



United States Department of Agriculture

Research, Education, and Economics
Agricultural Research Service

October 7, 2008

Results from the fourth sampling (October 6, 2008) of the First-Stubble Sugarcane Maturity Test at the USDA-ARS Sugarcane Research Laboratory's Ardoyne Research Farm at Schriever, LA are attached. The study is designed to examine the natural ripening process and compare the results for the same harvest dates over a 5-yr period (2004 – 2008); 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. **When mechanically harvested, one can expect TRS/TC levels to be 10 to 20% lower as a result of additional trash in the cane.** The study includes seven released Louisiana varieties: LCP 85-384, HoCP 91-555, Ho 95-988, HoCP 96-540, L 97-128, L 99-233, HoCP 00-950, and the newly released L 01-283. The variety, L 99-226 was inadvertently omitted when the study was planted in 2006. Harvestable (greater than four feet in height) sugarcane stalks in all plots were counted on August 25th. These stalk counts and stalk weights and TRS levels from today's harvest are used to provide an estimation of cane (t/A) and sugar (lbs./A) yields for the various varieties in this test.

All of the varieties were severely lodged as a result of Hurricane Gustav on September 1st and to a lesser extent from Hurricane Ike on September 12th. Stalk breakage did occur for a number of the varieties in this test, but efforts were made to include only whole stalks properly topped for this study; as has been done in the past. The Ardoyne Farm has not received significant rainfall since the previous sampling on September 22nd.

When averaged over the six core varieties (LCP 85-384, HoCP 91-555, Ho 95-988, HoCP 96-540, L 97-128, and L 99-233), sugarcane stalks appear to be average in weight and length for this sampling date. Of the varieties, L 97-128 and L 99-233 continued to have the longest stalks and HoCP 96-540 and L 97-128 the heaviest. As expected, HoCP 00-950 has the shortest stalks of the newer varieties in this test, but its stalk weight is similar to all of the varieties except HoCP 96-540 and L 97-128.

Brix, sucrose, and purities continue to be lower than in previous years, and as a result, the average theoretically recoverable sugar (TRS) levels are also lower by at least 10 lbs./ton of cane (TC). Of the varieties with major plantings for harvest in 2008, L 97-128 and L 99-233 have the highest TRS levels producing on average 189 lbs. of sugar/TC; nearly 20 lbs./TC higher than HoCP 96-540. Both HoCP 00-950 (221 lbs./TC) and L 01-283 (198 lbs./TC) produced higher TRS levels than HoCP 96-540, L 97-128, and L 99-233. Average



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cane and sugar yields for the six core varieties was 42 t/A and 7506 lbs./A, respectively. Of the varieties, the highest cane yields were found with HoCP 96-540, L 99-233, HoCP 00-950, and L 01-283. Two of the varieties, HoCP 00-950 and L 01-283, produced sugar yields of approximately 10,000 lbs./A.

The fifth sampling of the first-stubble maturity test is scheduled for October 20th.

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 2008, please contact Mrs. Sandy Roberts by email (Sandra.Roberts@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, SRRC, Sugarcane Research Unit, Houma, LA, October 06, 2008¹.

