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Results of the 1st sampling of the first-stubble Maturity Test harvested on August 28, 2017 at the USDA-ARS Sugarcane Research Unit'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 (2013 – 2017); consequently, a glyphosate-containing ripener is not applied. Samples consist of 10 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.** Included in the test are seven commercial varieties: HoCP 96-540, HoCP 00-950, L 01-283, L 01-299, HoCP 04-838, Ho 07-613, HoCP 09-804 and the experimental variety L 11-183.

With only one freeze event during the winter, the crop was off to a good start heading into the grand growth phase. Growth measurements recorded within the test indicate above average growth occurred in April, May, and June but leveled off slightly to below average growth for July and August. Moisture has not been a limiting factor in growth this year, as of August 30, we have had 60.22 in. of rainfall; 15.3 in. for the month.

At the time of this sampling all the varieties in the test were erect.

Stalk measurements indicate that the crop is 7.8 in. taller than the 4-year average and 4.8 in. taller than last year. Additionally, stalk weight is 0.33 lbs. better than last year and the 4-year average. Stalk diameters are larger than both last year (0.82 in. vs. 0.77 in.) and the 4-year average (0.82 in. vs. 0.80 in.). Stalk densities are only slightly less than last year (-0.02 g/cm$^3$), but are 0.06 g/cm$^3$ better than the 4-year average.

The heaviest stalks were produced by Ho 07-613 (2.18 lbs.) along with HoCP 96-540 (2.02 lbs.); the lightest stalks were produced by HoCP 09-804 (1.57 lbs.) and L 01-283 (1.55 lbs.). The longest stalks were produced by Ho 07-613 (88 in.) and L 01-299 (86 in.), while HoCP 00-950 (75 in.) and HoCP 04-838 (78 in.) had the shortest stalks. The largest diameter stalks were produced by HoCP 00-950 (0.91 in.) and Ho 07-613 (0.87 in.); L 01-299 (0.75 in.) and L 01-283 (0.72 in.) produced the smallest diameter stalks. The varieties with the greatest densities were L 01-283 (1.30 g/cm$^3$) and L 01-299 (1.26 g/cm$^3$); HoCP 00-950 (1.08g/cm$^3$) was the least dense along with HoCP 09-804 and L 11-183 at 1.12 g/cm$^3$ each.

Brix, sucrose, and purity levels are higher yet very similar to last years for this sample date; however they are much better when compared to the 4-year average. Theoretical recoverable sugar (TRS) levels for this sample date are 3.4 lbs./ton of cane (TC) less than last year's data but are 23.2 lbs./TC better than the 4-year average.

Of the varieties, HoCP 00-950 (219.6 lbs./TC) and HoCP 09-804 (208.1 lbs./TC) had the highest early TRS levels; the lowest TRS levels were produced by L 01-299 (155.1 lbs./TC) and HoCP 96-540 (148.4 lbs./TC).

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When looking at the expected maturity curve for each variety based previous year's data; HoCP 00-950, L 01-283, and HoCP 09-804 would be considered early maturing; Ho 07-613 and HoCP 04-838 would be mid-maturing; HoCP 96-540 and L 01-299 would be late maturing. With only one sample to go on, it seems L 11-183 may fall into the late maturing category for now.

The 2nd sampling for the 1st stubble maturity test is scheduled for September 12th.

**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. Brenda Aysenne by email (Brenda.Aysenne@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.

Maturity studies on first-stubble cane grown on mixed land at the Ardoyne Farm, USDA-ARS, Sugarcane Research Unit, Houma, LA, August 28, 2017.[1]

