**United States Department of Agriculture**

Research, Education, and Economics
Agricultural Research Service

December 5, 2007

Results of the 8th (December 3rd) and final sampling 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 of these crops in 2-wk increments, and compare the results for the same harvest dates over a 5-yr period (2003 – 2007); 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 eight previously released Louisiana varieties: LCP 85-384, HoCP 85-845, HoCP 91-555, Ho 95-988, HoCP 96-540, L 97-128, L 99-226, and L 99-233 and the newly released variety, HoCP 00-950.

The Ardoyne Farm received less than a half-inch of rainfall since November 1st. Very little change in stalk size (height, weight, and density) has occurred since the November 19th sampling. The cool and sunny days have been conducive to the crop's natural ripening although the pace continues to slow, as expected for this time of year. The average theoretical recoverable sugar (TRS) level for the six core varieties increased by 1 lb/TC for the 14-day sampling interval. Five varieties now have TRS levels above 300 lbs/TC with HoCP 00-950 continuing to have the highest TRS at 337 lbs/TC. The biggest increases (> 20 lbs) were with LCP 85-384 and L 99-226. It is interesting to note that while most of the varieties seem to be plateauing with respect to sugar yield, L 99-226 continues to show significant increases in sugar production. As mentioned earlier, the newly released HoCP 00-950 continues to have the highest TRS/TC level at 337 lbs/TC, which is 30 and 49 lbs/TC higher than L 97-128 and HoCP 96-540, respectively, but only 17 lbs/TC higher than L 99-226.

This is the final sugarcane maturity test report for the 2007 harvest season.

**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 (sroberts@srrc.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 of the USDA-ARS Sugarcane Research Lab.***

***Merry Christmas and a Happy New Year from the Staff of the USDA Sugarcane Research Laboratory!!!***

Southern Regional Research Center
Sugarcane Research Unit
5883 USDA Road ▪ Houma, LA 70360

Maturity studies on first-stubble cane grown on mixed land at the Ardoyne Farm, USDA-ARS, SRRC, Sugarcane Research Unit, Houma, LA, December 03, 2007[1].

