

Phenotypic diversity and relationships among Chilean Choclero maize (*Zea mays* L. *mays*) landraces

Por: [Salazar, E](#) (Salazar, Erika)^[1]; [Correa, J](#) (Correa, Jose)^[1]; [Araya, MJ](#) (Jose Araya, Maria)^[1]; [Mendez, MA](#) (Mendez, Marco A.)^[2]; [Carrasco, B](#) (Carrasco, Basilio)^[3]

[Ver ResearcherID y ORCID](#)

PLANT GENETIC RESOURCES-CHARACTERIZATION AND UTILIZATION

Volumen: 15

Número: 5

Páginas: 461-473

DOI: 10.1017/S1479262116000137

Fecha de publicación: OCT 2017

Tipo de documento: Article

[Ver impacto de la revista](#)

Resumen

Choclero is a Chilean traditional floury maize, consumed as a vegetable, with large economic and cultural value due to its culinary properties that give unique characteristics to the traditional local cuisine. Market diversification demands new materials with different ear and kernel characteristics, which are at present not fulfilled by breeders due to lack of genetic diversity. At present, the Instituto de Investigaciones Agropecuarias has a Choclero germplasm collection composed of 96 accessions, which can supply this lack of diversity, or increase the gene pool. In the present study, 34 selected Chilean Choclero landraces were characterized for 41 agromorphological traits. Phenotypic evaluation in three environments representative of the core production area revealed significant genetic variability for most of the evaluated traits, leading to the identification of several promising accessions. The greater contribution of genotype in most phenological plant, ear and kernel traits suggest their potential usefulness for breeding purposes. Principal component analysis explained over 75% of the total variation for 29 quantitative agromorphological traits. Cluster analysis separated accessions into four major groups, differentiated mainly by plant phenology and ear trait. These findings indicate a number of useful traits at an intra-racial level and a wide range of phenotypic variation that provides a good source of diversity for use in the development of new Choclero varieties.

Palabras clave

Palabras clave de autor: [Chilean landraces](#); [genetic diversity](#); [green corn](#); [trait correlation](#)

KeyWords Plus: [MORPHOLOGICAL TRAITS](#); [GENETIC DIVERSITY](#); [SWEET CORN](#); [CLASSIFICATION](#); [POPULATIONS](#); [ACCESSIONS](#); [URUGUAY](#); [MEXICO](#)

Información del autor

Dirección para petición de copias: Salazar, E (autor para petición de copias)

Inst Invest Agr, Ctr Reg Invest La Platina, Av Santa Rosa 11610, Santiago, Chile.

Direcciones:

[1] Inst Invest Agr, Ctr Reg Invest La Platina, Av Santa Rosa 11610, Santiago, Chile

+ [2] Univ Chile, Fac Ciencias, Las Palmeras 3425, Santiago, Chile

[3] Pontificia Univ Catholica Chile, Fac Agron & Ingn Forestal, Vicuna Mackenna 4860, Santiago, Chile

Direcciones de correo electrónico: esalazar@inia.cl

Financiación

Entidad financiadora	Número de concesión
CONICYT from the 'Programa Nacional de Becas de Postgrado - Doctorado'	D-21080026
Conservation of Genetic Resources Program of Instituto de Investigaciones Agropecuarias - INIA La Platina	501453-70

[Ver texto de financiación](#)

Editorial

CAMBRIDGE UNIV PRESS, EDINBURGH BLDG, SHAFTESBURY RD, CB2 8RU
CAMBRIDGE, ENGLAND

Información de la revista

- Impact Factor: [Journal Citation Reports](#)

Categorías / Clasificación

Áreas de investigación: Plant Sciences; Genetics & Heredity

Categorías de Web of Science: Plant Sciences; Genetics & Heredity