



Key Points for The Farmers of Odisha for Increasing the Productivity of Sugarcane

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Introduction :

Sugarcane is cultivated in an area of 5.15 M. Ha with production and productivity of 355.52 M. T and 69 T/Ha respectively in India where as in Odisha it is cultivated in an area of 40.84 Th.Ha with production of 355.52 M.T and productivity of 71.192 T /Ha and respectively.

A. SCENARIO OF SUGARCANE AGRICULTURE IN ODISHA AND IN INDIA

ITEM	INDIA	ODISHA
Area	5.15 M. Ha	40.84 Th. Ha
Production	355.52 M. T	2907.48 Th. T
Productivity	69 T/Ha	71.192 T/Ha

B. SUGAR REQUIREMENTS IN THE COUNTRY

1. The present domestic requirement: 19.0 M. Tonnes.
2. The average annual production is around 20.0 M. tonnes.
3. The sugar requirement of the country is estimated to be 32.0 M. Tonnes by 2025.

4. For which the cane production should be about 452 M. Tonnes, presuming 65% drawal of cane for sugar manufacture at 11.0% recovery.
5. The area under cane cultivation is not likely to be increased and the increased production has to be achieved from the same area through improved productivity.
6. To achieve this target the cane yield has to be improved to 100 tonnes/ha from the present 69 t/ha. and 10% improvement in sugar recovery @11%.

Following few points are to be followed for increasing the productivity of Sugarcane :

Land Preparation

- Ensure fine soil tilth by harrowing followed by deep ploughing and leveling.
- Prepare trenches of 30 cm width and 15 cm depth placed at 80 cm apart.

Planting Time

- Second fortnight of June to end of July for Monsoon planting (for seed cane purpose)
- Second fortnight of December to end of February for spring planting.



Seed Rate

Fifty thousand three budded setts weighing approximately 10 t/ha from a 8 months disease free crop must be taken as seed material.

Sett Treatment

Soak the setts for 30 minutes in 500 litres of (water) solution containing 500 gms of Bavistin 50 WP and 1500 ml of Chlorpyrifos (Do not add Chloropyrifos if soil drenching is adopted) 5 Kg Urea and 5Kg Lime. If possible pass the setts through Aerated Steam Treatment (AST) at 50°C for a period of one hour for effective control of sett borne diseases like smut, grassy shoot disease (GSD) and Ratoon stunting disease (RSD).

Planting

Plant 12 buds per meter row length keeping the eyes side wards in trenches. Cover the setts with 5 cm soil. Plant the setts after giving pre-planting irrigation or give light irrigation after planting.

Nutrition

- Apply well decomposed powdered Farm Yard Manure (FYM) or press mud 10 t/ha before final ploughing.
- Apply N: P₂O₅ : K₂O @ 250:100:60 kg/ha.
- Apply full P₂O₅ and 50% K₂O as basal in trenches and incorporate with 5 cm deep loose soil. At 30-45 days after planting (DAP) fertilize the crop with 1/3 N to hasten tillering. Apply another 1/3 N at 60-75 DAP and rest 1/3 N and 50 % K₂O at 105-120 DAP. Complete the fertilizer application process by 120 DAP.

- Apply 10 Kg of Azospirillum culture and 10Kg PSB culture mixed with 1000kg of powdered FYM, in two split dosed at 30 and 60 days after planting along the base of the clumps after irrigation. (Reduce the Nitrogen application by 25% if Azospirillum is applied).

Weed Management

Apply atrazine 2.0kg a.i./ha. with a concentration of 0.2% (2gm in 1 litre of water), or Metribuzin 1.0 kg a.i./ha. (1gm/lit.) as pre-emergence spray within 3 days of planting in moist soil. Follow hand weeding at 45 and 90 DAP.

Interculture

Follow light earthing up after each hoeing at 45 and 90 DAP and heavy earthing up at 120 days after planting after final topdressing.

Wrapping & Propping

Detrashing should be done at 5^h and 7^h month followed by single row trash twisting and T-propping.

