



December 29, 2014

Results of the 8th and final sampling (December, 2014) of the first-stubble, 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 (2010 – 2014); consequently, a glyphosate-containing ripener is not applied. Samples consist of 10 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, HoCP 00-950, L 01-283, L 01-299, HoCP 04-838 and the newly released variety Ho 07-613.

Since the last sampling, the farm has received 0.61 in. of rainfall. Over the 2-week sampling period there was no increase in stalk length and a decrease (-0.01 in.) in stalk weight. Overall, stalk weights were lower than previous years (-0.21 lbs.) and stalk lengths were shorter (-6 in.). Of the varieties, L 99-226 (2.78 lbs.) and Ho 07-613 (2.36 lbs.) finished with the heaviest stalks, while HoCP 96-540 (1.71 lbs.) and HoCP 04-838 (1.72 lbs.) had the lightest stalks. The longest stalks were produced by L 99-226 (111 in.) and L 01-299 (112 in.); the shortest stalks were produced by HoCP 00-950 (88 in.) and HoCP 04-838 (94 in.).

Brix, sucrose and purity all finished the sampling season below the 4-yr average; however, when compared to last year, brix (+0.58 %) and sucrose (+0.45 %) were higher while purity (-0.22 %) was lower. Theoretically recoverable sugar (TRS) levels are equal to those achieved at this time last year (291.4 lbs./TC vs. 291.6 lbs./TC) but finished 10.7 lbs. less than the 4-yr average.

Of the recommended varieties in 2014, L 01-283 (310 lbs./TC) and HoCP 00-950 (309 lbs./TC) continue to produce the highest TRS levels. The lowest TRS levels were produced by L 01-299 (272 lbs./TC) and HoCP 96-540 (277 lbs./TC). The varieties with the largest increase in TRS during the sampling period were L 99-226 (37.0 lbs.) and HoCP 96-540 (32.4 lbs.).

Overall, stalk lengths remained about 6 in. shorter than average throughout the sampling season adversely affecting stalk weights. Brix, sucrose, and purity were better than the 4-yr average until the 4th sample date (October 6). For the remainder of the sampling season both brix and sucrose were below the 4-yr average, while purity remained above it until the final sample date (December 2). In general TRS levels were better than expected early in the season and all in all satisfactory when compared to the 4-yr average.

As mentioned above this is the eighth and **final sampling** of the 2014 Maturity Test. Wishing all a belated Happy New Year.

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Maturity reports are prepared by Mr. Mike Duet of the USDA-ARS Sugarcane Research Unit.

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Maturity studies on first-stubble cane grown on mixed land at the Ardoyne Farm, USDA-ARS, Sugarcane Research Unit, Houma, LA, December 1, 2014¹.

