Sensory profile of chocolates produced from cocoa varieties grown in Bahia (Brazil) aiming resistance to witches' broom disease and improvement of quality

1 Silva, Adriana Reis de Andrade; 1 Efraim, Priscilla; 2 Pires, José Luis; 3 Rosa, Eimar Sampaio.

1 School of Food Engineering, University of Campinas - UNICAMP, Rua Monteiro Lobato 80, 13083-862 Campinas, São Paulo, Brasil.
2 Executive Committee of the Plan of Cocoa Farming – CEPLAC. Rodovia Ilheus-Itabuna, km 22, 45600970 - Itabuna, BA - Brasil.
3 M. Libânio Agrícola S.A. Rua Manoel Libânio da Silva, Centro, Gandu 100, 45.450-000 - Bahia - Brasil

Due to the crisis in Brazilian cocoa production since the end of the 80’s, varieties resistant to pests and diseases, with high productivity, have been selected by genetic improvement programs and also by the cocoa producers. Considering the current interest in improving the quality of cocoa and chocolate in Brazil, it becomes relevant to evaluate the sensory quality of such varieties to aim the industrial processing of chocolates. Twenty-three varieties of cocoa (some of them recently cultivated by the Brazilian producers) were investigated to target superior quality characteristics. Chocolates were produced with liquor (65%), sucrose (35%) and soy lecithin (0.4% t.w) from cocoa beans harvested in a same period, fermented and dried under standard protocols. The sensory profile of the samples was evaluated by Quantitative Descriptive Analysis (QDA) with trained panelists. The results were analyzed by two-way ANOVA and Tukey’s test. Distinct profiles were observed between the samples. The varieties FM31 and TSA792 showed a more pronounced caramel flavor. The variety EET 397 was evidenced by its floral flavor and the variety COMUM received the highest score for sweet taste. The variety CA1.4 presented the highest scores for sour, bitter and astringent taste and the lowest score for sweet taste. There was no statistical difference between all the cultivars for the attributes flavor and aroma of chocolate. The method used in this study found differences between the tested varieties and showed sensory aspects that may be of interest to the development of chocolate and to the Brazilian cocoa genetic improvement.