Water Management

Irrigate the crop as and when required depending on the soil moistures status. The sugarcane crop should not suffer any moisture stress during its tillering stage (75-90 DAP). Stop irrigation before 20 days before harvest (crushing cane only). Drain out excess water if any, during the growth period.

Plant Protection

- Soil drenching (in trenches) with chlorpyrifos @ 6 lit/ha (5ml per litre conc.) at the time of planting for control of termites.
- Apply Phorate@ 2 kg ai/ha at 45 DAP for controlling early shoot borer.



SUGARCANE VARIETIES

Variety	Av. Cane Yield (t/ha.)	Reaction to red rot
EARLY (10 months)		
Co 6907	103.0	MR
Co 7508	98.0	MR
Co 87002	92.0	-
Co 87037	105.0	MR
Co 87263 (SARYU)	110.0	MR
Co 90017	90.0	-
CoA 92081	98.0	MR
CoA 89081	104.0	MR
CoC 85036	110.0	S
CoC 92061	97.0	MR
CoT 8201	108.0	-
CoOr 03151 (SABITA)	110.0	R
CoOr 03152 (NEELA MADHAB)	108.0	MR
CoOr 05346 (NILA CHAKRA)	106.0	MR
MIDLATE (12Months)		
Co 7219	99.0	MR
Co 6304	98.0	MR
Co 87043	107.0	-
Co 87044 (UTTARA)	104.0	MR
Co 86249 (BHAVANI)	107.0	MR
Co 8021	100.0	-
Co 86032 (NAYANA)	110.0	MR
CoOr 04152 (RAGHUNATH)	110.0	MR
CoV 92102	105.0	MR

- Spray Endosulphan @ 3 ml/lit of water after detrashing during August, September and October for effective control of internode borers, mealy bugs, pyrilla & white fly.
- Sett treatment by AST effectively controls smut, GSD and RSD.
- Uproot and destroy diseased plants (smut and red rot) as and when detected and spray the soil with Bavistin 50 WP.

Harvesting

- Harvest the crop at ten months after planting for early maturing and twelve months after planting for mid late groups respectively. Harvest the seed crop at the age of 6- 8 months.
- Give a sharp cut to the stalk one inch below the soil surface to facilitate more tiller emergence in ratoon crop as well as yield addition to the plant crop.

Cost of Cultivation of Sugarcane Crop

Sl. No.	Item	Rate	Cost (Rs.)
1.	Land Preparation (4 times)12 BL. With 12 HL	250/-	3,000/-
2.	a) Seed Cane 4 MT / Acb) Planting 8HL /Ac	2200/-	8,800/-
3.	Hoeing & Earthing 24 HL/AC	150/-	3,600/-
4.	Fertilizer (NPK 100:40:24) Urea Q 2.00	1000/-	



	SSP Q 2.50	800/-	1,985/-
	MOP Q 0.40	185/-	
5.	Cost of Pesticides		
	Atrazin (Weedicide) 2kg		
	Bavistin (Sett treatment)150 gm		
	Monocrotophos (shoot borer) 1200ml		1,000/-
6.	Irrigation (4000/- for 8 irrigation from LI Points)		4,000/-
7.	Detrashing, Wrapping & Propping (Detrashing -4, wrapping-12, Propping 12)	28 HL	4,200/-
8.	Harvesting (Cutting, Cleaning, Binding, Transportation up to truckable point) 25 HL/AC		10,000/-
9.	Loading	500/- per truck load of 10MT	2,000/-
10.	Transportation	Av 100/- per MT	4,000/-
11.	Land Rent	12000/- per Acre	12,000/-
		Total	54,585/-
	Total Produce of Cane 40MT / AC	@ 2200/- per MT	88,000/-
		Profit	33,415/-

Gur making

1.	40 days to crush 40 MT @ 2BL & 4 HL per day. Including harvesting, cleaning, Transportations etc. (160 HL & 80BL)		24,000/-
2.	cost of 240 nos. pots @ Rs. 10/- per pot		2,400/-
		Total	26,400/-
	Cost of cultivation including land rent		54,585/-
			80,985/-
	Cost of 48 Qtls of jiggery (12 % recovery @ 2500/- per qtls.		1,20,000/-
		Profit	39,015/-

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