Variety	Year	Stalk ²				Normal juice ³			Sugar yield	Previous sample date ⁴	TRS change from previous sample
		Wt. (lb.)	Lh. (in.)	Dia. (in.)	Density (g/cm ³)	Bx. (%)	Su. (%)	Pu. (%)	TRs (lb.)	TRs (lb.)	(lb.)
HoCP 96-540	2014	1.71	95	0.75	1.13	17.42	14.75	84.64	276.5	279.7	-3.2
	2013	2.14	107	0.79	1.13	15.34	13.50	87.99	271.3	260.9	10.4
	2012	2.71	118	0.85	1.69	18.86	16.28	86.31	307.9	291.4	16.5
	2011	2.31	100	0.85	1.14	18.84	16.24	86.23	307.1	301.7	5.4
	2010	2.45	107	0.83	1.18	17.97	15.19	84.54	284.8	285.5	-0.7
L99-226	2014	2.78	111	0.90	1.07	17.82	15.30	85.83	288.6	283.3	5.3
	2013	2.91	115	0.92	1.06	15.74	12.92	82.05	293.5	294.3	-0.8
	2012	3.00	128	0.90	1.53	19.04	16.61	87.24	315.7	310.6	5.0
	2011	2.87	108	0.93	1.09	18.70	16.08	85.98	303.7	304.4	-0.7
	2010	2.88	107	0.86	1.30	19.32	16.79	86.86	318.4	308.7	9.7
HoCP 00-950	2014	1.86	88	0.79	1.18	18.68	16.14	86.40	308.5	317.1	-8.6
	2013	2.03	99	0.80	1.13	18.75	16.36	87.25	313.9	308.3	5.6
	2012	2.21	109	0.85	1.50	19.17	16.70	87.14	320.4	312.1	8.3
	2011	2.28	96	0.86	1.14	19.32	16.73	86.59	320.0	317.3	2.7
	2010	2.26	91	0.86	1.19	19.57	16.99	86.83	325.4	316.3	9.1
L 01-283	2014	1.75	103	0.73	1.12	18.62	16.17	86.85	309.7	311.2	-1.6
	2013	1.78	103	0.72	1.19	17.89	15.40	86.06	293.7	285.1	8.6
	2012	2.09	112	0.75	1.74	19.21	16.72	87.01	320.4	318.1	2.3
	2011	2.28	103	0.81	1.20	18.88	16.27	86.15	310.4	306.7	3.7
	2010	2.05	102	0.74	1.31	19.39	16.69	86.09	318.5	318.0	0.5
L 01-299	2014	1.78	110	0.71	1.12	17.20	14.62	85.02	272.1	276.8	-4.7
	2013	1.81	112	0.68	1.24	17.42	14.94	85.77	279.1	260.8	18.3
	2012	2.13	119	0.73	1.78	18.39	15.89	86.35	297.7	291.7	6.0
	2011	---	---	---	---	---	---	---	---	---	---
	2010	---	---	---	---	---	---	---	---	---	---
HoCP 04-838	2014	1.72	94	0.77	1.10	18.04	15.59	86.40	289.2	284.8	4.4
	2013	2.07	106	0.77	1.17	17.58	15.23	86.62	285.2	283.8	1.4
	2012	2.20	114	0.80	1.58	18.81	16.49	87.64	307.9	292.1	15.8
	2011	2.19	97	0.83	1.19	18.68	16.09	86.13	298.2	289.1	9.1
	2010	2.16	102	0.77	1.26	18.97	16.37	86.30	300.6	295.7	4.9
Ho 07-613	2014	2.36	105	0.84	1.12	17.91	15.53	86.72	296.5	298.5	-2.0
	2013	2.48	110	0.82	1.19	18.33	16.06	87.63	308.9	296.2	12.7
	2012	---	---	---	---	---	---	---	---	---	---
	2011	---	---	---	---	---	---	---	---	---	---
	2010	---	---	---	---	---	---	---	---	---	---
Averages ⁵	2014	1.99	101	0.78	1.12	17.96	15.44	85.98	291.6	293.1	-1.5
	2013	2.20	107	0.79	1.15	17.38	14.99	86.20	291.4	282.4	9.0
	2012	2.50	116	0.84	1.58	18.85	16.37	86.80	311.4	304.0	7.4
	2011	2.30	102	0.85	1.11	18.72	16.08	85.87	303.5	299.7	3.8
	2010	2.30	103	0.80	1.21	18.70	16.03	85.75	301.4	297.6	3.8

¹ Data for each parameter represents the average of four replications of 10 stalks each.

² Stalk diameter and density will be taken on the 1st, 4th and the 8th maturity study sampling dates.

Maturity studies on first-stubble cane grown on mixed land at the Ardoyne Farm, USDA-ARS, Sugarcane Research Unit, Houma, LA, December 1, 2014¹.

Variety	Year	Stalk ²				Normal juice ³			Sugar yield	Previous sample date ⁴	TRS change from previous sample
		Wt. (lb.)	Lh. (in.)	Dia. (in.)	Density (g/cm ³)	Bx. (%)	Su. (%)	Pu. (%)	TRS (lb.)	TRS (lb.)	(lb.)

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

⁴ Previous scheduled sample date was November 17, 2014 .

⁵ Averages are based on all varieties in the first-stubble maturity study.