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Results of the November 9, 2009 sampling of the First-Stubble (sixth sampling) Sugarcane Maturity Tests at the USDA-ARS Sugarcane Research Laboratory's Ardoyne Research Farm at 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 (2005 – 2009); 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 first-stubble study includes nine released Louisiana varieties: LCP 85-384, Ho 95-988, HoCP 96-540, L 97-128, L 99-226, L 99-233, HoCP 00-950, L 01-283 and L 01-299, and the candidate variety L 03-371 that is up for release in 2010. Harvestable sugarcane stalks in all plots were counted on July 9<sup>th</sup>. Stalk counts, stalk weights, and TRS levels are used to provide an estimation of cane (tons/A) and sugar (lbs/A) yields.

Since the October 27<sup>th</sup> sampling, the Ardoyne Farm has received 0.87 in. of rain. Strong winds associated with previous rain events have caused a majority of the varieties in the maturity test to become lodged. The varieties with the greatest degree of lodging are L 99-233 and L 99-226.

During the 2-week interval, the crop grew an average of 4 in. with no increase in weight. When compared to the averages for previous four years, stalks of the core varieties (LCP 85-384, Ho 95-988, HoCP 96-540, L 97-128, and L 99-233) are heavier (0.4 lbs) and longer (14 inches). The varieties L 99-226, HoCP 96-540 and Ho 95-988 had the heaviest stalks and L 01-299, L 99-226 and L 97-128 the longest stalks. HoCP 00-950 continues to have some of the shortest stalks of the varieties in this test, but its stalk weight is similar to the weights of the core varieties.

Brix, sucrose, purities and theoretically recoverable sugar (TRS) levels are lower for this time of year when compared to the previous four years. The average increase in TRS from the previous sample date is 6.8 lbs/TC which is well below the average for this time of year. HoCP 00-950 has the highest TRS/TC at 290 lbs., 17 lbs higher than L 97-128 and 53 lbs/TC higher than HoCP 96-540. L 01-283 produced 280 lbs/TC, which is higher than all other varieties except HoCP 00-950. The varieties with the lowest TRS levels were HoCP 96-540 (237 lbs/TC) and the L 01-299 (244 lbs/TC).

When looking at the estimated yields, both L 01-299 (60.1 tons/A) and L 03-371 (59.3 tons/A) produced the highest cane yields. HoCP 00-950 (47.6 tons/A) and L 97-128 (48.0 tons/A) produced the lowest cane yields. With the exception of LCP 85-384, all of the varieties had an



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estimated sugar yield of greater than 13,000 lbs./A with one variety (L 03-371) producing in excess of 15,000 lbs/A

The seventh sampling of the first-stubble maturity test is scheduled for November 23<sup>rd</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 2009, 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 Dr. Ed Richard and Mr. Mike Duet 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, November 9, 2009<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 sample	Estimated yield <sup>6</sup>	
		Wt.	Lh.	Dia.	Density	Bx.	Su.	Pu.				TRRS	TRRS
		(lb.)	(in.)	(in.)	(g/cm3)	(%)	(%)	(%)	(lb.)	(lb.)	(lb.)	(tons/A)	(lbs/A)
L 03-371	2009	2.7	104	---	---	16.40	13.65	83.20	258.8	264.4	-5.6	59.3	15317
	2008	---	---	---	---	---	---	---	---	---	---	---	---
	2007	---	---	---	---	---	---	---	---	---	---	---	---
	2006	---	---	---	---	---	---	---	---	---	---	---	---
	2005	---	---	---	---	---	---	---	---	---	---	---	---
Averages <sup>5</sup>	2009	2.4	112	#DIV/0!	#DIV/0!	16.31	13.57	83.15	250.5	243.6	6.8	52.3	13092
	2008	2.0	98	---	---	17.54	14.56	82.98	267.8	242.9	24.9	40.4	10809
	2007	2.0	101	0.77	1.21	17.29	14.50	83.79	267.5	228.4	39.1	---	---
	2006	2.1	98	0.82	1.23	17.58	14.93	84.94	276.3	264.5	11.8	---	---
	2005	1.8	91	0.79	1.12	17.53	14.66	83.64	271.1	254.9	16.2	---	---

<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 October 27, 2009.

<sup>5</sup> Averages are based only on varieties included in previous year's first-stubble maturity study (LCP 85-384, Ho 95,988, HoCP 96-540, L 97-128, and L 99-233).

<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.