihar Agro-climate situation.

22/11/2025
Principal Investigator

22.11.2025
22/11/25
Principal Investigator

22/11/25
Nodal officer

22/11/25
Director
SRI, RPCAU, Pusa

Cane Comissioner
Bihar, Patna