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Results of the November 8, 2010, samplings of the First-Stubble (sixth sampling) 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 (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 on July 9th. 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. Since the last sampling, the farm has received 1.92 in. of rain. Strong winds associated with some of these rain events have caused a majority of the varieties in the maturity test to become lodged. During the 2-week interval, the average growth for the core varieties (Ho 95-988, HoCP 96-540, L 97-128, L 99-233 and HoCP 00-950) was 7.0 in. with a 0.1 lb increase in stalk weight. When compared to the previous four years sugarcane stalks of the core varieties are average in weight, but above average in length. The varieties L 97-128, L 99-226, and L 99-233 had the longest stalks and HoCP 00-950 and L 03-371 had the shortest stalks. The variety L 99-226 had the heaviest stalks.

Brix and sucrose percentages remain higher in 2010 than in the previous four years for this sampling date. The average theoretically recoverable sugar (TRS) levels for the core varieties at this sampling date are 33 lbs./ton of cane (TC) greater than those recorded in 2009. The varieties with the greatest increase in TRS levels were HoCP 96-540 and Ho 95-988 with an average increase of 19 lbs/TC. Of the varieties with major plantings for harvest in 2010, L 01-283, L 97-128 and HoCP 00-950 continue to have the highest TRS levels producing over 308 lbs. of sugar/TC; which is 49 lbs./TC higher than HoCP 96-540. The new variety L 03-371 produced 289 lbs./TC and the candidate variety HoCP 04-838 produced 283 lbs./TC. Of the varieties, HoCP 96-540 (259 lbs./TC) and L 99-233 (261 lbs./TC) had the lowest TRS levels.

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. Of the varieties sampled, the highest cane yields were produced by L 03-371 which yielded 49.5 tons/A and L 99-233 with 47.4 tons/A. The highest

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estimated sugar yields were obtained by L 01-283 and L 03-371 producing 14285 lbs./A and 14318 lbs./A respectively.

The seventh sampling of the first-stubble maturity test is scheduled for November 22nd.

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.

Happy Thanksgiving

Maturity studies on first-stubble cane grown on mixed land at the Ardoyne Farm, USDA-ARS, Sugarcane Research Unit, Houma, LA, November 8, 2010[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 95-988	2010	2.4	100	---	---	17.89	15.16	84.76	281.8	263.2	18.6	43.1	12166
	2009	2.7	105	---	---	16.16	13.52	83.68	249.8	252.1	-2.3	54.1	13526
	2008	2.0	92	---	---	17.35	14.42	83.09	265.5	243.2	22.3	37.5	9988
	2007	2.2	97	0.86	1.14	16.51	13.63	82.54	250.1	229.6	20.5	---	---
	2006	2.3	101	0.85	1.13	17.58	14.99	85.30	279.4	255.9	23.5	---	---
HoCP 96-540	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	---	---
	2006	2.4	104	0.87	1.12	17.22	14.48	84.06	270.7	258.1	12.6	---	---
L 97-128	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	---	---
	2006	2.5	114	0.87	1.02	17.93	15.17	84.59	284.4	275.7	8.7	---	---
L 99-226	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	---	---	---	---	---	---	---	---	---	---	---	---
	2006	---	---	---	---	---	---	---	---	---	---	---	---
L 99-233	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	---	---
	2006	2.0	112	0.78	1.05	17.29	14.50	83.87	268.1	244.3	23.8	---	---
HoCP 00-950	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	---	---
	2006	---	---	---	---	---	---	---	---	---	---	---	---
L 01-283	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	---	---	---	---	---	---	---	---	---	---	---	---
	2006	---	---	---	---	---	---	---	---	---	---	---	---
L 03-371	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	---	---	---	---	---	---	---	---	---	---	---	---
(Cont'd)	2006	---	---	---	---	---	---	---	---	---	---	---	---

Maturity studies on first-stubble cane grown on mixed land at the Ardoyne Farm, USDA-ARS, Sugarcane Research Unit, Houma, LA, November 8, 2010[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)
HoCP 04-838	2010	2.0	103	---	---	18.00	15.46	85.93	283.4	280.0	3.4	35.9	10166
	2009	---	---	---	---	---	---	---	---	---	---	---	---
	2008	---	---	---	---	---	---	---	---	---	---	---	---
	2007	---	---	---	---	---	---	---	---	---	---	---	---
	2006	---	---	---	---	---	---	---	---	---	---	---	---
Averages[5]	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	---	---
	2006	2.1	98	0.82	1.23	17.58	14.93	84.94	276.3	264.5	11.8	---	---

[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 25, 2010.
[5] 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 04-838).
[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.