United States Department of Agriculture

Research, Education, and Economics
Agricultural Research Service

November 10, 2011

Results of the sixth sampling (November 7) of the 2011 First-Stubble, Sugarcane Maturity Test at the USDA-ARS Sugarcane Research Laboratory's Ardoyne Research Farm in Schriever, LA are attached. The study is designed to examine natural ripening and compare the results for the same harvest dates over a 5-yr period (2007 – 2011); consequently, a glyphosate-containing ripener is not applied. Samples consist of 15, hand-cut stalks of clean, trash-free and properly topped cane from each of four replications. **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 first-stubble study includes eight released Louisiana varieties: HoCP 96-540, L 97-128, L 99-226, L 99-233, HoCP 00-950, L 01-283, L 03-371, HoCP 04-838 and the candidate variety Ho 05-961. L 01-299 is omitted from the first-stubble test because it was released after the test was planted in 2009 but is included in the plant-cane maturity test. Beginning in 2008, harvestable stalks in all plots are counted in mid-July and together with stalk weights and TRS levels are used to provide an estimation of gross cane (tons/A) and sugar (lbs/A) yields. The weather has remained the same during the 2-week sampling period, no precipitation and cool nights.

During the 2-week interval, there was no increase in height or weight for the core varieties (HoCP 96-540, L 97-128, L 99-233, HoCP 00-950 and L01-283), however, when compared to the previous four years they remain average in both categories for this sampling. Of the varieties, L 99-226 and L 97-128 had the longest stalks and HoCP 00-950 and L 03-371 had the shortest stalks. L 99-226 and L 97-128 continue to have the heaviest stalks, with all of the other varieties producing stalks in excess of 2.0 lbs.

Brix and sucrose percentages are similar to those obtained last year for this sample date but better than the 4-year average. For the 2-week period theoretically recoverable sugar (TRS) levels for the core varieties increased by 13.2 lbs./TC producing an average TRS of 291.3 lbs./TC. The varieties with the greatest increase in TRS levels (>30 lbs./TC) were L 99-226 and HoCP 96-540. Of the varieties with major plantings for harvest in 2011, HoCP 00-950 (318.7 lbs./TC) and L 01-283 (308.9 lbs./TC) continue to have the highest TRS levels with the experimental variety Ho 05-961 producing the 3rd highest TRS levels at 307.9 lbs./TC. Currently all the varieties in the test have TRS levels above 280 lbs./TC with the exception of L 99-233.

Estimated yields of the major varieties remain higher in 2011 when compared to the 2010 data at this sampling date for both tons/A and lbs/A. The average cane yield of the core varieties was 52.5 tons/A which is 8.2 tons better than the 4-yr average and 12.1 tons better than last year. The sugar yield of the core varieties was 3542 lbs./A higher than the 4-yr average and 3899 lbs./A better than the 2010 average. The highest cane yields were produced by HoCP 96-540 (61.6

Sugarcane Research Unit
5883 USDA Road
Houma, LA 70360
(985) 872-5042 – Fax (985) 868-8369

tons/A.) and L 03-371 (59.9 tons/A). The highest sugar yields were produced by L 01-283 and L 03-371 which both produced over 18000 lbs./A.

The seventh sampling of the first-stubble maturity test is scheduled for November 21st.

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 in 2011, please contact Mrs. Ashley DeHart by email (Ashley.DeHart@ars.usda.gov) Emailing insures address accuracy. Information regarding USDA research activities can also be found on our website: www.ars.usda.gov/msa/srrc/sru .

Maturity reports are prepared by Dr. Ed Richard and 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, November 7, 2011[1].

