



United States Department of Agriculture

Research, Education, and Economics
Agricultural Research Service

September 16, 2010

Results of the second sampling (September 13) of the 2010, 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 (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 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 has received frequent, timely rains during the growing season and at the time of this sampling; the crop is mostly erect, with the exception of L99-226 and L99-233. Since the last sampling, the farm has received 2.35 in. of rain. During the 2-week interval, the crop grew an average of 10 in. and increased in weight by 0.2 lbs./stalk. When compared to the previous four years sugarcane stalks of the core varieties (Ho 95-988, HoCP 96-540, L 97-128, L 99-233 and HoCP 00-950) are average in weight and length for this sampling. The varieties L 99-226, L 99-233, and L 97-128 had the longest stalks and HoCP 00-950 had the shortest stalks. The variety L 99-226 had the heaviest stalks, while L 99-233 had the lightest. The newly released variety, L 03-371, and the candidate for release, HoCP 04-838, fall somewhere in between in weight and length.

Brix, sucrose, and purities are all higher in 2010 than in the previous four years for this sampling date. Theoretically recoverable sugar (TRS) levels for 2010 are 14 lbs./ton of cane (TC) greater than those recorded in 2009. The variety, L 03-371 had the greatest 2-week increase in TRS levels were L 03-371 and HoCP 00-950 (43 lbs./TC). Those varieties showing the lowest increase in TRS were HoCP 96-540 and L 97-128 with an average increase of 18 lbs/TC. Of the varieties with major plantings for harvest in 2010, L 97-128 continues to have the highest early TRS levels producing 229 lbs. of sugar/TC; which is 62 lbs./TC higher than HoCP 96-540. HoCP 00-950 and L 01-283 continue to produce good early sugar. Both varieties produced 238 lbs./TC, which is 71 lbs./TC greater than HoCP 96-540 and 9 lbs./TC higher than L 97-128. The newest variety L 03-371 and the candidate variety HoCP 04-838 had TRS levels of 205 lbs./TC, which is slightly above average for this sample date when compared to the core varieties. The



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

varieties with the lowest TRS levels were L 99-233 and HoCP 96-540, with 167 lbs./TC , which is equal to the 4-yr average, but 28 lbs./TC less than the 2010 average.

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 03-371, which yielded 40.2 tons/A and L 99-226 with 38.7 tons/A. The highest estimated sugar yields were obtained by L 01-283 and L 03-371 producing 8644 lbs./A and 8226 lbs./A respectively. The candidate variety, HoCP 04-838, has cane and sugar yields that were similar to HoCP 96-540.

The third sampling for the maturity test is scheduled for September 27th.

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 2010, 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 .

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 13, 2010.

Variety	Year	Stalk ²				Normal juice ³			Sugar yield TRS (lb.)	Previous sample date ⁴ TRS (lb.)	TRS change from previous samples (lb.)	Estimated yield ⁶	
		Wt. (lb.)	Lh. (in.)	Dia. (in.)	Density (g/cm3)	Bx. (%)	Su. (%)	Pu. (%)				Cane (tons/A)	Sugar (lbs/A)
Averages ⁵	2010	1.8	87.4	---	---	14.6	11.0	75.2	194.8	168.8	26.0	32.0	6181.0
	2009	1.9	92.6	---	---	13.9	10.3	74.3	180.4	139.4	40.9	41.8	7533
	'2008 ⁷	---	---	---	---	---	---	---	---	---	---	---	---
	2007	1.6	82	0.77	1.17	14.07	10.58	75.09	184.9	157.1	27.7	---	---
	2006	1.8	84	0.80	1.19	12.94	8.90	68.72	147.7	102.7	45.0	---	---

¹ Data for each parameter represents the average of four replications of 15 stalks each.

² 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.

³ Brix factor = .8854; Sucrose factor = .8105.

⁴ Previous scheduled sample date was August 30, 2010 .

⁵ Averages are based only on varieties included in previous year's first-stubble maturity study (Ho 95,988, HoCP 96-540, L 97-128, L99-233, and HoCP 00-950).

⁶ 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.

⁷ No data taken during this year due to hurricane Gustav.