| Variety | Year | Stalk[2] | | | | Normal juice[3] | | | Sugar yield | Previous sample date[4] | TRS change from previous sample |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Wt. | Lh. | Dia. | Density | Bx. | Su. | Pu. | TRS | TRS | |
| | | (lb.) | (in.) | (in.) | (g/cm3) | (%) | (%) | (%) | (lb.) | (lb.) | (lb.) |
| LCP 85-384 | 2007 | 1.8 | 97 | 0.72 | 1.30 | 19.01 | 16.48 | 86.66 | 309.3 | 285.3 | 24.0 |
| | 2006 | 2.1 | 101 | 0.79 | 1.23 | 18.50 | 15.93 | 86.10 | 298.1 | 293.0 | 5.1 |
| | 2005 | 1.7 | 85 | 0.75 | 1.18 | 18.90 | 16.26 | 86.02 | 304.2 | 279.4 | 24.8 |
| | 2004 | 1.9 | 101 | 0.75 | 1.26 | 17.62 | 16.31 | 92.55 | 282.3 | 277.9 | 4.4 |
| | 2003 | 1.8 | 95 | --- | --- | 18.70 | 16.31 | 87.17 | 306.8 | 301.7 | 5.1 |
| HoCP 85-845 | 2007 | 2.1 | 99 | 0.83 | 1.15 | 18.48 | 15.84 | 85.68 | 295.7 | 282.2 | 13.5 |
| | 2006 | 2.4 | 98 | 0.86 | 1.13 | 17.89 | 15.26 | 85.30 | 284.3 | 284.0 | 0.3 |
| | 2005 | 2.0 | 91 | 0.81 | 1.17 | 18.19 | 15.57 | 85.58 | 290.7 | 271.5 | 19.2 |
| | 2004 | 2.1 | 98 | 0.77 | 1.27 | 17.40 | 16.12 | 92.67 | 276.4 | 265.5 | 10.9 |
| | 2003 | 2.0 | 85 | --- | --- | 18.66 | 16.12 | 86.38 | 302.1 | 300.0 | 2.1 |
| HoCP 91-555 | 2007 | 2.1 | 99 | 0.78 | 1.24 | 19.43 | 16.88 | 86.87 | 314.1 | 296.4 | 17.7 |
| | 2006 | 1.8 | 95 | 0.77 | 1.21 | 18.93 | 16.33 | 86.26 | 302.7 | 295.8 | 6.9 |
| | 2005 | 1.8 | 92 | 0.75 | 1.21 | 18.84 | 16.07 | 85.29 | 296.5 | 275.4 | 21.1 |
| | 2004 | 2.0 | 103 | 0.74 | 1.27 | 18.31 | 16.64 | 90.89 | 287.4 | 282.2 | 5.2 |
| | 2003 | 1.8 | 88 | --- | --- | 19.19 | 16.64 | 86.68 | 309.2 | 313.4 | -4.3 |
| Ho 95-988 | 2007 | 2.5 | 99 | 0.85 | 1.20 | 18.17 | 15.63 | 86.00 | 292.3 | 286.7 | 5.6 |
| | 2006 | 2.7 | 102 | 0.92 | 1.11 | 18.13 | 15.65 | 86.30 | 293.1 | 288.0 | 5.1 |
| | 2005 | 2.2 | 89 | 0.87 | 1.11 | 18.66 | 16.08 | 86.17 | 301.1 | 268.1 | 33.0 |
| | 2004 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | 2003 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| HoCP 96-540 | 2007 | 2.3 | 103 | 0.81 | 1.23 | 18.15 | 15.36 | 84.61 | 288.0 | 277.3 | 10.7 |
| | 2006 | 2.5 | 104 | 0.88 | 1.15 | 18.00 | 15.38 | 85.46 | 289.6 | 284.4 | 5.2 |
| | 2005 | 2.1 | 86 | 0.84 | 1.13 | 18.48 | 15.88 | 85.93 | 299.8 | 265.9 | 33.9 |
| | 2004 | 2.4 | 107 | 0.81 | 1.17 | 17.66 | 16.04 | 90.90 | 280.4 | 267.7 | 12.7 |
| | 2003 | 2.2 | 93 | --- | --- | 18.68 | 16.04 | 85.86 | 302.8 | 302.5 | 0.3 |
| L 97-128 | 2007 | 2.4 | 113 | 0.82 | 1.17 | 19.01 | 16.58 | 87.21 | 306.6 | 302.6 | 4.0 |
| | 2006 | 2.5 | 111 | 0.87 | 1.03 | 18.37 | 15.58 | 84.82 | 292.4 | 296.7 | -4.3 |
| | 2005 | 2.2 | 94 | 0.80 | 1.19 | 18.44 | 15.59 | 84.54 | 292.1 | 277.7 | 14.4 |
| | 2004 | 2.5 | 113 | 0.80 | 1.21 | 18.35 | 16.88 | 91.99 | 294.7 | 287.5 | 7.1 |
| | 2003 | 2.1 | 100 | --- | --- | 19.48 | 16.88 | 86.66 | 319.9 | 327.4 | -7.5 |
| L 99-226 | 2007 | 2.9 | 110 | 0.89 | 1.18 | 19.37 | 16.85 | 87.02 | 320.0 | 296.9 | 23.1 |
| | 2006 | 3.1 | 109 | 0.92 | 1.13 | 18.62 | 16.11 | 86.53 | 305.1 | 306.1 | -1.0 |
| | 2005 | 2.5 | 101 | 0.88 | 1.09 | 19.15 | 16.59 | 86.65 | 314.4 | 287.4 | 27.0 |
| | 2004 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| (Con't) | 2003 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| L 99-233 | 2007 | 2.0 | 110 | 0.75 | 1.29 | 18.35 | 15.75 | 85.82 | 291.4 | 274.1 | 17.3 |
| | 2006 | 2.2 | 116 | 0.81 | 1.06 | 18.13 | 15.61 | 86.09 | 292.1 | 290.7 | 1.4 |
| | 2005 | 1.8 | 102 | 0.76 | 1.02 | 18.22 | 15.52 | 85.18 | 289.0 | 268.2 | 20.8 |
| | 2004 | 1.9 | 118 | 0.72 | 1.15 | 17.93 | 16.32 | 91.14 | 285.2 | 261.5 | 23.7 |
| (Cont'd.) | 2003 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

| Variety | Year | Stalk[2] | | | | Normal juice[3] | | | Sugar yield | Previous sample date[4] | TRS change from previous sample |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Wt. | Lh. | Dia. | Density | Bx. | Su. | Pu. | TRS | TRS | |
| | | (lb.) | (in.) | (in.) | (g/cm3) | (%) | (%) | (%) | (lb.) | (lb.) | (lb.) |
| HoCP 00-950 | 2007 | 2.2 | 96 | 0.81 | 1.21 | 20.12 | 17.57 | 87.33 | 337.3 | 325.5 | 11.8 |
| | 2006 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | 2005 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | 2004 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | 2003 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Averages[5] | 2007 | 2.1 | 103.8 | 0.79 | 1.23 | 18.74 | 16.15 | 86.14 | 300.8 | 286.3 | 14.5 |
| | 2006 | 2.2 | 99.6 | 0.83 | 1.18 | 18.33 | 15.73 | 85.78 | 293.7 | 289.3 | 4.4 |
| | 2005 | 2.0 | 92 | 0.80 | 1.15 | 18.40 | 15.73 | 85.46 | 293.8 | 271.1 | 22.7 |
| | 2004 | 2.2 | 102 | 0.78 | 1.25 | 17.62 | 16.10 | 91.41 | 279.7 | 271.1 | 8.6 |
| | 2003 | 2.0 | 91 | --- | --- | 18.60 | 16.10 | 86.55 | 301.9 | 304.2 | -2.2 |

[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.

[3] Brix factor = .8854; Sucrose factor = .8105.

[4] Previous sample date was November 19, 2007.

[5] Averages are based only on varieties included in previous year's first-stubble maturity study (LCP 85-384, HoCP 85-845, HoCP 91-555, HoCP 96-540, L 97-128, and L 99-233).