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Trabajos en Prensa

Ex-situ conservation of native potato varieties. Case study of the 'Collareja' variety of northwestern Argentina

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ABSTRACT

The native Andean potato *Solanum tuberosum* Group Andigenum, it has been cultivated for millennia in the Northwest Andes of Argentina. The native potato varieties have a large diversity of shapes and colors of their tubers. One of the most widely distributed varieties in the NOA is the variety 'Collareja'. In the Active Bank of Germplasm of the EEA Balcarce - INTA (BAL) accessions of variety 'Collareja' are conserved, sampled from different departments and localities of Jujuy. In this study, the genetic variability of the accessions of the 'Collareja' variety conserved in the BAL was examined, while in parallel, a sample of 'Collareja' from an Andean farmer's field was evaluated morphologically and molecularly. The variability was examined with morphological descriptors and four Simple Sequence Repeat (SSRs). The spatial distribution of the phenotypic and molecular markers was calculated with multivariate statistical techniques, and the Polymorphic Index Content (PIC) was estimated for each SSR. The results revealed variability at the morphological and genomic level in the tubers of the 'Collareja' sample of the farmer's field. The accessions of 'Collareja' of the BAL also showed molecular variability, but differential with regard to that estimated in the farmer's field and with higher polymorphism according to the PIC values. With these preliminary results we discussed the morphological and molecular variability found, its possible impact on germplasm sampling, and ex situ and in situ conservation strategies on Andean potato varieties in general and 'Collareja' in particular.

Keywords: *Solanum tuberosum* Group Andigenum, traditional farming, in situ and ex situ conservation, microsatellites.

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