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Results of the second sampling (September 12) of the 2011, First-Stubble, Sugarcane Maturity Test at the USDA-ARS Sugarcane Research Laboratory's Ardoyne Research Farm in Schriever, LA are attached. The study is designed to examine the natural ripening process and compare the results for the same harvest dates over a 5-yr period (2007 – 2011); consequently, a glyphosate-containing ripener is not applied. Samples consist of 15, hand-cut stalks of clean, trash-free and properly topped cane from each of four replications. **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 97-128, L 99-226, L 99-233, HoCP 00-950, L 01-283, L 03-371, HoCP 04-838 and the candidate variety Ho 05-961. L 01-299 is omitted from this test because it was released after the test was planted in 2009. Harvestable sugarcane stalks in all plots were counted in mid-July. 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 was very dry during the early part of the growing season with less than 12 in. of rainfall for the year until mid-July. For the remainder of the growing season the farm received frequent, timely rains and ample sunshine. Since the last sampling, the farm received 12.86 in. of rainfall all associated with the passing of Tropical Storm Lee. Winds associated with the storm caused some degree of lodging in all the varieties in the test, with the worst being L 99-226 and L 99-233.

During the 2-week interval, the crop grew an average of 8 in. with only a 0.2 lb increase in weight. When compared to the previous four years sugarcane stalks of the core varieties (HoCP 96-540, L 97-128, L 99-233, HoCP 00-950 and L 01-283) are slightly above average in weight, but are 5 in longer. Of the varieties, L 99-233 and L 97-128 had the longest stalks; HoCP 00-950 had the shortest stalks. The varieties L 99-226 and L 97-128 had the heaviest stalks, while HoCP 04-838 had the lightest. The candidate variety; Ho 05-961, is average in weight and length for this sample date.

Brix, sucrose, and purities are less in 2011 than in 2010, they are also less than the 4-yr average for this sampling date. The average theoretically recoverable sugar (TRS) levels for 2011 are 20 lbs./ton of cane (TC) less than those recorded in 2010. The varieties with the greatest increase in TRS levels were HoCP 96-540 and L 99-226 with an average increase of over 32 lbs/TC. Of the varieties with major plantings for harvest in 2011, HoCP 00-950 (220 lbs./TC) and L 01-283 (193 lbs./TC) have the highest early TRS levels. L 99-226 continued to produce the lowest TRS levels at 139 lbs./TC which is 35 lbs./TC less than the 2011 average and 12 lbs. less than HoCP 96-540. The new variety, HoCP 04-838 produced 171 lbs./TC, which is 20 lbs greater than



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HoCP 96-540. The candidate variety, Ho 05-961 produced the third highest TRS levels at 185 lbs./TC.

Estimated yields of the major varieties are higher in 2011 when compared to the 2010 data at this sampling date for both tons/A and lbs/A. The average cane yield of the core varieties was 49.5 tons/A which is 12.6 tons better than the 4-yr average and 17.5 tons better than last year. As a result of the increased tonnage, the sugar yield of the core varieties was 2411 lbs./A higher than those recorded in 2010 and 1735 lbs./A better than the 4-yr average. The highest cane yields were produced by HoCP 96-540 which yielded 55.2 tons/A and L 01-283 with 54.3 tons/A. The highest estimated sugar yields were obtained by L 01-283 and HoCP 00-950 producing 10503 lbs./A and 9398 lbs./A respectively. The candidate variety, Ho 05-961 produced 48.0 tons/A and 8867 lbs./A which is average when compared to the core varieties.

The third sampling for the maturity test is scheduled for September 26<sup>th</sup>.

**Reminder.** If you would like to discontinue your receipt of these reports or if you know of individuals who would like to begin receiving this information in 2011, please contact Mrs. Ashley DeHart by email (Ashley.DeHart@ars.usda.gov) Emailing insures address accuracy. Information regarding USDA research activities can also be found on our website: [www.ars.usda.gov/msa/srrc/sru](http://www.ars.usda.gov/msa/srrc/sru) .

*Maturity reports are prepared by Mr. Mike Duet and Dr. Ed Richard of the USDA-ARS Sugarcane Research Lab.*



Maturity studies on first-stubble cane grown on mixed land at the Ardoyne Farm, USDA-ARS, Sugarcane Research Unit, Houma, LA, September 12, 2011.

Variety	Year	Stalk <sup>2</sup>				Normal juice <sup>3</sup>			Sugar yield TRS (lb.)	Previous sample date <sup>4</sup> TRS (lb.)	TRS change from previous samples (lb.)	Estimated yield <sup>6</sup>	
		Wt. (lb.)	Lh. (in.)	Dia. (in.)	Density (g/cm3)	Bx. (%)	Su. (%)	Pu. (%)				Cane (tons/A)	Sugar lbs/A)
Ho 05-961	2011	2.1	88	---	---	14.23	10.67	75.00	184.7	165.5	19.2	48.0	8867
	2010	---	---	---	---	---	---	---	---	---	---	---	---
	2009	---	---	---	---	---	---	---	---	---	---	---	---
	'2008 <sup>7</sup>	---	---	---	---	---	---	---	---	---	---	---	---
	2007	---	---	---	---	---	---	---	---	---	---	---	---
Averages <sup>5</sup>	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
	'2008 <sup>7</sup>	---	---	---	---	---	---	---	---	---	---	---	---
	2007	1.6	82	0.77	1.17	14.07	10.58	75.09	184.9	157.1	27.7	---	---

<sup>1</sup> Data for each parameter represents the average of four replications of 15 stalks each.

<sup>2</sup> Stalk diameter and density based on a subsample consisting of 8 randomly selected stalks from the 15-stalksample of each rep, 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 29, 2011 .

<sup>5</sup> Averages are based only on varieties included in previous year's first-stubble maturity study (HoCP 96-540, L 97-128, L99-233, HoCP 00-950, and L01-283).

<sup>6</sup> 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.

<sup>7</sup> No data taken during this year due to hurricane Gustav.