Variety	Year	Stalk[2]				Normal juice[3]			Sugar yield	Previous sample date[4]	TRS change from previous	Estimated yield[6]	
		Wt.	Lh.	Dia.	Density	Bx.	Su.	Pu.	TRS	TRS	sample	Cane	Sugar
		(lb.)	(in.)	(in.)	(g/cm3)	(%)	(%)	(%)	(lb.)	(lb.)	(lb.)	(tons/A)	(lbs/A)
HoCP 96-540	2011	2.4	99	---	---	18.33	15.45	84.29	289.1	258.1	31.0	61.6	17797
	2010	2.3	104	---	---	16.91	13.95	82.50	258.6	238.3	20.3	37.8	9765
	2009	2.7	112	---	---	15.83	12.88	81.36	237.1	231.5	5.6	58.6	13932
	2008	2.3	99	---	---	17.15	14.22	82.85	263.9	236.2	27.7	42.5	11212
	2007	2.2	99	0.81	1.23	16.45	13.38	81.33	246.2	213.1	33.1	---	---
L 97-128	2011	2.6	106	---	---	18.11	15.10	83.36	281.2	274.9	6.3	52.0	14645
	2010	2.4	113	---	---	19.15	16.38	85.53	308.5	301.1	7.4	40.4	12479
	2009	2.6	118	---	---	17.18	14.55	84.68	272.8	268.1	4.7	48.0	13076
	2008	2.4	102	---	---	17.44	14.25	81.69	262.9	242.6	20.3	39.5	10362
	2007	2.2	109	0.79	1.19	17.80	15.03	84.45	278.9	247.1	31.8	---	---
L 99-226	2011	2.9	106	---	---	18.70	16.11	86.14	304.5	265.8	38.7	58.2	17750
	2010	2.7	111	---	---	18.39	15.64	85.04	294.0	286.6	7.4	46.6	13699
	2009	3.2	118	---	---	16.09	13.21	82.10	244.2	237.0	7.2	55.2	13473
	2008	---	---	---	---	---	---	---	---	---	---	---	---
	2007	---	---	---	---	---	---	---	---	---	---	---	---
L 99-233	2011	2.0	104	---	---	17.09	14.18	82.95	258.4	249.8	8.6	46.6	12057
	2010	2.0	118	---	---	17.07	14.28	83.66	261.0	250.0	11.0	47.4	12378
	2009	2.1	115	---	---	16.40	13.56	82.64	246.7	235.2	11.5	52.7	13024
	2008	2.0	109	---	---	17.38	14.56	83.79	266.4	240.0	26.4	46.7	12455
	2007	1.8	109	0.71	1.14	17.02	14.19	83.34	259.1	208.4	50.7	---	---
HoCP 00-950	2011	2.1	91	---	---	19.28	16.67	86.47	318.7	308.8	9.9	43.1	13732
	2010	2.0	95	---	---	18.86	16.18	85.77	308.1	300.9	7.2	33.4	10280
	2009	2.2	100	---	---	17.97	15.30	85.11	290.4	283.9	6.5	47.6	13820
	2008	2.0	94	---	---	18.17	15.21	83.67	286.4	283.3	3.1	42.0	12045
	2007	2.0	95	0.78	1.25	18.59	15.96	85.84	304.1	279.8	24.3	---	---
L 01-283	2011	2.2	100	---	---	18.93	16.22	85.71	308.9	298.8	10.1	59.3	18336
	2010	2.0	106	---	---	19.12	16.42	85.86	312.9	302.9	10.0	45.6	14285
	2009	2.2	107	---	---	17.40	14.76	84.85	279.8	273.9	5.9	52.9	14795
	2008	2.1	98	---	---	18.24	15.19	83.29	285.6	252.5	33.1	45.1	12895
	2007	---	---	---	---	---	---	---	---	---	---	---	---
L 03-371	2011	2.3	93	---	---	18.26	15.70	85.97	302.2	279.3	22.9	59.9	18106
	2010	2.4	98	---	---	17.71	15.08	85.14	289.0	273.9	15.1	49.5	14318
	2009	2.7	104	---	---	16.40	13.65	83.20	258.8	264.4	-5.6	59.3	15317
	2008	---	---	---	---	---	---	---	---	---	---	---	---
	2007	---	---	---	---	---	---	---	---	---	---	---	---
HoCP 04-838	2011	2.2	99	---	---	18.33	15.83	86.39	293.8	279.0	14.8	53.3	15666
	2010	2.0	103	---	---	18.00	15.46	85.93	283.4	280.0	3.4	35.9	10166
	2009	---	---	---	---	---	---	---	---	---	---	---	---
	2008	---	---	---	---	---	---	---	---	---	---	---	---
(Cont'd)	2007	---	---	---	---	---	---	---	---	---	---	---	---

Maturity studies on first-stubble cane grown on mixed land at the Ardoyne Farm, USDA-ARS, Sugarcane Research Unit, Houma, LA, November 7, 2011[1].

Variety	Year	Stalk[2]				Normal juice[3]			Sugar yield	Previous sample date[4]	TRS change from previous	Estimated yield[6]	
		Wt.	Lh.	Dia.	Density	Bx.	Su.	Pu.	TRS	TRS	sample	Cane	Sugar
		(lb.)	(in.)	(in.)	(g/cm3)	(%)	(%)	(%)	(lb.)	(lb.)	(lb.)	(tons/A)	(lbs/A)
Ho 05-961	2011	2.2	95	---	---	19.35	16.63	85.93	307.9	294.3	13.6	52.1	16050
	2010	---	---	---	---	---	---	---	---	---	---	---	---
	2009	---	---	---	---	---	---	---	---	---	---	---	---
	2008	---	---	---	---	---	---	---	---	---	---	---	---
	2007	---	---	---	---	---	---	---	---	---	---	---	---
Averages[5]	2011	2.3	100	---	---	18.35	15.52	84.56	291.3	278.1	13.2	52.5	15313
	2010	2.2	106	---	---	17.98	15.19	84.44	283.6	270.7	12.9	40.4	11414
	2009	2.4	112	---	---	16.31	13.57	83.15	250.5	243.6	6.9	52.3	13092
	2008	2.0	98	---	---	17.54	14.56	82.98	267.8	242.9	24.9	40.4	10809
	2007	2.0	101	0.77	1.21	17.29	14.50	83.79	267.5	228.4	39.1	---	---

[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 October 24, 2011.
[5] Averages are based only on varieties included in previous year's first-stubble maturity study (HoCP 96-540, L 97-128, L99-233, HoCP 00-950, and L01-283).
[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.