

3rd International Conference on

FOOD CHEMISTRY & NUTRITION

May 16-18, 2018 | Montreal, Canada

***Borassus aethiopicum* mart mature fruits macro-composition, drying temperature effect on its pulp protein, fat, sugars, metabolizable energy and fatty acids profile**

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The work aimed to study *Borassus aethiopicum* Mart (Ba) dried pulp nutritional value for its incorporation in human and poultry diets. Firstly, the mature fruits' macro-composition was assessed. Secondly, the pulp was dried at 40, 50, 60, 70, and 80°C. Thereafter, analysis was performed for fat, protein, total sugars, Ca²⁺, P, Mg²⁺, and fatty acid profile monitoring. As a result, the fruits weighed 1,591.35±458.92, delivered 516.73±183, and 677.82±215.57 grams of pulp and seeds, respectively. Mainly, increasing heat adversely affected the outputs. Consequently, the fat results were 14.12^a, 12.97^b, 8.93^c, 8.89^c, and 5.56^d%; protein contents were 11.64^a, 10.15^b, 8.97^{bc}, 8.84^{bc}, and 8.42^c%; total sugar deliveries were 6.28^a, 6.05^a, 5.26^b, 5.02^{bc}, and 4.76^c% (P<0.01). Thereafter, the metabolizable energies were 3,785.22^{ab}, 3,834.28^a, 3,616.62^c, 3,667.03^{bc}, and 3,608.33ckcal/kg. Additionally, Calcium (Ca²⁺) contents were 0.511^c, 0.553^{bc}, 0.695^{abc}, 0.768^{ab}, and 0.806^a%, while phosphorus (P) mean was 0.172±0.009%, and the differences weren't significant (P<0.01). So, the Ca²⁺/P ratios were 2.794^c, 3.043^{bc}, 4.097^{ab}, 4.711^a, and 4.951^a. Finally, fatty acids (FA) assessments revealed 22.33±1.11 saturated (SFA), 77.67±1.11 unsaturated (UFA), within which 67.59±1.68% were monounsaturated (MUFA). Interestingly, the rising heat depressed n-6/n-3 ratios that were 1.1, 1.1, 0.45 and 0.38, respectively at 40, 50, 70 and 80°C. In short, drying did not only enhance the product shelf life but it also improved the nutritional value. Thus, Ba mature fruits' pulp dried at 50 or 70°C is a very good functional food, with more than 66% MUFA, and energy source for human and poultry nutrition.

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