



November 20, 2013

Results of the November 4, 2013 sampling of the First-Stubble (sixth sampling), Sugarcane Maturity Test at the USDA-ARS Sugarcane Research Unit'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-year 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.

Since the last sampling, the farm has received 0.44 inches of rain. Overall, the varieties in both test remain fairly erect, with the exceptions of L 99-233, L 99-226 and Ho 07-613.

Brix, sucrose, and purities remain lower for this sampling when compared to 2012 and the 4-year average. However, average theoretically recoverable sugar (TRS) levels for this sample date are only 7.4 lbs/ton of cane (TC) less than the average and 17.6 lbs less than last year. Overall, the 31.1 lb increase in TRS over the 2-week period is above average and rare for this sample date. Typically, the average increase in TRS is 12.4 lbs over the 2-week period for this sample date over the last 4 years and 16.0 lbs over a 10-year period. Cooler nighttime temperatures may have finally slowed down growth and dryer conditions over the past few weeks have contributed to increases in purity levels. These combined factors have undoubtedly had an effect on increases in sugar content.

Of the varieties with major plantings for harvest in 2013, HoCP 00-950 (297 lbs/TC) and L 01-283 (284 lbs/TC) have the highest early TRS levels. The candidate variety, Ho 07-613 (293 lbs/TC) has the second highest TRS levels behind HoCP 00-950. L 01-299 and HoCP 96-540 had the lowest TRS levels producing 242 lbs/TC and 246 lbs/TC respectively. The varieties with the highest increase in TRS over the 2-week period were L 99-226 (45.9 lbs) and L 03-371 (36.8 lbs).

Estimated yields of the major varieties remain slightly lower when compared to the 4-year average for both tons/A and lbs/A. For this sampling the average cane yield of 48.5 tons/A is only 1 ton less than the 4-yr average, but 4.2 tons less than last year. The estimated sugar yield of 13165 lbs/A is 586 lbs/A less than the 4-yr average, but 2020 lbs/A less than last year. L 03-371 (53.0 tons/A) produced the highest cane yields while the candidate variety Ho 07-613 (14859 lbs/A) continues to produce the highest sugar yields.

The Seventh sampling for the 1st stubble maturity test is scheduled for November 18th.

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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, November 4, 2013¹.

Variety	Year	Stalk ²				Normal juice ³			Sugar yield	Previous sample date ⁴	TRS change from previous sample	Estimated yield ⁵	
		Wt.	Lh.	Dia.	Density	Bx.	Su.	Pu.				TRRS	TRRS
		(lb.)	(in.)	(in.)	(g/cm3)	(%)	(%)	(%)	(lb.)	(lb.)	(lb.)	(tons/A)	(lbs/A)
Ho 07-613	2013	2.1	106			17.71	15.31	86.44	292.6	269.9	22.7	50.9	14859
	2012	---	---	---	---	---	---	---	---	---	---	---	---
	2011	---	---	---	---	---	---	---	---	---	---	---	---
	2010	---	---	---	---	---	---	---	---	---	---	---	---
	2009	---	---	---	---	---	---	---	---	---	---	---	---
Averages ⁶	2013	2.0	105	---	---	17.22	14.50	84.09	271.2	240.0	31.1	48.5	13165
	2012	2.4	113	---	---	18.06	15.33	84.85	288.8	272.2	16.6	52.7	15185
	2011	2.3	100	---	---	18.35	15.52	84.56	291.3	278.1	13.2	52.5	15313
	2010	2.2	106	---	---	17.98	15.19	84.44	283.6	270.7	12.9	40.4	11414
	2009	2.4	112	---	---	16.31	13.57	83.15	250.5	243.6	6.9	52.3	13092

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 October 21, 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 Averages are based on all varieties in the first-stubble maturity study.
