



## **Quinoa symposium 2024**

**- Abstract book –**

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## Novel Food Products Using Quinoa

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Until recently, many so-called neglected and underutilized species (NUS) were not present in global markets despite playing a pivotal role in the local livelihoods in their places of origin. Today, they receive substantial global interest and face growing global demands. Nowadays, these crops receive global interest especially from health-conscious consumers attracted to their unique nutrient compositions. Due to their increased popularity, many NUS are labelled as “superfoods”, further increasing consumer demand and resulting in the rise of prices. Sudden increases in consumer demand had conducted in a rapid global expansion of quinoa cultivation. The NUS boom and bust cycle, with the quinoa from the Andean region, was well documented but, in this research, we highlight the positioning of new actors in the global market centered on the exceptional nutritional profile of quinoa grains.

The market for gluten-free (GF) products is in full expansion due to an increasing demand at global level, both concerning celiac patients and health-concerned consumers. Rice and maize are primary substitutes for wheat, but their nutrient composition contributes to the poor nutritional quality of current GF products, aggravating patients' deficiencies. Quinoa stands out among GF flours due to its high-quality protein (11-23%) with a good balance among all the essential amino acids. Rich in B-vitamins, tocopherols, minerals, and fiber, quinoa shows promise for enhancing the nutritional content of GF foods.

First, new countries of quinoa producers must differentiate themselves by food innovations that can open new markets for quinoa. If not, high competition on quinoa global market will be too high for entering into this market. Second, considering quinoa's high nutritional value is key first for developing innovative foods. But considering at the same time its high genetic diversity of quinoa is crucial for understanding the high variability of its nutritional profile. Third, recognizing quinoa nutritional value linked to its genetic diversity will open new pathways for using specific quinoa nutritional and technological traits.

A diversity of quinoa varieties with special components can be transformed in quinoa flours as Gluten-free blends to enhance the composition for specific food innovations. Quinoa flour

shows promise in replacing current flours in GF products, but a comprehensive characterization of its macro- and micronutrients is essential for optimal quinoa selection as it may have an important impact during the food process and the final content of the products.