| Variety | Year | Stalk[2] | | | | Normal juice[3] | | | Sugar yield |
|---|---|---|---|---|---|---|---|---|---|
| | | Wt. | Lh. | Dia. | Density | Bx. | Su. | Pu. | TRS |
| | | (lb.) | (in.) | (in.) | (g/cm3) | (%) | (%) | (%) | (lbs/ton) |
| HoCP 96-540 | 2017 (08/28) | 2.02 | 82 | 0.85 | 1.21 | 13.60 | 10.65 | 71.65 | 148.4 |
| | 2016 (08/29) | 1.61 | 80 | 0.78 | 1.18 | 12.84 | 9.29 | 72.23 | 160.6 |
| | 2015 (08/31) | 1.80 | 78 | 0.84 | 1.16 | 12.59 | 9.04 | 78.25 | 155.5 |
| | 2014 (08/25) | 1.32 | 63 | 0.81 | 1.14 | 11.62 | 7.82 | 67.24 | 129.3 |
| | 2013 (08/26) | 1.31 | 73 | 0.76 | 1.10 | 10.20 | 6.25 | 61.22 | 96.7 |
| HoCP 00-950 | 2017 (08/28) | 1.93 | 75 | 0.91 | 1.08 | 17.10 | 14.78 | 79.13 | 219.6 |
| | 2016 (08/29) | 1.41 | 68 | 0.79 | 1.16 | 15.21 | 11.90 | 78.28 | 217.0 |
| | 2015 (08/31) | 1.65 | 68 | 0.89 | 1.08 | 14.99 | 11.73 | 85.53 | 213.9 |
| | 2014 (08/25) | 1.28 | 59 | 0.86 | 1.05 | 14.25 | 10.70 | 75.01 | 190.7 |
| | 2013 (08/26) | 1.39 | 67 | 0.82 | 1.11 | 13.41 | 9.74 | 72.58 | 170.4 |
| L 01-283 | 2017 (08/28) | 1.55 | 82 | 0.72 | 1.30 | 13.70 | 10.63 | 77.52 | 192.7 |
| | 2016 (08/29) | 1.61 | 81 | 0.76 | 1.22 | 14.17 | 10.91 | 76.94 | 197.3 |
| | 2015 (08/31) | 1.63 | 78 | 0.82 | 1.09 | 13.83 | 10.48 | 82.73 | 187.8 |
| | 2014 (08/25) | 1.45 | 76 | 0.78 | 1.11 | 13.10 | 9.39 | 71.59 | 163.0 |
| | 2013 (08/26) | 1.23 | 72 | 0.72 | 1.17 | 12.35 | 8.64 | 69.93 | 147.9 |
| L 01-299 | 2017 (08/28) | 1.74 | 86 | 0.75 | 1.26 | 12.46 | 9.04 | 72.55 | 155.1 |
| | 2016 (08/29) | 1.55 | 85 | 0.72 | 1.23 | 12.22 | 8.56 | 70.02 | 143.9 |
| | 2015 (08/31) | 1.70 | 81 | 0.82 | 1.11 | 12.24 | 8.78 | 78.23 | 149.5 |
| | 2014 (08/25) | 1.29 | 74 | 0.73 | 1.13 | 11.91 | 8.05 | 67.58 | 132.3 |
| | 2013 (08/26) | 1.31 | 74 | 0.74 | 1.15 | 10.87 | 6.98 | 64.14 | 110.8 |
| HoCP 04-838 | 2017 (08/28) | 1.88 | 78 | 0.84 | 1.20 | 12.53 | 9.66 | 77.05 | 169.7 |
| | 2016 (08/29) | 1.45 | 70 | 0.79 | 1.17 | 13.86 | 10.34 | 74.93 | 183.0 |
| | 2015 (08/31) | 1.55 | 75 | 0.82 | 1.09 | 12.20 | 9.15 | 81.97 | 158.5 |
| | 2014 (08/25) | 1.21 | 61 | 0.79 | 1.13 | 11.91 | 8.37 | 70.19 | 139.7 |
| | 2013 (08/26) | 1.32 | 72 | 0.77 | 1.09 | 10.96 | 7.71 | 70.14 | 128.5 |
| Ho 07-613 | 2017 (08/28) | 2.18 | 88 | 0.87 | 1.17 | 13.44 | 10.39 | 77.32 | 188.2 |
| | 2016 (08/29) | 1.80 | 83 | 0.80 | 1.20 | 13.13 | 9.95 | 75.79 | 178.4 |
| | 2015 (08/31) | 1.99 | 85 | 0.92 | 0.98 | 13.13 | 10.03 | 83.41 | 180.4 |
| | 2014 (08/25) | 1.66 | 74 | 0.86 | 1.09 | 12.31 | 8.76 | 70.92 | 151.4 |
| | 2013 (08/26) | 1.68 | 78 | 0.83 | 1.10 | 11.89 | 8.40 | 70.70 | 144.8 |
| HoCP 09-804 | 2017 (08/28) | 1.57 | 83 | 0.77 | 1.12 | 14.59 | 11.64 | 79.78 | 208.1 |
| | 2016 (08/29) | 1.12 | 72 | 0.66 | 1.27 | 14.50 | 11.34 | 78.20 | 202.6 |
| | 2015 (08/31) | 1.48 | 79 | 0.81 | 1.02 | 14.28 | 10.84 | 82.96 | 190.8 |
| | 2014 (08/25) | --- | --- | --- | --- | --- | --- | --- | --- |
| | 2013 (08/26) | --- | --- | --- | --- | --- | --- | --- | --- |
| L 11-183 | 2017 (08/28) | 1.85 | 80 | 0.85 | 1.12 | 12.44 | 9.11 | 73.26 | 157.2 |
| | 2016 (08/29) | --- | --- | --- | --- | --- | --- | --- | --- |
| | 2015 (08/31) | --- | --- | --- | --- | --- | --- | --- | --- |
| | 2014 (08/25) | --- | --- | --- | --- | --- | --- | --- | --- |
| | 2013 (08/26) | --- | --- | --- | --- | --- | --- | --- | --- |
| Averages[4] | 2017 (08/28) | 1.84 | 82 | 0.82 | 1.18 | 13.73 | 10.74 | 76.03 | 179.88 |
| | 2016 (08/29) | 1.51 | 77 | 0.76 | 1.20 | 13.70 | 10.33 | 75.20 | 183.25 |
| | 2015 (08/31) | 1.72 | 78 | 0.85 | 1.07 | 13.03 | 9.70 | 81.30 | 170.9 |
| | 2014 (08/25) | 1.40 | 68 | 0.82 | 1.10 | 12.40 | 8.70 | 69.80 | 147.1 |
| | 2013 (08/26) | 1.40 | 73 | 0.79 | 1.10 | 11.37 | 7.61 | 66.58 | 125.5 |

[1] Data for each parameter represents the average of four replications of 10 stalks each.
[2] Stalk diameter and density will be taken on the 1st, 4th and 8th maturity study sampling dates.
[3] Brix factor = 0.8854; Sucrose factor = 0.8105.
[4] Averages are based on all varieties in the first-stubble maturity study.