



United States Department of Agriculture

Research, Education, and Economics  
Agricultural Research Service

December 9, 2009

Results of the December 7, 2009 sampling of the First-Stubble (eight and final 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 November 23<sup>rd</sup> sampling, the Ardoyne Farm has received 3.7 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 LCP 85-384, L 99-233 and L 99-226.

During the 2-week interval, the crop grew an average of 1 in. with only a 0.2 lb increase in weight. When compared to the averages for the 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 (0.5 lbs) and longer (14 inches). The varieties L 99-226 and L 97-128 had the heaviest stalks and also the longest stalks. The shortest varieties continue to be HoCP 00-950 and L 03-371. Stalk densities are slightly higher than those recorded in 2008 but less than average while diameter would be considered average for this time of year.

Brix, sucrose, purities and theoretically recoverable sugar (TRS) levels continue to be lower for this time of year when compared to the previous four years. The average TRS for the core varieties is 274 lbs. which is 19 lbs. less than the four year average. HoCP 00-950 has the highest TRS/TC at 308 lbs., 18 lbs. higher than L 97-128 and 45 lbs./TC higher than HoCP 96-540. L 01-283 produced 295 lbs./TC, which is higher than all other varieties except HoCP 00-950 but just 2 lbs more than L 03-371. The varieties with the lowest TRS levels were HoCP 96-540 (263 lbs./TC) and the L 99-233 (267 lbs./TC).

When looking at the estimated yields, L 03-371 (63.2 tons/A) and HoCP 96-540 (63.1 tons/A) produced the highest cane yields. The lowest cane yields were produced by HoCP 00-950 (51.1



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tons/A) and LCP 85-384 (52.9 tons/A). With the exception of LCP 85-384, all of the varieties had an estimated sugar yield of greater than 14,800 lbs./A with two varieties (L 01-283 and L 03-371) producing in excess of 18,000 lbs./A

As mentioned above this is the eighth and **final sampling** of the 2009 maturity tests.

**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.*

***Merry Christmas and a Happy New Year!!!***



Maturity studies on first-stubble cane grown on mixed land at the Ardoyne Farm, USDA-ARS, Sugarcane Research Unit, Houma, LA, December 7, 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. (lb.)	Lh. (in.)	Dia. (in.)	Density (g/cm3)	Bx. (%)	Su. (%)	Pu. (%)	TRS (lb.)	TRS (lb.)	(lb.)	Cane (tons/A)	Sugar (lbs/A)
L 03-371	2009	2.9	103	0.94	1.13	17.75	15.23	85.77	292.8	272.0	20.8	63.2	18496
	2008	---	---	---	---	---	---	---	---	---	---	---	---
	2007	---	---	---	---	---	---	---	---	---	---	---	---
	2006	---	---	---	---	---	---	---	---	---	---	---	---
	2005	---	---	---	---	---	---	---	---	---	---	---	---
Averages <sup>5</sup>	2009	2.6	112	0.87	1.09	17.36	14.71	84.69	273.8	270.6	3.3	56.9	15527
	2008	2.1	98	0.85	1.05	18.10	15.31	84.57	284.1	282.1	2.0	41.6	11825
	2007	2.1	104	0.79	1.23	18.74	16.15	86.14	300.8	286.3	14.5	---	---
	2006	2.2	100	0.83	1.18	18.33	15.73	85.78	293.7	289.3	4.4	---	---
	2005	2.0	92	0.80	1.15	18.40	15.73	85.46	293.8	271.1	22.7	---	---

<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 Novaember 23, 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.