Abstract

Total solids, starch, reducing sugars and the specific gravity of 3 promising potato varieties of recent introduction to Costa Rica (MNF-41, MNF-72 and MNF-80) and the most commonly cultivated variety Floresta, were compared using gravimetric and spectrophotometric analyses. In addition, fat content using the Soxhlet method, and instrumental color and texture parameters of the processed products (french fries prepared with pre-fried frozen sticks and potato chips) were determined. The variety MNF-80 showed the highest total solids and starch contents, with values of 23.1 and 20.8 %, respectively; while the variety Floresta showed the lowest contents with 15.9 and 13.4%, respectively. A correlation of the total solids content with the specific gravity of the materials under study was found (R²=0.97). The variety MNF-80 showed the lowest content on reducing sugars with 0.076%, while varieties MNF-41 and MNF-72 showed the highest values of 1.142 and 1.384%, respectively. For french fries, the highest fat content was observed for the variety MNF-80 and the lowest for varieties MNF-72 and Floresta, but no difference among varieties was observed in respect to browning degree and firmness. In the case of potato chips, the variety MNF-80 showed the lowest fat content and browning. Lowest fat contents in the finished products of frozen-prefried potato sticks were observed when using varieties MNF-72 and Floresta. On the other hand, lower fat contents on potato chips were observed when using the variety MNF-80.

Keywords

Starch, reducing sugars, fried products fat, total solids, texture.