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Results of the 2<sup>nd</sup> sampling (September 8, 2014) of the first-stubble, 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-yr period (2010 – 2014); consequently, a glyphosate-containing ripener is not applied. Samples consist of 10 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, HoCP 00-950, L 01-283, L 01-299, HoCP 04-838 and the newly released variety Ho 07-613.

Since the last sampling the farm has received 6.53 in. of rain and at the time of this sampling all varieties in the test remain erect. Over the 2-week sampling period the crop increased in weight by 0.10 lbs. and grew an average of 7.86 in. The average stalk weight of 1.50 lbs. is equal to last year's weight for this sample date but overall the stalks are shorter than last year (8.14 in.) and shorter than the 4-year average (14.49 in.). Of the varieties, Ho 07-613 (1.7 lbs.) and L 99-226 (1.7 lbs.) had the heaviest stalks; HoCP 04-838 (1.3 lbs.) and HoCP 96-540 (1.3 lbs.) had the lightest stalks. The longest stalks were produced by L 01-299 (84 in.) and L 01-283 (82 in.), while HoCP 00-950 (67 in.) and HoCP 04-838 (69 in.) had the shortest.

Brix, sucrose, and purities are above the 4-year average for this sampling date. Brix and sucrose percentages are second only to 2010's data for this sample date, while purity is better than those achieved in 2010. Theoretical recoverable sugar (TRS) levels are 32.9 lbs./ton of cane (TC) better than last year and 11.0 lbs./TC better than the 4-year average. The average increase in TRS during the 2-week period was 39.3 lbs.

Of the recommended varieties in 2014, HoCP 00-950 (234 lbs./TC) and L 01-283 (217 lbs./TC) have the highest early TRS levels, followed by HoCP 04-838 (183 lbs./TC) and the new variety Ho 07-613 (179 lbs./TC). HoCP 96-540 and L 01-299 produced 166 lbs./TC and 165 lbs./TC respectively. The variety with the largest increase in TRS during the sampling period was L 01-283 (54.0 lbs.) followed by HoCP 04-838 (43.5 lbs.) and HoCP 00-950 (43.4 lbs.). Ho 07-613 had the smallest increase in TRS (27.3 lbs.); however, this was still better than the 4-year average of 26.8 lbs.

The third sampling for the 1<sup>st</sup> stubble maturity test and the first sampling of the plant-cane maturity test are scheduled for September 22<sup>th</sup>.



Maturity studies on first-stubble cane grown on mixed land at the Ardoyne Farm, USDA-ARS, Sugarcane Research Unit, Houma, LA, September 08, 2014<sup>1</sup>.

Variety	Year	Stalk <sup>2</sup>				Normal juice <sup>3</sup>			Sugar yield	Previous sample date <sup>4</sup>	TRS change from previous samples
		Wt. (lb.)	Lh. (in.)	Dia. (in.)	Density (g/cm3)	Bx. (%)	Su. (%)	Pu. (%)	TRS (lb.)	TRS (lb.)	(lb.)
Averages <sup>6</sup>	2014	1.5	76	---	---	13.85	10.50	75.53	186.4	147.2	39.3
	2013	1.5	84	---	---	12.57	8.95	70.96	153.5	125.5	28.0
	2012	2.2	98	---	---	13.70	10.17	74.09	179.1	no data <sup>5</sup>	---
	2011	2.1	92	---	---	13.67	10.00	72.86	174.4	148.0	26.4
	2010	1.8	87	---	---	14.60	11.00	75.20	194.8	168.8	26.0

<sup>1</sup> Data for each parameter represents the average of four replications of 10 stalks each.

<sup>2</sup> Stalk diameter and density will be taken on the 1st, 4th, and the 8th maturity study sampling dates.

<sup>3</sup> Brix factor = .8854; Sucrose factor = .8105.

<sup>4</sup> Previous scheduled sample date was August 25, 2014.

<sup>5</sup> No data taken during this year due to hurricane Isaac.

<sup>6</sup> Averages are based on all varieties in the first-stubble maturity study.

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*Maturity reports are prepared by Mr. Mike Duet of the USDA-ARS Sugarcane Research Unit.*