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Results of the initial sampling of the 2010, 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 the natural ripening process and compare the results for the same harvest dates over a 5-yr period (2006 – 2010); 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 study includes eight released Louisiana varieties: Ho 95-988, HoCP 96-540, L 97-128, L 99-226, L 99-233, HoCP 00-950, L 01-283, and L 03-371, and the candidate variety HoCP 04-838. L 01-299 is omitted from this test because its release was not expected when the test was planted in 2008. Harvestable sugarcane stalks in all plots were counted in mid-July. 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 during the growing season and at the time of this sampling; the crop is mostly erect, with the exception of L99-226 and L99-233. Sugarcane stalks of the core varieties (Ho 95-988, HoCP 96-540, L 97-128, L 99-233 and HoCP 00-950) are average to slightly below average in weight, length, and diameter, but have greater densities when compared to the averages for the previous four years. Of the varieties, L 99-233 and L 97-128 had the longest stalks, Ho 95-988, HoCP 96-540, and HoCP 00-950 had the shortest stalks. The varieties L 99-226 and L 97-128 had the heaviest stalks, while L 99-233 had the lightest. The newly released variety, L03-371, and the candidate for release, HoCP 04-838, are average in weight, length, diameter, and density.

Brix, sucrose, and purities are all higher in 2010 than in the previous four years for this sampling date. The average theoretically recoverable sugar (TRS) levels for 2010 are 29 lbs./ton of cane (TC) greater than those recorded in 2009. Of the varieties with major plantings for harvest in 2010, L 97-128, HoCP 00-950, and L 01-283 have the highest early TRS levels producing over 200 lbs. of sugar/TC; which is over 57 lbs./TC higher than HoCP 96-540. Of the varieties, L 99-233 had the lowest TRS producing 138 lbs./TC. The new variety L 03-371 produced 162 lbs./TC, which is 11 lbs greater than HoCP 96-540.

Estimated yields of the major varieties are lower in 2010 when compared to the 2009 data at this sampling date for both tons/A and lbs/A which can be attributable to somewhat lighter and shorter stalks when compared to last year. Of the varieties sampled, the highest cane yields were produced by L 01-283 which yielded 36.9 tons/A and L 99-226 with 35.6 tons/A. The highest estimated sugar yields were obtained by L 01-283 and L 97-128 producing 7682 lbs./A and 6625

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

lbs./A respectively. L 03-371 had the third highest cane yield producing 35.5 tons/A and the third highest sugar yield with 5758 lbs./A. The candidate variety, HoCP 04-838, has cane and sugar yields that were similar to HoCP 96-540.

The second sampling for the maturity test is scheduled for September 13th.

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 2010, 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 Mr. Mike Duet and Dr. Ed Richard of the USDA-ARS Sugarcane Research Lab.

Maturity studies on first-stubble cane grown on mixed land at the Ardoyne Farm, USDA-ARS, Sugarcane Reasearch Unit, Houma, LA, August 30, 2010[1].

