USDA
United States Department of Agriculture

Research, Education, and Economics
Agricultural Research Service

September 2, 2013

Results of the initial sampling of the 2013, First-Stubble, Sugarcane Maturity Test at the USDA-ARS Sugarcane Research Laboratory'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 (2009 – 2013); 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, HoCP 04-838 and the candidate variety Ho 07-613. Harvestable sugarcane stalks in all plots were counted in early August. 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 and ample sunshine during the growing season. At the time of this sampling, the crop is erect. Stalk measurements indicate that the varieties are only slightly less than average in weight and diameter, but almost a foot shorter (10.0 in) when compared to the average for the previous three years.

Brix, sucrose, and purities are less in 2013 than the 3-yr average for this sampling date. The average theoretically recoverable sugar (TRS) levels for 2013 are 27 lbs/ton of cane (TC) less than the average. Over the past ten years, only Test #1 of the 2006 Maturity test had lower average TRS levels (113 lbs/TC) than this year's average of 126 lbs/TC. Data from 2003-2012 indicate that one can expect about a 60 lb increase in TRS levels from the last week in August through the last week in September, followed by increases of approximately 2.00 lbs/day until the end of October. However, this is average, increases have ranged from as little as 6 lbs/week to as much as 24 lbs/week depending on environmental conditions during that time span.

Of the varieties with major plantings for harvest in 2013, HoCP 00-950 (170 lbs/TC) and L 01-283 (148 lbs/TC) have the highest early TRS levels. HoCP 96-540 had the lowest TRS levels producing only 97 lbs/TC, which is 39 lbs less than its 3-yr average at this sample date. The candidate variety, Ho 07-613 produced the third highest TRS levels at 145 lbs/A.

Estimated yields of the major varieties are lower in 2013 when compared to the 3-yr average for both tons/A and lbs/A. The average cane yield was 35 tons/A which is 3.2 tons less than the 3-yr average, but still better than the 29.8 tons/A recorded in 2010. The sugar yield of the core varieties was 1299 lbs/A lower than the 3-yr average. The highest cane yields were produced by Ho 07-613 which produced 40.7 tons/A and L 01-299 with 39.7 tons/A. The highest estimated sugar yields were also obtained by Ho 07-613 with 5909 lbs/A while HoCP 00-950 produced the second most with 5765 lbs/A.

The second sampling for the 1st stubble maturity test is scheduled for September 9th.

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. Ashley Bussey by email (Ashley.Bussey@ars.usda.gov) Emailing insures address accuracy. Information regarding USDA

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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, August 26, 2013[1].

