Abstract

The Brazil nut powdered milk was featured in order to evaluate its processing yield and the toxicological aspects concerning selenium (Se) and aflatoxin (AFL). The tests followed a type $2^2$ factorial design, using the drying adjuvant types (maltodextrin and Arabic gum) as independent variables. The dependent variables were the extracts technological features and the adjuvant ratios. Among the tested products, the selected one had 30% Arabic gum and showed 26.83% yield. Its mean protein content was 30.12% and physicochemical features helped preventing microbial deterioration throughout 60 storage days at room temperature. However, the Se and AFL contents should be monitored because the spray dryer atomization appears to concentrate these variables content, when they are found in the raw material, thus affecting the finished product safety.

Practical applications

The research revealed the properties of the Brazil nut powdered milk as a source of non-dairy protein, especially to vegan and to healthier consumer's diet. This approach provides an alternative product instead soymilk to consumers allergic to bovine milk. The spray drying method adds value to the raw product (native seed) in order to provide a new ingredient for culinary and industrial formulations.