



United States Department of Agriculture

Research, Education, and Economics  
Agricultural Research Service

December 9, 2010

Results of the December 6, 2010, sampling of the First-Stubble (eighth and final sampling) Sugarcane Maturity Test 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 (2006 – 2010); 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: Ho 95-988, HoCP 96-540, L 97-128, L 99-226, L 99-233, HoCP 00-950, L 01-283 and L 03-371, and the candidate variety HoCP 04-838. L 01-299 is omitted from this test because its release was not expected when the test was planted in 2008. 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 last sampling, the farm has received 0.48 in. of rain. During the 2-week interval, there was essentially no change in stalk length or weight for the core varieties (Ho 95-988, HoCP 96-540, L 97-128, L 99-233 and HoCP 00-950). When compared to the previous four years sugarcane stalks of the core varieties are average in weight and length. Of the varieties, L 99-233 had the longest and HoCP 00-950 the shortest stalks. The variety L 99-226 had the heaviest stalks, while L 01-283 and L 97-128 had the lightest.

Brix and sucrose percentages are above average when compared to the previous four years for this sampling date. Accordingly, the average theoretically recoverable sugar (TRS) levels for the core varieties in 2010 are 28 lbs./ton of cane (TC) greater than those recorded in 2009 and 13 lbs./TC above the 4-yr average. The average increase in TRS/TC/day is only 0.27 lbs. which indicates a crop that is at or near full maturity. Of the varieties with major plantings for harvest in 2010, HoCP 00-950, L 01-283 and L 99-226 have the highest TRS levels producing over 318 lbs. of sugar/TC; which is 33 lbs./TC higher than HoCP 96-540. The new variety L 03-371 produced 308 lbs./TC and the candidate variety HoCP 04-838 produced 301 lbs./TC. Of the varieties HoCP 96-540 (285 lbs./TC) and L 99-233 (294 lbs./TC) had the lowest TRS levels.

Estimated yields of the major varieties are lower in 2010 when compared to the 2009 data at this sampling date for both tons/A and lbs/A. Of the varieties sampled, the highest cane yields were produced by L 99-226 and L 99-233, which yielded over 51.0 tons/A. The highest estimated sugar yields were also obtained by L 99-226 and L 99-233 producing 16,083 lbs./A and 15,197 lbs./A respectively.



Sugarcane Research Unit  
5883 USDA Road  
Houma, LA 70360  
(985) 872-5042 – Fax (985) 868-8369  
An Equal Opportunity Employer

As mentioned above this is the eighth and **final sampling** of the 2010 maturity tests.

Freezing temperatures are predicted for the week of December 13<sup>th</sup>. As a reference, we have attached an email from Dr. Kenneth Gravois showing the post-freeze deterioration ratings for the commercial varieties.

**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, Decaember 6, 2010<sup>1</sup>.

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 sample (lb.)	Estimated yield <sup>6</sup>	
		Wt. (lb.)	Lh. (in.)	Dia. (in.)	Density (g/cm3)	Bx. (%)	Su. (%)	Pu. (%)				Cane (tons/A)	Sugar (lbs/A)
HoCP 04-838	2010	2.2	102	0.77	1.26	18.97	16.37	86.30	300.6	295.7	4.9	38.4	11522
	2009	---	---	---	---	---	---	---	---	---	---	---	---
	2008	---	---	---	---	---	---	---	---	---	---	---	---
	2007	---	---	---	---	---	---	---	---	---	---	---	---
	2006	---	---	---	---	---	---	---	---	---	---	---	---
Averages <sup>5</sup>	2010	2.3	103.0	0.8	1.2	18.7	16.0	85.7	301.4	297.6	3.8	41.4	12449.2
	2009	2.6	112	0.87	1.09	17.36	14.71	84.69	273.8	270.6	3.2	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	---	---

<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-stalk sample 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 November 22, 2010.

<sup>5</sup> Averages are based only on varieties included in previous year's first-stubble maturity study (Ho 95-988, HoCP 96-540, 97-128, L 99-233, and HoCp 00-950).

<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.