USE OF AN EXPERIMENTAL DESIGN FOR OPTIMIZING THE FORMULATION OF A CLARIFIED FRUIT JUICE MIXTURE

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Blends, juices obtained from different fruits that present a mixed flavor and aroma characteristic depending on their original fruits composition, are products with increasing acceptance in fruit juice market. Although blends are valorized by their potential enriched nutritional value, their sensory acceptability is an essential parameter for their commercial success. Then, the aim of this work was to evaluate sensory parameters of clarified fruit juice formulations by using a two factor simplex-centroid experimental design. Membrane clarified coconut water, *açaí* and *acerola* juices were used as raw materials, fixing the *açaí* juice concentration in 20% and varying the two other components performing five treatments. Color and global acceptance (87 consumers) were the evaluated attributes. Results showed that there was not a significant difference ($p<0.05$) among the five formulations for both attributes. The color of the juice blends could be represented by a quadratic model; by analysis of variance it was possible to verify that the contents of coconut water and *acerola* juice, separated, have a positive effect on the color acceptance. The global acceptance of the formulated drinks presented no significant fitting for a linear or quadratic model, although by Pareto chart it was possible to observe that the individual effect of juices contents is positive and that their interaction is negligible. Considering the low global acceptance scores (about 4.5) for all the formulations and the statistical evaluation, the results suggest that binary mixtures like *açaí* and coconut water or *açaí* and *acerola* could, probably, get better acceptance scores.