

## Evaluation of quality and yield of sugarcane (*Saccharum officinarum*) CB 47-355 variety to animal feeding in Porto Velho, Northern Brazil.

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The aim of this study was to evaluate of quality and yield of sugarcane CB 47-355 variety, under conditions of Northern Brazil, in Porto Velho, RO. A mixture of sugarcane and urea constitutes a feed supplement for cattle in the amazon region, whose ingredients serve as a source of energy and protein. As a perennial crop, relatively easy to set up and managed in small farms, the *Saccharum* have a low cost per ton produced. The determination of optimum harvest, included to feed animal, is linked to brix of juice. This monitoring work was conducted to evaluate the following variables: number of tiller (NT, unity per linear meter), brix° (BRIX, degree), plant height (H, m), fresh tiller weight (FTW, in g tiller<sup>-1</sup>), fresh matter yield (FMY, kg ha<sup>-1</sup>), dry matter content (DM, %), dry matter yield (DMY, kg ha<sup>-1</sup>), in dry season, traditional period of cutting to provide sugarcane to cattle. The varieties of sugarcane were planted at beginning of November 2011, after were sampled in five months: June, July, August, September, and October 2012. The sugarcane plantation area was 0.67-ha, with each cutting at on a plot of 2 linear meters, spaced at intervals of 1.0-m. The fertilizer doses were chosen to extend recommendations based on the yield and soil sample analysis, to reach saturation of 60% of total bases. The rate of 90-120-120 kg ha<sup>-1</sup> was used of formulate of N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O kg ha<sup>-1</sup>, respectively, in according to the tables of IAC, typical of Southeast. The BRIX measurement was made using the model RT-30STC portable refractometer, due to physiological maturity of the sugarcane being linked uniformity of the accumulation of sugars. The experiment was arranged in randomized blocks design, with five periods and three replicates to NT, FTW, FMY, DM, DMY, and fifteen replicates to analysis BRIX and H, where the replicate was done about tiller by cutting. The sampling period coincides with the period of drought in the region. The results for NT, FTW, FMY, DM, DMY, DM, DMY were higher than the literature (harvest in June) for the region, lower for height and similar for the Brix found. The results obtained for BRIX with quadratic model with highest value observed in August, followed by a slight decline until October. The maturation of sugarcane in Southeastern Brazil occurs naturally at beginning of May, peaking from September-October. However, due to the dry season is shorter in Rondônia, the concentration of sugars still remained low in June-July, while the reallocation of sugars has already started with the rains in October, period of highest growth according to follow equation:  $BRIX = -27.744643 + 0.314347x_i - 0.000519x_i^2$ . The maximum level occurred about 300 days after planting. The height and number of tillers have not changed along the periods. The height, number of tillers and all variables related to yield mass have not changed along the periods, showing that the evaluation occurred after stabilization in growth due to climatic limitations, as expected. The results confirmed the use of sugarcane CB 47-355 variety under local conditions in Porto Velho, during the dry season, without prejudice to the quality of animal feed, and the apex of the nutritive value occurs about 300 days after planting, during August month.

**Keywords:** brix, sugarcane, yield, supplement, dry season, Amazon.

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