Package of Practices (POP) – Sugarcane Variety CoLk 09204 (Lucknow-09204)

Introduction

CoLk 09204, developed at IISR Lucknow, is a top-performing mid-season variety for Terai and Eastern UP. With plant crop yields reaching 90–115 t/ha and sugar recovery of 11.0%, it ranks among the highest-yielding varieties currently released for UP. Triple disease resistance (Red Rot, Smut, and Wilt) and excellent ratoon performance make it the preferred variety for intensively managed sugarcane farms in the Terai belt.

Land Preparation

Soil and Climate: Suited to Loam, Silty loam. Grows well in the sub-tropical climate of UP (21–27°C) with 75–150 cm annual rainfall. Assured irrigation essential during dry periods.

Tillage: Carry out 3–4 deep ploughings to 28–30 cm. Apply 10–15 t/ha well-decomposed FYM in the last ploughing and incorporate thoroughly. Level field; prepare furrows 90 cm apart and 25–30 cm deep.

Planting

Timing: Spring (15 February – 31 March)

Seed material: 35,000–40,000 three-budded setts/ha; row spacing 90 cm; depth 20–25 cm

Seed Treatment

- Hot Water Treatment (HWT): Immerse setts at 52°C for 30 minutes to eliminate Ratoon Stunting Disease and systemic pathogens.
- Chemical treatment: Soak in 0.1% Carbendazim (Bavistin) + 0.05% Malathion for 10–15 minutes before planting.
- Bio-treatment: Treat with Trichoderma viride @ 4 g/litre or Gluconacetobacter diazotrophicus @ 2 kg/ha in 250 litres water.

Planting Methods

Trench method: Recommended for high-yield target. Trenches 90–120 cm apart and 25–30 cm deep. Offers better yield especially in loamy soils.

Flat planting method: Suitable for drier or low-rainfall areas. Furrows 8–10 cm deep, 75–90 cm apart; setts placed end-to-end.

Pest protection at planting: Apply Chlorpyrifos 20 EC @ 5 L/ha or Fipronil 0.3% GR @ 20 kg/ha in furrow to control termites and early shoot borers.

Nutrient Management

Fertilizers: Based on soil testing. Recommended dose: 300 kg N, 100 kg P_2O_5, and 130 kg K_2O per hectare.

Basal dose: Apply full P_2O_5 + K_2O + one-third of N at planting, incorporated with FYM.

Top dressing: Apply remaining N in two equal splits: first at 30–45 DAP, second at 90 DAP during earthing up.

Bio-fertilizers: Azotobacter @ 2 kg/ha + PSB @ 2 kg/ha applied in 3 splits at 30, 60, and 90 DAP.

Irrigation

Irrigation schedule: 10–12 irrigations; medium-high irrigation requirement

- Germination phase (0–35 days): Irrigate every 7 days.
- Tillering phase (36–100 days): Irrigate every 10 days.
- Grand growth phase (101–270 days): Irrigate every 7 days.
- Maturity phase: Withhold irrigation 30–45 days before harvest to improve sugar recovery.

Water-saving: Use alternate furrow irrigation, drip irrigation, or trash mulching in water-scarce areas.

Weed Control

Pre-emergence: Spray Atrazine 50% WP @ 2.5 kg/ha within 3–4 days after planting using 400–500 litres water/ha.

Post-emergence: Apply 2,4-D @ 2.5 kg/ha for broad-leaf weeds after emergence. Use hand weeding for grassy weeds.

Mulching: Spread dry sugarcane leaves (8–10 cm thick layer) between rows to conserve moisture and suppress weeds.

Pest and Disease Management

Pest and disease control:

- Shoot borer: Trichogramma japonicum @ 2.5 lakh/ha; Chlorpyrifos in furrow at planting.
- Red Rot: Highly resistant; HWT + Bavistin dip as standard; rogue any infected clumps.

- Smut: Highly resistant; HWT mandatory; rogue whip shoots immediately.
- Wilt: Resistant variety; ensure proper drainage; certified clean seed only.
- Mealybug: Release Anagyrus kamali; Dimethoate drench if infestation found.

Yield

Yield potential: 90–115 t/ha plant crop; 75–92 t/ha ratoon

Sugar recovery: 11.0%

Best suited for: Terai UP and Eastern UP (Lakhimpur, Pilibhit, Bahraich, Sitapur, Shravasti)

Ratoon Management

Stubble shaving: Shave the stubbles with sharp spades to 8–10 cm below soil surface immediately after harvest.

Gap filling: Fill any gaps within 30 days of stubble shaving using sprouted setts from the same field.

Fertilizer and irrigation: Gap fill at 15 DAS; 35 kg extra N/ha; full K_2O dose at ratoon initiation; trash mulch; propping at grand growth stage; harvest at 10–11 months.

Tillage: Plough along ridges to break compacted soil and improve root zone aeration.

Irrigation: Irrigate the field within 24 hours of harvesting the main crop to support ratoon sprouting.

Fair and Remunerative Price (FRP) of Sugarcane

The FRP is the minimum price that sugar mills are legally required to pay sugarcane farmers, fixed by the central government on CACP recommendations.

Season	FRP (₹/quintal)	Base Recovery
2025–26	₹355	10.25%
2024–25	₹340	10.25%
UP SAP 2024–25	₹370 (early varieties)	—

A premium of ₹3.46 per quintal is paid for every 0.1% increase in recovery above 10.25%. For mills with recovery below 9.5%, the minimum price is ₹329.05 per quintal.