

## ECONOMIC RESEARCH IN SUGARCANE IN 2005

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Projected costs and returns for the various stages of sugarcane production in Louisiana were estimated for the 2005 crop year. Production and tillage practices, as well as application rates for fertilizer, herbicides and insecticides were updated. Input suppliers and equipment dealers were surveyed in 2004 for current input prices. Specific operations for which production costs were estimated included field operations on fallow land, seedbed preparation, cutting and planting heat treated seedcane, planting cultured seedcane, field operations on plantcane, first stubble, second stubble, and third stubble, succession planting, as well as the costs of harvesting with wholestalk and combine harvesters. Costs and returns were estimated for tenant-operators, reflecting the predominant land tenure situation, and reflect a mill payment of 39 percent of production and a land rent payment of 20 percent of the "after milling crop" proceeds (12.2 percent of production). Total costs of production plus overhead for crop cycles through harvest of second, third and fourth stubble were estimated and breakeven prices to cover direct and total specified production costs were estimated for one-fifth and one-sixth share rental arrangements. Summary breakeven prices to cover production costs through harvest of 3rd stubble for alternative yield levels are shown in Table 1.

A study was conducted in 2005 to estimate actual harvest costs per ton of sugarcane harvested. Growers at Cora Texas sugar mill were surveyed in the summer of 2005 concerning their harvest operations during the 2004 harvest. Information was collected concerning specific harvest equipment used as well as daily harvest operation. Total fixed and variable average harvest costs were estimated based on the data collected. A summary of harvest operation data is listed in Table 2. Growers surveyed harvested an average area of 1,530 acres with a daily average mill quota of 612 tons. Average daily harvesting time requirements were 10 hours in the field and 8 hours cutting, with an average cutting rate of 45 tons per hour. Total harvest costs for 2004 were estimated at \$5.20 per ton of cane harvested (Table 3.) Total fixed were estimated at \$2.41 per ton and variable costs were \$2.79 per ton. Fixed costs include depreciation, interest and insurance costs on the combine, wagons and tractors used for harvest. Variable costs include fuel, labor and repairs associated with harvest operations. Using a more current fuel price of \$2.25 per gallon, total variable were estimated at \$2.79 per ton, resulting in a total estimated harvest cost of \$5.86 per ton of cane harvested.

Table 1. Projected breakeven selling prices for raw sugar for selected yield levels, harvest through third stubble, tenant-operators, Louisiana, 2005

	Selected Yield Levels				
	-20%	-10%	Base	+10%	+20%
Cane yield per harvested acre <sup>1</sup> (tons)	27.9	31.1	34.9	38.4	41.9
Sugar yield per harvested acre <sup>2</sup> (lbs)	5,584	6,212	6,980	7,678	8,376
Sugar yield per rotational (farm)	4,257	4,736	5,321	5,853	6,386

One-Fifth Land Share Rent:

	-----pounds of sugar per rotational acre-----				
Share of production per rotational					
Mill share (39.0%)	1,660	1,847	2,075	2,283	2,490
Landlord share (12.2%)	519	578	649	714	779
Grower share (48.8%)	2,077	2,311	2,597	2,857	3,116
	-----dollars per pound of sugar-----				
Breakeven price to recover <sup>4</sup> :					
Direct costs	0.158	0.143	0.132	0.122	0.114
Total specified costs	0.209	0.188	0.172	0.159	0.147
Total costs plus overhead	0.250	0.225	0.205	0.188	0.175

One-Sixth Land Share Rent:

	-----pounds of sugar per rotational acre-----				
Share of production per rotational					
Mill share (39.0%)	1,660	1,847	2,075	2,283	2,490
Landlord share (10.2%)	434	483	543	597	651
Grower share (50.8%)	2,163	2,406	2,703	2,974	3,244
	-----dollars per pound of sugar-----				
Breakeven price to recover <sup>4</sup> :					
Direct costs	0.152	0.138	0.126	0.117	0.109
Total specified costs	0.201	0.181	0.165	0.152	0.142
Total costs plus overhead	0.240	0.216	0.196	0.181	0.168

<sup>1</sup> Average farm yield across harvested acreage of plantcane, 1st stubble, 2nd stubble, and 3rd stubble (base yield of 36 tons plantcane, 37 tons 1st stubble, 34 tons 2nd stubble, 33 tons 3rd stubble).

<sup>2</sup> Average yield in tons per acre multiplied by a 200 CRS.

<sup>3</sup> Assumes standard land rotation of 20% each of fallow, plantcane, 1st stubble, 2nd stubble and 3rd stubble.

<sup>4</sup> Breakeven prices are calculated by dividing grower's share of production into direct costs, total specified costs, and total specified costs plus overhead. No adjustment is made for molasses payments, hauling rebate, or other adjustments.

Table 2. Average harvest operation data, 2004 harvest season.

Item	Average per respondent
Total acres harvested in 2004	1,530 acres
Total tons harvested in 2004	45,285 tons
Average yield per harvested acres	29.59 tons
Daily quota	612 tons
Acres harvested per day	20 acres
Hours in field per day	10 hours
Hours actually cutting per day	8 hours
Cutting rate per hour (per combine)	45 tons/hour
Annual hours of use (per combine)	728 hours
Average number of combines used	1.6
Average number of wagons used	4.7
Average number of tractors used	4.9
Average combine insurance cost per year	\$2,655
Average combine repair cost per year	\$20,463

Table 3. Average estimated harvest costs per ton of cane harvested.

2004 Harvest Cost per Ton Item	Weighted Average per farm
Combine fixed cost	\$1.43
Wagon fixed cost	0.26
Tractor fixed cost	0.71
Total harvest fixed cost	\$2.41
Combine labor cost	\$0.34
Combine fuel cost (@\$1.45 per gallon)	0.48
Combine repair cost	0.45
Tractor labor cost	0.81
Tractor fuel cost (@\$1.45 per gallon)	0.71
Total harvest variable cost	\$2.79
Total harvest cost	\$5.20
<u>Diesel @ \$2.25 per gallon</u>	
Total variable cost	\$3.45
Total harvest cost	\$5.86