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# Book of Abstracts



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## Unraveling quinoa domestication with wild ancestors

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### Abstract

There is little knowledge about the genetic, geographic and climate adaptation mechanisms and patterns involved in quinoa domestication. Its high nutritive value associated with a combination of traits conferring tolerance to extreme temperatures, water deficits and salinity stress make this crop an interesting research subject. Recently, the interest in its consumption and cultivation grew dramatically beyond its traditional cultivation range raising new challenges. Smallholder farmers are losing their traditional landraces because commercial interest is focused in just one genetic group and to the lack of tolerance to high temperatures and waterlogging. Being unpredictable weather conditions a central aspect of climate change, looking for sources of tolerance to these stresses is almost mandatory. *Chenopodium hircinum* -quinoa's wild ancestor-, is found in most lowlands in the Pampas and Chaco biomes in Argentina, Uruguay, Brazil, Paraguay and Bolivia. It produces fertile offsprings with quinoa. Germplasm conservation and evaluation of this species excluding Bolivia but only partially is almost null. This paper aims at unraveling quinoa domestication process and showing that some useful traits to face environmental changes were perhaps lost during domestication or during recent times.

**Keywords:** quinoa, *Chenopodium hircinum*, *Chenopodium quinoa*, wild relatives, global change, high temperature stress, water stress, domestication syndrome