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Results of the October 9, 2012 sampling of the First-Stubble (fourth sampling), Sugarcane Maturity Test at the USDA-ARS Sugarcane Research Unit's Ardoyne Research Farm in Schriever, LA are attached. This study is designed to examine the natural ripening process and compare the results for the same harvest dates over a 5-yr period (2008 – 2012); consequently, a glyphosate-containing ripener is not applied. Samples consist of 15 hand-cut stalks, stripped of leaves, and properly topped. **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 99-226, L 99-233, HoCP 00-950, L 01-283, L 01-299, L 03-371 and HoCP 04-838. Harvestable sugarcane stalks in all plots were counted in early July. 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 sample date Ardoyne Farm has received 2.46 inches of rainfall.

During the 2-week sampling interval, the core varieties (HoCP 96-540, L 99-226, L 99-233, HoCP 00-950, L 01-283 and L 03-371) grew an average of 6.7 inches and increased in weight by only 0.1 lbs. L 99-226 and HoCP 96-540 continue to have the heaviest stalks, while the lightest stalks were produced by HoCP 00-950, L 01-299 and HoCP 04-838. L 99-226 and L 99-233 had the longest stalks, whereas L 03-371 had the shortest stalks at less than 100 inches.

Brix, sucrose, and purity levels are higher in 2012 for this sampling date when compared to the 4-yr average; however, they are lower than those attained in 2011. The average theoretical recoverable sugar (TRS) levels for 2012 are only 3.9 lbs/ton of cane (TC) more than those recorded in 2011, but 18.4 lbs/TC higher than the 4-yr average. Of the varieties with major plantings for harvest in 2012, L 01-283 (278 lbs/TC) and HoCP 00-950 (274 lbs/TC) have the highest TRS levels, L 99-233 (225 lbs/TC) and L 99-226 (233 lbs/TC) had the lowest TRS levels. HoCP 96-540 ranked fifth in TRS producing 242 lbs/A which is higher than any of the previous 4 years at this sample date.

Estimated yields of the major varieties are lower for this sample date when compared to the data from 2011. The average cane yield of the core varieties was 50.7 tons/A which is only 0.3 tons/A less than last year but 6.2 tons/A better than the 4-yr average. The sugar yield of the core varieties follows the same pattern, yields are 160 lbs/A less than those recorded in 2011, but are 2376 lbs/A more than the 4-yr average. For this sample date, L 99-233 (53.7 tons/A) and L 03-371 (53.2 tons/A) produced the highest cane yields. The lowest cane yields were produced by HoCP 00-950 and HoCP 04-838 with 47.2 tons/A and 45.6 tons/A respectively. The highest estimated sugar yields were produced by L 01-283 (13378 lb/A) and L 03-371 (13241 lbs/A), while L 99-226 (11505 lbs/A) and HoCP 04-838 (11774 lbs/A) produced the lowest sugar yields.



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The fifth sampling for the maturity test is scheduled for October 22rd.

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Maturity reports are prepared by 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, October 09, 2012¹.

Variety	Year	Stalk ²				Normal juice ³			Sugar yield TRS (lb.)	Previous sample date ⁴ TRS (lb.)	TRS change from previous sample (lb.)	Estimated yield ⁶	
		Wt. (lb.)	Lh. (in.)	Dia. (in.)	Density (g/cm ³)	Bx. (%)	Su. (%)	Pu. (%)				Cane (tons/A)	Sugar (lbs/A)
Averages ⁵	2012	2.3	106	0.86	1.06	16.48	13.49	81.82	250.1	220.1	30.1	50.7	12645
	2011	2.2	98	0.86	1.05	16.74	13.73	81.97	254.0	219.6	34.4	51.0	12805
	2010	2.1	103	0.80	1.20	16.70	13.60	81.20	248.8	218.9	29.9	38.2	9470
	2009	2.3	105	0.82	1.16	14.80	11.70	79.20	210.8	204.7	6.1	49.9	10492
	2008	2.0	91	0.82	1.11	15.36	11.96	77.84	213.2	178.9	34.3	39.0	8311

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 September 24, 2012 .

⁵ Averages are based only on varieties included in previous year's first-stubble maturity study (HoCP 96-540, L99-226, L99-233, HoCP 00-950, L01-283 and L03-371).

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.