

P2.14 - CHEMICAL COMPOSITION AND ANTIOXIDANT CAPACITY OF TWO QUINOA (CHENOPODIUM QUINOA) FLOUR VARIETIES FROM PERU

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ABSTRACT

Food insecurity, malnutrition, and environmental problems are critical challenges for which a solution has been sought for decades. However, no great progress has been made. Although organizations such as FAO, UNICEF, WHO, and WFP make efforts to eradicate hunger and malnutrition by 2030, the goal is far from being achieved, making the situation even worse with the pandemic and the Ukrainian war. One of the strategies proposed to solve this problem is the transformation of food systems, considering sustainability and protection of biodiversity, in addition to increasing access to affordable and healthy diets. In this context, researching and disseminating information about ancestral grains such as quinoa is important, considering that this crop originating from the Andes is world-renowned for its nutritional value, functional properties, and agronomic versatility. Two varieties of quinoa flour from Junín – Peru, were evaluated: Rosada de Huancayo (RH) and Pasankalla (PK). RH was characterized by a good grain size and white color, while the PK showed red color, indicating potential antioxidant properties. In the proximal evaluation, the protein, insoluble dietary fiber, and soluble dietary fiber contents showed significant differences ($p < 0.05$). RH variety presented the highest protein content ($19.41\% \pm 0.67$, dry basis) compared to the PK ($17.35\% \pm 0.54$, DB), while for insoluble and soluble dietary fiber, this was higher in the PK variety ($14.60\% \pm 0.46$; $0.96 \pm 0.13\%$, DB respectively). In the case of minerals, zinc, manganese, and copper contents were higher in PK, while a higher phosphorus and potassium content was found in RH. Regarding polyphenols and antioxidant capacity, the PK variety had the highest values and showed significant differences ($p < 0.05$) with respect to RH. Both varieties of quinoa presented good nutritional and functional quality, showing values equal to or higher than those of the most consumed cereals such as wheat and corn.