



October 29, 2015

Results of the 5<sup>th</sup> sampling of the first-stubble Maturity Test and the 2<sup>nd</sup> sampling of the plant-cane Maturity Test harvested on October 26 and 27, 2015 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 (2011 – 2015); 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.** Included in both test are seven commercially released Louisiana varieties: HoCP 96-540, L 99-226, HoCP 00-950, L 01-283, L 01-299, HoCP 04-838 and Ho 07-613, along with two experimental varieties, HoCP 09-804 and Ho 09-840.

Since the last sampling, the farm has received 9.07 inches of rain all associated with the remnants of Hurricane Patricia. Sustained winds of 25 to 30 mph on Saturday night and Sunday caused significant lodging to all the varieties in the test. Prior to this rain event, the farm had only received 0.63 in. of rainfall since mid-September.

**First-Stubble:** Over the 2-week sampling period the crop showed a decrease in weight by 0.07 lbs. and grew only 1.00 inches. The average stalk weight (2.08 lbs.) is 0.14 lbs. better than last year, but is 0.03 lbs. less than the 4-year average. Only two varieties, Ho 07-613 and HoCP 09-804 showed an increase in weight. The varieties with the heaviest stalks were L 99-226 (2.57 lbs.) and Ho 07-613 (2.50 lbs.), while Ho 09-840 (1.31 lbs.) and HoCP 09-804 (1.76 lbs.) had the lightest stalks. The longest stalks were produced by L 99-226 (106 in.), L 01-299 (104 in.), and Ho 07-613 (103 in.); the shortest stalks were produced by Ho 09-840 (90 in.) and HoCP 00-950 (92 in.).

Only purities are better than last year and the 4-year average for this sampling date. Theoretical recoverable sugar (TRS) levels are 2.79 lbs./ton of cane (TC) less than last year and 3.30 lbs./ton less than the 4-year average. The average increase in TRS during the 2-week period was only 10.8 lbs. or 0.77 lbs./day.

Overall, HoCP 00-950 (289 lbs./TC) and Ho 07-613 (282 lbs./TC) have the highest TRS levels; L 99-226 and L 01-299 (246 lbs./ton each) had the lowest TRS levels. The varieties with the largest increase in TRS during the sampling period were Ho 09-840 (33.8 lbs.) and Ho 07-613 (19.6 lbs.). The smallest increase in TRS was produced by HoCP 00-950 (-3.4 lbs.) and Ho 09-840 (1.5 lbs.).

**Plant-cane:** Over the 4-week sampling period, stalks increased in weight by 0.11 lbs. and grew an average of 11 inches. Stalks are 0.31 lbs. heavier than last year and 0.23 lbs. more than the 4-year average. They are also 7 inches longer than last year and 5 inches longer than the 4-year average. Overall, L 99-226 (3.59 lbs.) and L 01-299 (2.73 lbs.) produced the heaviest stalks; the candidate variety HoCP 09-840 (1.76 lbs.) produced the lightest stalks. The longest stalks were also produced

by L 99-226 (122 in.) and L 01-299 (117 in.); the shortest stalks were produced by HoCP 09-840 (98 inches) and HoCP 00-950 (101 inches).

Brix, sucrose and purities are higher than both last year and the 4-year average for this sampling period. The average TRS is 12.6 lbs./TC better than last year and 7.4 lbs./TC above the 4-yr average. The varieties with the highest TRS levels were HoCP 00-950 (291 lbs./TC) and HoCP 09-804 (287 lbs./TC), while L 01-299 (239 lbs./TC) and HoCP 96-540 (241 lbs./TC) had the lowest TRS levels. The average increase in TRS during the 4-week period was 44.0 lbs. or 1.57 lbs./day. The varieties with the largest increase in TRS were HoCP 09-804 (58.1 lbs.) and HoCP 04-838 (51.0 lbs.), the smallest increases were produced by HoCP 00-950 (31.0 lbs.) and HoCP 96-540 (27.7 lbs.).

The sixth sampling for the 1<sup>st</sup> stubble maturity test is scheduled for November 9<sup>th</sup>.

**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, please contact Mrs. Brenda Aysenne by email ([Brenda.Aysenne@ars.usda.gov](mailto:Brenda.Aysenne@ars.usda.gov)). Emailing insures address accuracy. Information regarding USDA research activities can also be found on our website: [http://www.ars.usda.gov/main/site\\_main.htm?modecode=64-10-00-00](http://www.ars.usda.gov/main/site_main.htm?modecode=64-10-00-00).

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



Ho 09-840	2015	1.76	98	---	---	17.02	14.30	84.03	267.3	216.8	50.5
	2014	1.57	100	---	---	16.45	13.64	82.92	251.1	197.1	54.0
	2013	---	---	---	---	---	---	---	---	---	---
	2012	---	---	---	---	---	---	---	---	---	---
	2011	---	---	---	---	---	---	---	---	---	---
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Averages <sup>5</sup>	2015	2.51	110	---	---	17.18	14.36	83.5	267.6	223.6	44.0
	2014	2.20	103	---	---	16.66	13.77	82.62	255.0	208.6	46.4
	2013	2.30	112	---	---	16.25	13.62	83.72	254.3	197.2	57.1
	2012	2.30	109	---	---	17.51	14.74	84.09	274.3	210.2	64.1
	2011	2.30	98	---	---	17.26	14.04	81.28	257.4	186.3	71.1

<sup>1</sup> Data for each parameter represents the average of four replications of 10 stalks each.

<sup>2</sup> Stalk diameter and density will be taken on the 1st & 3rd plant-cane maturity study sampling.

<sup>3</sup> Brix factor =0.8854; Sucrose factor = 0.8105.

<sup>4</sup> Previous sample date, September 28, 2015 .

<sup>5</sup> Averages are based on all varieties in the plant cane maturity study.



Maturity studies on first-stubble cane grown on mixed land at the Ardoyne Farm, USDA-ARS, Sugarcane Research Unit, Houma, LA, October 26, 2015<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
		Wt. (lb.)	Lh. (in.)	Dia. (in.)	Density (g/cm3)	Bx. (%)	Su. (%)	Pu. (%)	TRS (lb.)	TRS (lb.)	(lb.)
	2013	---	---	---	---	---	---	---	---	---	---
	2012	---	---	---	---	---	---	---	---	---	---
	2011	---	---	---	---	---	---	---	---	---	---
Averages <sup>5</sup>	2015	2.08	99	---	---	16.78	14.06	83.77	262.0	251.2	10.8
	2014	1.94	97	---	---	16.90	14.14	83.62	264.8	235.4	29.4
	2013	1.90	103	---	---	15.97	12.83	81.63	242.6	---	---
	2012	2.40	109	---	---	17.40	14.51	83.79	271.7	250.1	22.1
	2011	2.20	100	---	---	17.85	15.08	83.99	282.1	254.0	24.1

<sup>1</sup> Data for each parameter represents the average of four replications of 10 stalks each.

<sup>2</sup> Stalk diameter and density 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 October 13, 2015.

<sup>5</sup> Averages are based on all varieties in the first-stubble maturity study.

<sup>o</sup> Due to the 2013 Federal Furlough no data taken.