



September 7, 2018

Results of the 1st sampling of the first-stubble Maturity Test harvested on August 27, 2018 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 (2014 – 2018); 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 the test are six commercial varieties: HoCP 96-540, L 01-283, L 01-299, HoCP 04-838, HoCP 09-804, L 11-183 and three experimental varieties L 12-201, Ho 12-615 and Ho 12-630.

Following the hard freeze in January, warmer than normal temperatures in February got the cane off to a good start; however, this was subdued by slightly below normal temperatures in March and April that left the crop at a standstill. As good weather prevailed in late spring and early summer, the crop showed remarkable improvement. Moisture has not been a limiting factor in growth this year at Ardoyne Farm.

At the time of this sampling all the varieties in the test were erect.

Stalk measurements indicate that the crop is 3.00 in. shorter than last year but 2.00 in. taller than the 4-year average. Additionally, stalk weight is 0.08 lbs. better than last year and 0.30 lbs. better than the 4-year average. Stalk diameters are also better than last year (0.06 in.) and the 4-year average (0.07 in.). However, stalk densities are less than last year (-0.06 g/cm³) and less than the 4-year average (-0.02 g/cm³).

At this sample date, brix levels are better than last year but sucrose, and purity levels are slightly less. When compared to the 4-year average, only purity levels are somewhat lower, while brix and sucrose levels are higher. Theoretical recoverable sugar (TRS) levels for this sample date are 4.2 lbs./ton of cane (TC) less than last year but 3.0 lbs./TC better than the 4-year average.

Of the varieties, HoCP 09-804 (187 lbs./TC) had the highest early TRS levels; the lowest TRS levels were produced by HoCP 96-540 (146 lbs./TC).

When looking at the expected maturity curve for each variety based previous years' data; L 01-283 and HoCP 09-804 would be considered early maturing; HoCP 04-838 would be mid-maturing; HoCP 96-540, L 01-299 and L 11-183 would be late maturing. Based on the limited data we have, it seems likely that L 12-201, Ho 12-615 and Ho 12-630 would fall into the mid-maturing category.

The 2nd sampling for the 1st stubble maturity test is scheduled for September 10th.

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) 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.

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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, August 27, 2018.¹

Variety	Year	Stalk ²				Normal juice ³			Sugar yield
		Wt. (lb.)	Lh. (in.)	Dia. (in.)	Density (g/cm ³)	Bx. (%)	Su. (%)	Pu. (%)	TRS (lbs/ton)
HoCP 96-540	2018 (08/27)	1.71	76	0.84	1.13	13.08	8.82	67.33	146.0
	2017 (08/28)	2.02	82	0.85	1.21	13.60	10.65	71.65	148.4
	2016 (08/29)	1.61	80	0.78	1.18	12.84	9.29	72.23	160.6
	2015 (08/31)	1.80	78	0.84	1.16	12.59	9.04	78.25	155.5
	2014 (08/25)	1.32	63	0.81	1.14	11.62	7.82	67.24	129.3
L 01-283	2018 (08/27)	2	81	0.78	1.23	14.43	10.56	73.15	185.6
	2017 (08/28)	1.55	82	0.72	1.30	13.70	10.63	77.52	192.7
	2016 (08/29)	1.61	81	0.76	1.22	14.17	10.91	76.94	197.3
	2015 (08/31)	1.63	78	0.82	1.09	13.83	10.48	82.73	187.8
	2014 (08/25)	1.45	76	0.78	1.11	13.10	9.39	71.59	163.0
L 01-299	2018 (08/27)	1.68	80	0.77	1.24	13.21	9.28	70.22	156.3
	2017 (08/28)	1.74	86	0.75	1.26	12.46	9.04	72.55	155.1
	2016 (08/29)	1.55	85	0.72	1.23	12.22	8.56	70.02	143.9
	2015 (08/31)	1.70	81	0.82	1.11	12.24	8.78	78.23	149.5
	2014 (08/25)	1.29	74	0.73	1.13	11.91	8.05	67.58	132.3
HoCP 04-838	2018 (08/27)	1.78	76	0.85	1.14	13.06	9.57	73.23	163.4
	2017 (08/28)	1.88	78	0.84	1.20	12.53	9.66	77.05	169.7
	2016 (08/29)	1.45	70	0.79	1.17	13.86	10.34	74.93	183.0
	2015 (08/31)	1.55	75	0.82	1.09	12.20	9.15	81.97	158.5
	2014 (08/25)	1.21	61	0.79	1.13	11.91	8.37	70.19	139.7
HoCP 09-804	2018 (08/27)	1.58	79	0.80	1.17	14.48	10.81	74.66	186.6
	2017 (08/28)	1.57	83	0.77	1.12	14.59	11.64	79.78	208.1
	2016 (08/29)	1.12	72	0.66	1.27	14.50	11.34	78.20	202.6
	2015 (08/31)	1.48	79	0.81	1.02	14.28	10.84	82.96	190.8
	2014 (08/25)	---	---	---	---	---	---	---	---
L 11-183	2018 (08/27)	2.06	79	0.91	1.11	13.08	9.24	70.57	154.4
	2017 (08/28)	1.85	80	0.85	1.12	12.44	9.11	73.26	157.2
	2016 (08/29)	---	---	---	---	---	---	---	---
	2015 (08/31)	---	---	---	---	---	---	---	---
	2014 (08/25)	---	---	---	---	---	---	---	---
L 12-201	2018 (08/27)	2.31	81	0.99	1.04	13.77	9.96	72.33	172.3
	2017 (08/28)	---	---	---	---	---	---	---	---
	2016 (08/29)	---	---	---	---	---	---	---	---
	2015 (08/31)	---	---	---	---	---	---	---	---
	2014 (08/25)	---	---	---	---	---	---	---	---
Ho 12-615	2018 (08/27)	1.60	81	0.79	1.12	13.26	9.94	74.89	171.9
	2017 (08/28)	---	---	---	---	---	---	---	---
	2016 (08/29)	---	---	---	---	---	---	---	---
	2015 (08/31)	---	---	---	---	---	---	---	---
	2014 (08/25)	---	---	---	---	---	---	---	---
Ho 12-630	2018 (08/27)	2.14	81	0.94	1.07	13.75	9.99	72.58	173.1
	2017 (08/28)	---	---	---	---	---	---	---	---
	2016 (08/29)	---	---	---	---	---	---	---	---
	2015 (08/31)	---	---	---	---	---	---	---	---
	2014 (08/25)	---	---	---	---	---	---	---	---
Averages ⁴	2018 (08/27)	1.84	79	0.85	1.14	13.57	9.80	72.11	167.7
	2017 (08/28)	1.77	82	0.80	1.20	13.22	10.12	75.30	171.9
	2016 (08/29)	1.47	78	0.74	1.21	13.52	10.09	74.46	177.5
	2015 (08/31)	1.63	78	0.82	1.09	13.03	9.66	80.83	168.4
	2014 (08/25)	1.32	69	0.78	1.13	12.14	8.41	69.15	141.1

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 8th maturity study sampling dates.

³ Brix factor = 0.8854; Sucrose factor = 0.8105.

⁴ Averages are based on all varieties in the first-stubble maturity study.