Variety	Year	Stalk[2]				Normal juice[3]			Sugar yield	Estimated[5] yield	
		Wt.	Lh.	Dia.	Density	Bx.	Su.	Pu.	TRS	Cane	Sugar
		(lb.)	(in.)	(in.)	(g/cm3)	(%)	(%)	(%)	(lbs/ton)	(tons/A)	lbs/A)
Ho 95-988	2010 (08/30)	1.7	72	0.82	1.21	12.4	8.6	69.2	143.2	29.5	4254
	2009 (08/31)	2.0	85	0.89	1.04	11.6	7.7	65.7	123.4	40.4	4973
	2008 (08/25)	1.6	68	0.88	1.09	11.2	7.2	64.3	114.1	31.1	3552
	2007 (08/27)	1.8	75	0.87	1.16	12.5	8.3	66.2	134.4	---	---
	2006 (08/28)	1.8	74	0.89	1.02	10.6	6.3	59.0	93.5	---	---
HoCP 96-540	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
	2008 (08/25)	1.9	76	0.90	1.04	11.1	7.3	66.0	119.8	35.6	4268
	2007 (08/27)	1.6	73	0.82	1.17	13.1	9.3	71.4	160.2	---	---
	2006 (08/28)	2.0	80	0.91	1.05	11.2	7.3	65.1	118.2	---	---
L 97-128	2010 (08/30)	1.9	85	0.80	1.21	14.7	11.5	78.2	208.3	31.8	6625
	2009 (08/31)	2.1	92	0.85	1.15	13.7	10.0	73.4	175.2	38.9	6767
	2008 (08/25)	2.0	85	0.89	1.07	12.6	9.1	71.7	156.0	34.3	5343
	2007 (08/27)	1.8	80	0.82	1.15	14.5	10.6	73.1	182.3	---	---
	2006 (08/28)	2.1	89	0.88	1.05	12.5	8.6	69.0	144.9	---	---
L 99-226	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
	2008 (08/25)	---	---	---	---	---	---	---	---	---	---
	2007 (08/27)	---	---	---	---	---	---	---	---	---	---
	2006 (08/28)	---	---	---	---	---	---	---	---	---	---
L 99-233	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
	2008 (08/25)	1.7	86	0.78	1.13	11.7	7.9	67.1	127.5	39.3	4981
	2007 (08/27)	1.4	81	0.71	1.21	13.0	8.7	67.3	141.4	---	---
	2006 (08/28)	1.6	81	0.75	1.18	11.0	6.8	61.7	104.6	---	---
HoCP 00-950	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
	2008 (08/25)	1.8	70	0.88	1.13	13.8	10.3	74.4	182.3	36.2	6601
	2007 (08/27)	1.6	68	0.87	1.11	15.3	11.4	74.3	201.3	---	---
	2006 (08/28)	---	---	---	---	---	---	---	---	---	---
L 01-283	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
	2008 (08/25)	1.7	77	0.81	1.17	13.2	9.6	72.8	168.5	36.7	6108
	2007 (08/27)	---	---	---	---	---	---	---	---	---	---
	2006 (08/28)	---	---	---	---	---	---	---	---	---	---
L 03-371	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
	2008 (08/25)	---	---	---	---	---	---	---	---	---	---
	2007 (08/27)	---	---	---	---	---	---	---	---	---	---
	2006 (08/28)	---	---	---	---	---	---	---	---	---	---
HoCP 04-838	2010 (08/30)	1.6	77	0.77	1.22	12.9	10.0	77.4	174.3	27.3	4786
	2009 (08/31)	---	---	---	---	---	---	---	---	---	---
	2008 (08/25)	---	---	---	---	---	---	---	---	---	---
	2007 (08/27)	---	---	---	---	---	---	---	---	---	---
(Cont'd)	2006 (08/28)	---	---	---	---	---	---	---	---	---	---

Maturity studies on first-stubble cane grown on mixed land at the Ardoyne Farm, USDA-ARS, Sugarcane Reasearch Unit, Houma, LA, August 30, 2010[1].

Variety	Year	Stalk[2]				Normal juice[3]			Sugar yield	Estimated[5] yield	
		Wt.	Lh.	Dia.	Density	Bx.	Su.	Pu.	TRS	Cane	Sugar
		(lb.)	(in.)	(in.)	(g/cm3)	(%)	(%)	(%)	(lbs/ton)	(tons/A)	lbs/A)
Averages[4]	2010 (08/30)	1.6	77	0.78	1.23	13.3	9.7	72.7	168.8	29.8	4998
	2009 (08/31)	1.9	89	0.83	1.09	12.1	8.4	68.7	139.4	41.0	5691
	2008 (08/25)	1.7	77	0.83	1.12	11.5	7.7	66.6	125.4	33.7	4243
	2007 (08/27)	1.5	74	0.79	1.13	13.4	9.4	70.0	157.1	---	---
	2006 (08/28)	1.7	77	0.85	1.10	11.1	7.1	64.1	113.2	---	---

[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] Averages are based only on varieties included in previous year's first-stubble maturity study (Ho 95-988, HoCP 96-540, L 97-128, L 99-233, and HoCP 00-950).

[5] 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.