Sugarcane Package of Practice (PoP)Variety CoLk 99270

Recommended Region: Central Uttar Pradesh

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1. Variety Profile Sheet

Parameter	Details
Crop	Sugarcane (*Saccharum officinarum L.*)
Variety	CoLk 99270
Recommended Region	Central Uttar Pradesh
Soil Suitability	Clay Loam Soil
Water Requirement	Medium
Planting Season	Spring
Maturity Group	Mid-Maturing
Crop Duration	11–12 months
Expected Cane Yield	87 tonnes/ha
Sugar Recovery	11.1%
Ratoon Suitability	Moderate to Good under proper management
Major Disease Concern	Wilt
Special Feature	Stable yield performance, good cane quality and suitability for Central UP spring planting

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2. Introduction

Sugarcane variety **CoLk 99270** is an improved mid-maturing variety suitable for **Central Uttar Pradesh** under **spring planting conditions**. The variety performs well in **clay loam soils with medium irrigation availability** and provides satisfactory cane yield with good sugar recovery. The variety is suitable due to:

- Good adaptation to Central UP agro-climatic conditions.
- Stable cane productivity.
- Good cane quality.
- Medium maturity suitable for sugar recovery improvement.

However, **Wilt disease** is a major production constraint; therefore, proper seed selection, soil health management and integrated disease management are required.

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3. Agro-Climatic Requirement

Parameter	Recommended Condition
Climate	Subtropical

Parameter	Recommended Condition
Temperature	20–35°C
Rainfall	750–1200 mm
Soil Type	Clay loam
Soil pH	6.5–8.0
Suitable Planting Season	Spring (February–March)

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4. Soil Requirement and Land Preparation

Suitable Soil

- Clay loam soils with good moisture retention.
- Medium fertility soils.
- Proper drainage conditions.

Land Preparation

Recommended operations:

1. Deep ploughing (25–30 cm).
2. Harrowing for fine tilth preparation.
3. Proper levelling.
4. Preparation of planting furrows.
5. Incorporation of organic manure.

Organic Manure Application

Input	Quantity
Farm Yard Manure (FYM)	20–25 tonnes/ha
Vermicompost	2–5 tonnes/ha
Green Manuring	Recommended

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5. Seed Cane Selection and Treatment

Seed Selection

- Use certified disease-free seed cane.
- Select healthy 10–12 month old cane.
- Avoid seed material from Wilt affected fields.
- Maintain separate seed production plots.

Seed Treatment

Treatment	Purpose
Hot Water Treatment	Reduces fungal infection
Fungicide Treatment	Prevents disease development
Bio-agent Treatment	Improves soil microbial activity

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6. Planting Practices

Practice	Recommendation
Planting Season	Spring
Planting Method	Furrow/Trench planting
Seed Rate	8–10 tonnes/ha
Sett Type	2–3 bud setts
Row Spacing	90–120 cm
Gap Filling	30–45 days after planting

Important Recommendations

- Use healthy and vigorous buds.
- Maintain optimum plant population.
- Ensure adequate soil moisture at planting.
- Avoid planting in Wilt-affected fields.

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7. Nutrient Management

Balanced nutrient management improves yield and sugar recovery.

Nutrient	Recommendation
Nitrogen	Soil test-based application
Phosphorus	Apply during planting
Potassium	Improves cane strength and stress tolerance
Sulphur	Apply in deficient soils
Micronutrients	Apply according to soil deficiency

Integrated Nutrient Management

- FYM and compost application.
- Biofertilizers.
- Green manuring.
- Crop residue recycling.

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8. Irrigation Management

CoLk 99270 requires medium irrigation management.

Critical Growth Stages

Growth Stage	Importance
Germination	Crop establishment
Tillering	Shoot development
Grand Growth	Cane elongation
Maturity	Sugar accumulation

Recommended Practices

- Provide timely irrigation.
- Adopt drip irrigation and fertigation.
- Use trash mulching.

- Avoid waterlogging in clay loam soils.

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9. Weed Management

Major Weeds

- Cyperus rotundus
- Echinochloa spp.
- Parthenium
- Trianthema spp.

Management Practices

- Maintain weed-free conditions during first 90 days.
- Perform intercultural operations.
- Carry out earthing-up.
- Use recommended herbicides when required.

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10. Pest Management

Pest	Management
Early Shoot Borer	Regular monitoring and biological control
Top Borer	Field surveillance
Pyrilla	Conservation of natural enemies
Termite	Maintain soil health and moisture
White Grub	Integrated pest management

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11. Disease Management – Wilt

Symptoms

- Yellowing and drying of leaves.
- Stunted plant growth.
- Reduced cane weight.
- Internal stalk discoloration.
- Poor juice quality and sugar recovery.

Wilt Management Practices

Practice	Recommendation
Seed Material	Use healthy disease-free seed cane
Seed Source	Avoid Wilt infected fields
Crop Rotation	Follow rotation with non-host crops
Field Sanitation	Remove and destroy infected plants
Soil Health	Improve organic matter and microbial activity
Drainage	Avoid water stagnation

Practice	Recommendation
Ratoon Management	Avoid ratooning infected fields

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12. Ratoon Crop Management

CoLk 99270 can be maintained as a ratoon crop with proper management.
Recommended practices:

- Select healthy ratoon fields.
- Remove Wilt affected clumps.
- Apply fertilizers immediately after harvest.
- Maintain irrigation.
- Monitor disease symptoms regularly.

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13. Harvest Management

Harvest Indicators

- Yellowing of lower leaves.
- Mature cane appearance.
- Maximum sugar accumulation.

Recommendations

- Harvest at optimum maturity.
- Avoid delayed harvesting.
- Transport cane quickly to sugar mills.
- Maintain cane quality.

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14. Sustainable Sugarcane Production Practices

Practice	Benefit
Trash Mulching	Moisture conservation
Drip Irrigation	Water saving
Organic Inputs	Soil fertility improvement
Crop Rotation	Disease reduction
Conservation Agriculture	Sustainable production

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15. Digital Agriculture Applications

Technology	Application
GIS Mapping	Sugarcane area monitoring
Remote Sensing	Crop health assessment
IoT Sensors	Soil moisture monitoring

Technology	Application
Mobile Advisory	Farmer decision support
Decision Support System	Crop management recommendations

16. Recommended Alternative Varieties for Central UP

Variety	Adaptation	Major Advantage
Co 0238	Central & Western UP	High yield and sugar recovery
Co 0118	Central UP	Good cane quality
Co 15023	UP sugar belt	High productivity
Co 98014	Central UP	Good ratooning ability
Co 05011	Central UP	Early maturity

17. Final Recommendation

CoLk 99270 is suitable for Central Uttar Pradesh under spring planting conditions in clay loam soils with medium irrigation availability. The variety provides good cane yield potential (87 tonnes/ha) with 11.1% sugar recovery. Since Wilt is the major disease concern, farmers should adopt certified disease-free seed cane, proper sett treatment, crop rotation, balanced nutrition, improved soil health management, field sanitation and regular crop monitoring for sustainable sugarcane production.

This draft is ready for conversion into a professional Sugarcane Package of Practice (PoP) PDF format for farmers, sugar mills, extension agencies and sugarcane variety databases.