United States Department of Agriculture

Research, Education, and Economics
Agricultural Research Service

December 28, 2012

Results of the eight and final sampling (December 3) of the 2012 of the 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 (2008 – 2012); 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 and HoCP 04-838. Harvestable sugarcane stalks in all plots were counted in early July. Stalk counts, stalk weights, and TRS levels are used to provide an estimation of cane (tons/A) and sugar (lbs/A) yields. Since the last sample date Ardoyne Farm has received 0.60 in. of rainfall.

During the 2-week interval, the core varieties (HoCP 96-540, L 99-226, L 99-233, HoCP 00-950, L 01-283 and L 03-371) grew an average of 2.0 in. with virtually no increase in stalk weight. Sugarcane stalks of the core varieties weigh only 0.13 lbs more than average, but are 13 in. longer for this sampling date when compared to the previous four years. L 99-226 and HoCP 96-540 continue to have the heaviest stalks (3.00 lbs and 2.71 lbs, respectively). L 99-226 (128 in.) also had the longest stalks followed by L 99-233 (126 in.), while, L 03-371 (105 in.) and HoCP 00-950 (109 in.) produced the shortest stalks.

Brix, sucrose and purity levels for this sampling date remain higher than any time in the previous four years. TRS levels for the core varieties increased by only 7.5 lbs/tons of cane (TC) since the last sampling, which is about average for this time. The 311 lbs/TC produced are only slightly better than last year's 300 lbs/TC, but are 16.5 lbs more than the 4-yr average. Of the varieties with major plantings for harvest in 2012, L 01-283 and HoCP 00-950 have the highest TRS levels producing 320 lbs/TC each, while L 01-299 (298 lbs/TC) and L 99-233 (286 lbs/TC) produced the lowest. Besides L 01-299 and L 99-233 no variety averaged less than 308 lbs/TC.

Estimated yields of cane and sugar per acre for the major varieties remain better than the 4-yr average. The average cane yield of the core varieties was 53.0 tons/A, which is only 0.5 tons/A less than last year and 4.7 tons/A better than the 4-yr average. The sugar yield of the core varieties was 16481 lbs/A which is only 243 lbs better than last year, but 2472 lbs better than the 4-yr average. L 99-233 (57.8 tons/A) and HoCP 96-540 (56.5 tons/A) produced the highest cane yields, the lowest cane yields were produced by L 01-283 (48.5 tons/A) and L 99-226 (50.7 tons/A). L 01-283 also had the lowest sugar yields producing 15554 lbs/A. The highest sugar yields were produced by HoCP 96-540 (17391 lbs/A) and HoCP 00-950 (16737 lbs/A).

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

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 DeHart by email (Ashley.DeHart@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.

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

Have a Happy New Year!!!

