Package of Practices (POP) – Sugarcane Variety CoSe 14231

Introduction

CoSe 14231 is among the newest and most promising early-season varieties from Shahjahanpur, offering the highest sugar recovery (11.2%) in its maturity group. With yields of 90–118 t/ha and triple resistance to Red Rot, Wilt, and Smut, it represents the cutting edge of UP sugarcane breeding. It is best suited for autumn planting on loam and sandy loam soils of Central and Western UP.

Land Preparation

Soil and Climate: Suited to Loam, Sandy 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: Autumn (October–November)

Seed material: 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: 270 kg N, 90 kg P_2O_5, and 120 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: 8–10 irrigations; medium 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 release; Chlorpyrifos in furrow.
- Gurdaspur borer: Chlorantraniliprole 18.5 SC @ 0.3 ml/litre.
- Red Rot: Highly resistant; HWT + Bavistin mandatory.
- Wilt: Highly resistant; certified clean seed; ensure drainage.

- Smut: Highly resistant; HWT; rogue any whip shoots found.

Yield

Yield potential: 90–118 t/ha plant crop; 75–95 t/ha ratoon

Sugar recovery: 11.2% (premium recovery variety)

Best suited for: Central UP and Western UP (Muzaffarnagar, Meerut, Lucknow, Barabanki)

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: Extra care required for ratoon; propping + earthing up; 30 kg extra N/ha; drip-fertigation preferred; harvest at 10 months for maximum sugar recovery.

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.