**Formulation of a drink based on quinoa and other vegetable protein sources, with good palatability**

Quattrocchio FG. (1), Morales JA (1), Montoya PP (1), González A (2); Bordón MG (1)(2); Martínez ML (1)(2), Calandri EL (1)(2)

(1) Instituto de Ciencia y Tecnología de los Alimentos (ICTA) – Universidad Nacional de Córdoba (UNC), Argentina.

(2) Instituto de Ciencia y Tecnología de los Alimentos Córdoba (ICyTAC) – CONICET- UNC.

Dirección de e-mail: edgardo.calandri@unc.edu.ar

RESUMEN

Current preferences for healthy consumption involve foods that exclude those of animal origin, so vegetable drinks that mimic those of dairy origin are a growing need. In the present work a vegetable drink based on quinoa and chia, two well considered ancestral seeds nowadays, was developed. The target was a liquid food that contains the high-quality proteins and fatty acids from quinoa and chia, respectively. Therefore, the product main ingredients were quinoa flour and chia expeller. After a two-level screening test, quantities of 17.5 % and 2.5% of whole quinoa flour and chia expeller were selected, respectively. Both raw materials were dispersed in water, ground in a colloid mill and enzymatically treated. The effect on viscosity and sedimentation of the drink, due to concentration and time of application of three enzymes (fungal and thermostable α-amylases and a glucoamylase) was evaluated using a Box-Behnken response surface design with three levels. The statistical analysis showed that the fungal α amylase and glucoamylase did not exerted a significant effect on the two parameters evaluated; however, the thermostable amylase did. The optimal formulation was obtained under the next conditions: 1.7% thermo amylase and 0.6% glucoamylase for 45 min at 60 ° C. The developed vegetable drink presented a viscosity similar to a commercial drinkable yogurt and negligible sedimentation, a mean particle size of 30.18 μm (φ: 1.4) and an average color (Cie Lab) L: 80.69, a: 1.87 and b: 10.83. The product presented the following composition. 16.2% carbohydrates, 2.90% proteins, 1.61% lipids and 0.97% ashes.

Palabras Clave: drink, health, vegetable, protein, lipids.