Variety	Year	Stalk[2]				Normal juice[3]			Sugar yield	Estimated[4] yield	
		Wt.	Lh.	Dia.	Density	Bx.	Su.	Pu.	TRS	Cane	Sugar
		(lb.)	(in.)	(in.)	(g/cm3)	(%)	(%)	(%)	(lbs/ton)	(tons/A)	lbs/A)
HoCP 96-540	2013 (08/26)	1.3	73	0.76	1.10	10.2	6.3	61.2	96.7	31.5	3041
	2012 (08/27)[5]	---	---	---	---	---	---	---	---	---	---
	2011 (08/29)	1.9	81	0.89	1.06	11.0	7.2	65.7	117.6	49.6	5866
	2010 (08/30)	1.7	71	0.81	1.32	12.5	8.9	70.9	151.3	28.3	4263
	2009 (08/31)	2.0	85	0.86	1.11	12.0	8.3	69.0	139.8	43.6	6072
L 99-226	2013 (08/26)	1.6	76	0.85	1.02	10.5	6.7	63.7	107.0	29.2	3134
	2012 (08/27)	---	---	---	---	---	---	---	---	---	---
	2011 (08/29)	2.1	85	0.93	1.00	10.6	6.7	63.3	106.7	41.1	4390
	2010 (08/30)	2.0	83	0.87	1.14	12.8	9.2	71.8	158.7	35.6	5659
	2009 (08/31)	2.6	91	0.95	1.12	11.1	7.3	65.8	118.6	45.1	5352
L 99-233	2013 (08/26)	1.3	79	0.71	1.12	11.6	7.7	66.4	124.4	34.0	4210
	2012 (08/27)	---	---	---	---	---	---	---	---	---	---
	2011 (08/29)	1.8	87	0.83	1.03	11.5	7.7	66.9	123.9	41.0	5082
	2010 (08/30)	1.4	86	0.68	1.26	12.3	8.4	68.2	137.7	33.8	4660
	2009 (08/31)	1.7	97	0.77	1.02	11.6	7.7	66.1	123.6	42.1	5233
HoCP 00-950	2013 (08/26)	1.4	67	0.82	1.11	13.4	9.7	72.6	170.4	33.7	5765
	2012 (08/27)	---	---	---	---	---	---	---	---	---	---
	2011 (08/29)	1.8	76	0.93	0.97	14.1	10.6	75.4	189.3	36.2	6867
	2010 (08/30)	1.6	71	0.81	1.17	14.7	11.3	76.8	203.4	25.6	5189
	2009 (08/31)	1.7	79	0.84	1.08	14.1	10.5	74.0	185.1	36.5	6765
L 01-283	2013 (08/26)	1.2	72	0.72	1.17	12.4	8.6	69.9	147.9	34.0	5036
	2012 (08/27)	---	---	---	---	---	---	---	---	---	---
	2011 (08/29)	1.9	86	0.88	1.00	13.0	9.4	72.3	163.7	49.5	8105
	2010 (08/30)	1.6	81	0.72	1.33	14.7	11.4	77.6	207.2	36.9	7682
	2009 (08/31)	1.7	86	0.78	1.12	13.4	9.7	72.0	168.1	40.2	6758
L 01-299	2013 (08/26)	1.3	74	0.74	1.15	10.9	7.0	64.1	110.8	39.7	4374
	2012 (08/27)	---	---	---	---	---	---	---	---	---	---
	2011 (08/29)	---	---	---	---	---	---	---	---	---	---
	2010 (08/30)	---	---	---	---	---	---	---	---	---	---
	2009 (08/31)	---	---	---	---	---	---	---	---	---	---
L 03-371	2013 (08/26)	1.5	67	0.87	1.06	10.5	6.4	60.5	99.3	36.6	3645
	2012 (08/27)	---	---	---	---	---	---	---	---	---	---
	2011 (08/29)	1.7	77	0.89	0.99	11.6	7.7	66.2	128.2	44.8	5762
	2010 (08/30)	1.7	78	0.81	1.17	13.0	9.3	71.4	162.1	35.5	5758
	2009 (08/31)	2.0	90	0.79	1.10	11.6	7.6	65.4	126.2	44.1	5563
HoCP 04-838	2013 (08/26)	1.3	72	0.77	1.09	11.0	7.7	70.1	128.5	34.4	4394
	2012 (08/27)	---	---	---	---	---	---	---	---	---	---
	2011 (08/29)	1.6	81	0.85	1.00	11.7	8.5	72.6	144.0	39.5	5685
	2010 (08/30)	1.6	77	0.77	1.22	12.9	10.0	77.4	174.3	27.3	4786
(Cont'd)	2009 (08/31)	---	---	---	---	---	---	---	---	---	---

Maturity studies on first-stubble cane grown on mixed land at the Ardoyne Farm, USDA-ARS, Sugarcane Research Unit, Houma, LA, August 26, 2013[1].

Variety	Year	Stalk[2]				Normal juice[3]			Sugar yield	Estimated[4] yield	
		Wt.	Lh.	Dia.	Density	Bx.	Su.	Pu.	TRS	Cane	Sugar
		(lb.)	(in.)	(in.)	(g/cm3)	(%)	(%)	(%)	(lbs/ton)	(tons/A)	lbs/A)
Ho 07-613	2013 (08/26)	1.7	78	0.83	1.10	11.9	8.4	70.7	144.8	40.7	5909
	2012 (08/27)	---	---	---	---	---	---	---	---	---	---
	2011 (08/29)	---	---	---	---	---	---	---	---	---	---
	2010 (08/30)	---	---	---	---	---	---	---	---	---	---
	2009 (08/31)	---	---	---	---	---	---	---	---	---	---
Averages[6]	2013 (08/26)	1.4	73	0.79	1.10	11.37	7.61	66.58	125.5	34.9	4390
	2012 (08/27)[5]	---	---	---	---	---	---	---	---	---	---
	2011 (08/29)	1.9	82	0.89	1.01	12.40	8.70	70.00	147.9	43.5	6376
	2010 (08/30)	1.6	78	0.78	1.23	13.30	9.70	72.70	168.8	29.8	4998
	2009 (08/31)	1.9	88	0.83	1.09	12.10	8.40	68.70	139.4	41.0	5691

[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-stalk sample of each rep, will be taken on the 1st, 4th and the 8th maturity study sampling dates.
[3] Brix factor = 0.8854; Sucrose factor = 0.8105.
[4] 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.
[5] No data taken during this year due to hurricane Isaac.
[6] Averages are based on all varieties in the first-stubble maturity study.