Maturity studies on first-stubble cane grown on mixed land at the Ardoyne Farm, USDA-ARS, Sugarcane Research Unit, Houma, LA, December 3, 2012[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	2012	2.7	118	0.85	1.69	18.86	16.28	86.31	307.9	291.4	16.5	56.5	17391
	2011	2.3	100	0.85	1.14	18.84	16.24	86.23	307.1	301.7	5.4	59.2	18153
	2010	2.5	107	0.83	1.18	17.97	15.19	84.54	284.8	285.5	-0.7	40.5	11531
	2009	2.9	113	0.88	1.15	17.00	14.15	83.21	263.2	265.2	-2.0	63.1	16601
	2008	2.4	100	0.90	1.06	18.17	15.46	85.07	290.6	283.5	7.1	45.1	13096
L99-226	2012	3.0	128	0.90	1.53	19.04	16.61	87.24	315.7	310.6	5.0	50.7	16004
	2011	2.9	108	0.93	1.09	18.70	16.08	85.98	303.7	304.4	-0.7	57.6	17499
	2010	2.9	107	0.86	1.30	19.32	16.79	86.86	318.4	308.7	9.7	50.5	16083
	2009	3.1	121	0.92	1.08	17.29	14.59	84.36	273.2	261.6	11.6	54.1	14816
	2008	---	---	---	---	---	---	---	---	---	---	---	---
L 99-233	2012	2.4	126	0.81	1.57	17.91	15.42	86.11	285.7	279.3	6.4	57.8	16529
	2011	2.1	107	0.82	1.03	17.93	15.28	85.23	281.9	276.7	5.2	48.6	13713
	2010	2.2	115	0.72	1.31	18.37	15.84	86.22	293.7	281.3	12.4	51.7	15197
	2009	2.2	117	0.81	1.01	17.20	14.55	84.49	267.4	263.5	3.9	56.8	15147
	2008	2.1	111	0.82	0.99	17.89	15.19	84.92	279.8	273.2	6.6	50.0	13967
HoCP 00-950	2012	2.2	109	0.85	1.50	19.17	16.70	87.14	320.4	312.1	8.3	52.2	16737
	2011	2.3	96	0.86	1.14	19.32	16.73	86.59	320.0	317.3	2.7	46.6	14923
	2010	2.3	91	0.86	1.19	19.57	16.99	86.83	325.4	316.3	9.1	37.0	12041
	2009	2.4	102	0.84	1.18	18.66	16.14	86.46	308.4	296.8	11.6	51.1	15757
	2008	2.0	92	0.85	1.07	18.70	16.03	85.67	305.1	309.3	-4.2	41.6	12702
L 01-283	2012	2.1	112	0.75	1.74	19.21	16.72	87.01	320.4	318.1	2.3	48.5	15554
	2011	2.3	103	0.81	1.20	18.88	16.27	86.15	310.4	306.7	3.7	60.3	18713
	2010	2.1	102	0.74	1.31	19.39	16.69	86.09	318.5	318.0	0.5	47.5	15114
	2009	2.6	114	0.82	1.17	18.06	15.50	85.83	295.3	283.2	12.1	62.4	18396
	2008	2.1	99	0.83	1.07	18.62	15.60	83.78	294.1	305.6	-11.5	45.6	13362
L 01-299	2012	2.1	119	0.73	1.78	18.39	15.89	86.35	297.7	291.7	6.0	54.3	16142
	2011	---	---	---	---	---	---	---	---	---	---	---	---
	2010	---	---	---	---	---	---	---	---	---	---	---	---
	2009	---	---	---	---	---	---	---	---	---	---	---	---
	2008	---	---	---	---	---	---	---	---	---	---	---	---
L 03-371	2012	2.3	105	0.90	1.44	18.93	16.46	86.97	318.5	312.3	6.2	52.4	16673
	2011	2.3	94	0.94	1.00	18.70	16.21	86.64	313.0	320.2	-7.2	61.0	19106
	2010	2.4	96	0.85	1.21	18.44	15.94	86.43	307.5	301.3	6.2	49.3	15154
	2009	2.9	103	0.94	1.13	17.75	15.23	85.77	292.8	272.0	20.8	63.2	18496
	2008	---	---	---	---	---	---	---	---	---	---	---	---
HoCP 04-838	2012	2.2	114	0.80	1.58	18.81	16.49	87.64	307.9	292.1	15.8	51.5	15861
	2011	2.2	97	0.83	1.19	18.68	16.09	86.13	298.2	289.1	9.1	52.7	15714
	2010	2.2	102	0.77	1.26	18.97	16.37	86.30	300.6	295.7	4.9	38.4	11522
	2009	---	---	---	---	---	---	---	---	---	---	---	---
(Cont'd.)	2008	---	---	---	---	---	---	---	---	---	---	---	---

Maturity studies on first-stubble cane grown on mixed land at the Ardoyne Farm, USDA-ARS, Sugarcane Research Unit, Houma, LA, December 3, 2012[1].

Variety	Year	Stalk[2]				Normal juice[3]			Sugar yield	Previous sample date[4]	TRS change from previous sample	Estimated yield[6]	
		Wt.	Lh.	Dia.	Density	Bx.	Su.	Pu.	TRS	TRS		Cane	Sugar
		(lb.)	(in.)	(in.)	(g/cm3)	(%)	(%)	(%)	(lb.)	(lb.)	(lb.)	(tons/A)	(lbs/A)
Averages[5]	2012	2.5	116	0.84	1.58	18.85	16.37	86.80	311.4	304.0	7.5	53.0	16481
	2011	2.3	102	0.85	1.11	18.72	16.08	85.87	303.5	299.7	3.8	53.5	16238
	2010	2.3	103	0.80	1.21	18.70	16.03	85.75	301.4	297.6	3.8	41.4	12449
	2009	2.6	112	0.87	1.09	17.36	14.71	84.69	273.8	270.6	3.2	56.9	15527
	2008	2.1	98	0.85	1.05	18.10	15.31	84.57	284.1	282.1	2.0	41.6	11825

[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 November 19, 2012 .

[5] Averages are based only on varieties included in previous year's first-stubble maturity study (HoCP 96-540, L97-128, L99-226, L99-233, HoCP 00-950, L01-283 and L03-371).

[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.