



September 17, 2013

Results of the September 9, 2013 sampling of the First-Stubble (second sampling), Sugarcane Maturity Test at the USDA-ARS Sugarcane Research Laboratory's Ardoyne Research Farm in Schriever, LA are attached. This study is designed to examine the natural ripening process and compare the results for the same harvest dates over a 5-yr period (2009 – 2013); consequently, a glyphosate-containing ripener is not applied. Samples consist of 15 hand-cut stalks, stripped of leaves, and properly topped. **On a commercial farm, one can expect TRS/TC levels to be as much as 20% lower due to the additional trash in the cane associated with mechanical harvesting.** The study includes eight released Louisiana varieties: HoCP 96-540, L 99-226, L 99-233, HoCP 00-950, L 01-283, L 01-299, L 03-371, HoCP 04-838 and the candidate variety Ho 07-613. Harvestable sugarcane stalks in all plots were counted in early August. Stalk counts, stalk weights, and TRS levels are used to provide an estimation of cane (tons/A) and sugar (lbs/A) yields.

The Ardoyne Farm has received frequent, timely rains and ample sunshine during the growing season. Since the last sampling, the farm has received 1.78 in. of rain. At the time of this sampling, the crop remains erect. Stalk measurements indicate that the crop is still actively growing, showing an 11 in. increase over the sampling period. However, the crop remains almost a foot shorter (9.0 in.) when compared to the average for the previous four years.

Brix, sucrose, and purities are significantly lower for this sampling when compared to both last year and the 4yr. average. The average theoretically recoverable sugar (TRS) levels for 2013 are 28.7 lbs/ton of cane (TC) less than the average and 28.0 lbs less than last year. Overall, the increase in TRS levels over the 2-week period is average (2 lbs/day) at 28.0 lbs.

Among the varieties with major plantings for harvest in 2013, as expected HoCP 00-950 (192 lbs/TC) and L 01-283 (176 lbs/TC) have the highest early TRS levels; while, candidate variety, Ho 07-613 produced the third highest TRS levels at 175 lbs/A. HoCP 96-540 and L 99-226 had the lowest TRS levels producing 121 lbs/TC and 135 lbs/TC, respectively. The varieties with the highest increase in TRS over the 2-week period were L 03-371 (43 lbs) and HoCP 04-838 (35 lbs).

Estimated yields of the major varieties are also lower in 2013 when compared to the 4-yr average for both tons/A and lbs/A. At this sample date, the average cane yield was 37 tons/A which is 5.2 tons less than the 4-yr average, and 9.6 tons less than 2012. The estimated sugar yield was 1945 lbs/A less than the 4-yr average and 2680 lbs/A less than the 2012 average. The candidate variety Ho 07-613 continues to produce the highest cane (43.4 tons/A) and (7587 lbs/A) sugar yields. The third sampling for the 1st stubble maturity test is scheduled for September 23rd.

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Maturity studies on first-stubble cane grown on mixed land at the Ardoyne Farm, USDA-ARS, Sugarcane Research Unit, Houma, LA, September 09, 2013¹.

Variety	Year	Stalk ²				Normal juice ³			Sugar yield	Previous sample date ⁴	TRS change from previous samples	Estimated yield ⁵	
		Wt.	Lh.	Dia.	Density	Bx.	Su.	Pu.				TRRS	TRRS
		(lb.)	(in.)	(in.)	(g/cm3)	(%)	(%)	(%)	(lb.)	(lb.)	(lb.)	(tons/A)	(lbs/A)
Averages ⁷	2013	1.5	84	---	---	12.57	8.95	70.96	153.5	125.5	28.0	37.4	5736
	2012	2.2	98	---	---	13.70	10.17	74.09	179.1	no data ⁶	no data	47.0	8416
	2011	2.1	92	---	---	13.67	10.00	72.86	174.4	148.0	26.4	49.5	8592
	2010	1.8	87	---	---	14.60	11.00	75.20	194.8	168.8	26.0	32.0	6181
	2009	1.9	93	---	---	13.90	10.30	74.30	180.4	139.4	40.9	41.8	7533

¹ Data for each parameter represents the average of four replications of 15 stalks each.

² Stalk diameter and density based on a subsample consisting of 8 randomly selected stalks from the 15-stalk sample of each rep, will be taken on the 1st, 4th and the 8th maturity study sampling dates.

³ Brix factor = .8854; Sucrose factor = .8105.

⁴ Previous scheduled sample date was August 26, 2013.

⁵ Estimated cane yield is the product of stalk weight and millable stalk counts, estimated sugar yield is the product of TRS and estimated cane yield.

⁶ No data taken during this year due to hurricane Isaac.

⁷ Averages are based on all varieties in the first-stubble maturity study.

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