

Brixing to Improve Sugarcane Quality



Brixing at midpoint of stalk



Refractometer



12.4 Brix

Maturity (ripening) is a continuous process during the growing and harvest season. During stalk growth, each internode (joint) tends to function as a single unit. While it has a leaf attached, the internode completes cell elongation and cell-wall thickening and tends to complete filling its storage volume with sugars, the most of which is sucrose. Hence, the internodes have generally completed their cycle by the time the attached leaf dies, and the lower ones are essentially ripe while the upper part of the stalk is still growing.

With stalk maturation, more and more internodes reach the same condition and a progressive increase in brix (total soluble solids to include sucrose) is observed. In mature cane, most of the soluble solids are in the form of sucrose. Ripening is an ongoing process that becomes particularly evident when environmental conditions, such as cool, dry weather, constrain stalk elongation.

In many countries, representative cane samples are taken, and detailed analyses for brix, pol and purity are made in the laboratory; however, the common practice is to test the standing cane in the field for brix with a hand refractometer, which is a measure of the amount of sucrose in the juice and/or cane. To obtain the brix, a punch is used to extract and accumulate a small juice sample from the middle internode of at least two stalks within the stool. A hand refractometer brix is read and compared to the brix of other fields and/or varieties with or without Polado to determine the field or fields to treat and/or harvest.

The fields found with the highest brix should be treated with Polado first. After treatment with Polado, the fields with the highest brix should be harvested first. As the season progresses, it may become necessary to brix at a higher level on the stalk nearer to the top.

For additional information, contact Dr. Benjamin L. Legendre, sugarcane specialist and professor, LSU AgCenter, at 225/642-0224.

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Issued in furtherance of Cooperative Extension work, Acts of Congress of May 8 and June 30, 1914, in cooperation with the United States Department of Agriculture. The Louisiana Cooperative Extension Service provides equal opportunities in programs and employment.