Variety	Year	Stalk ²				Normal juice ³			Sugar yield TRS (lb.)	Previous sample date ⁴ TRS (lb.)	TRS change from previous sample (lb.)	Estimated yield ⁶	
		Wt. (lb.)	Lh. (in.)	Dia. (in.)	Density (g/cm ³)	Bx. (%)	Su. (%)	Pu. (%)				Cane (tons/A)	Sugar (lbs/A)
LCP 85-384	2008	1.6	83	0.76	1.18	14.90	11.71	78.59	209.8	181.2	28.6	33.4	7002
	2007	1.7	88	0.69	1.36	15.03	12.06	80.19	218.2	188.8	29.4	---	---
	2006	1.9	95	0.80	1.09	15.27	12.27	80.26	222.2	189.5	32.7	---	---
	2005	1.5	74	0.77	1.04	15.56	12.81	82.36	220.8	191.6	29.2	---	---
	2004	1.8	94	---	---	15.85	12.95	81.67	236.4	196.3	40.1	---	---
HoCP 91-555	2008	1.7	87	0.80	1.08	15.78	12.22	77.41	215.6	162.7	52.9	36.6	7922
	2007	1.9	91	0.78	1.17	16.62	13.45	80.88	242.2	206.1	36.1	---	---
	2006	1.6	89	0.72	1.17	15.76	11.94	75.75	207.7	175.5	32.2	---	---
	2005	1.5	87	0.69	1.23	16.76	13.63	81.39	240.0	200.3	39.7	---	---
	2004	1.8	92	---	---	16.58	13.45	81.07	242.4	192.5	49.9	---	---
Ho 95-988	2008	1.9	84	0.86	1.07	15.56	12.09	77.66	215.2	181.1	34.1	36.3	7806
	2007	2.1	94	0.85	1.11	15.87	12.70	80.02	229.6	189.8	39.8	---	---
	2006	2.4	99	0.90	1.06	15.01	11.48	76.47	202.9	173.2	29.7	---	---
	2005	2.0	84	0.86	1.05	15.47	12.39	80.10	214.3	189.9	24.4	---	---
	2004	---	---	---	---	---	---	---	---	---	---	---	---
HoCP 96-540	2008	2.3	93	0.88	1.12	15.14	11.78	77.81	212.1	170.8	41.3	42.9	9088
	2007	2.0	92	0.77	1.25	14.90	11.78	78.57	213.1	189.4	23.7	---	---
	2006	2.2	98	0.85	1.11	14.76	11.44	77.50	205.6	173.5	32.1	---	---
	2005	1.9	83	0.83	1.08	14.92	12.39	83.06	211.0	192.1	18.9	---	---
	2004	2.2	97	---	---	15.87	12.75	80.29	233.2	203.5	29.7	---	---
L 97-128	2008	2.2	96	0.86	1.10	15.52	12.02	77.43	215.8	190.0	25.8	37.3	8042
	2007	2.1	101	0.79	1.24	16.56	13.53	81.71	247.1	222.0	25.1	---	---
	2006	2.3	106	0.87	1.02	16.03	12.89	80.42	233.7	214.7	19.0	---	---
	2005	2.0	91	0.85	1.04	16.22	14.32	88.27	236.6	216.7	19.9	---	---
	2004	2.3	105	---	---	17.31	14.51	83.81	270.8	242.4	28.4	---	---
L 99-233	2008	2.0	104	0.78	1.11	15.25	11.92	78.16	210.9	187.6	23.3	47.5	10007
	2007	1.7	106	0.72	1.15	15.18	11.81	77.76	208.4	186.9	21.5	---	---
	2006	1.8	101	0.77	1.05	15.10	11.67	77.24	205.2	168.2	37.0	---	---
	2005	1.6	91	0.73	1.14	16.18	13.03	80.54	237.6	217.2	20.4	---	---
	2004	1.8	101	---	---	16.09	13.19	81.92	241.2	198.9	42.3	---	---
HoCP 00-950	2008	2.0	86	0.86	1.11	17.15	14.12	82.33	263.9	220.8	43.1	41.4	10913
	2007	1.9	87	0.82	1.19	17.69	14.84	83.90	279.8	253.2	26.6	---	---
	2006	---	---	---	---	---	---	---	---	---	---	---	---
	2005	---	---	---	---	---	---	---	---	---	---	---	---
	2004	---	---	---	---	---	---	---	---	---	---	---	---
L 01-283	2008	2.1	94	0.83	1.14	16.14	12.80	79.27	234.8	198.5	36.3	46.2	10874
	2007	---	---	---	---	---	---	---	---	---	---	---	---
	2006	---	---	---	---	---	---	---	---	---	---	---	---
	2005	---	---	---	---	---	---	---	---	---	---	---	---
	(Con'td.)	2004	---	---	---	---	---	---	---	---	---	---	---
Averages ⁵	2008	2.0	91	0.82	1.11	15.36	11.96	77.84	213.2	178.9	34.3	39.0	8311
	2007	1.9	94	0.76	1.23	15.67	12.62	80.40	228.4	201.5	26.9	---	---
	2006	2.0	93	0.81	1.12	15.42	12.18	78.91	218.6	188.6	30.0	---	---
	2005	1.8	85	0.81	1.08	15.71	12.98	82.61	225.9	202.7	23.3	---	---
	2004	2.0	97	---	---	16.15	13.21	81.76	241.8	205.8	35.9	---	---

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 Previous sample date was September 22, 2008.

⁵ Averages are based only on varieties included in previous year's first-stubble maturity study (LCP 85-384, HoCP 91-555, Ho 95-988, HoCP 96-540, L 97-128, and L 99-233).

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