

Tunisia



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Project title

On-farm conservation and mining of local durum wheat and barley landraces of Tunisia for biotic and abiotic stresses, enhanced food security and adaptation to climate change

Overall objective: Enhance on-farm conservation and use of durum wheat and barley landraces for food security and adaptation to climate change

Crops addressed: Barley (*Hordeum*) and wheat (*Triticum spp.*).

Main activities

- On-farm and *ex situ* conservation of local landraces of wheat and barley
- Identification of useful diversity and hybridization to incorporate stress resistance
- Information exchange, technology transfer and capacity building in collection, conservation and utilization of wheat and barley.

Implementing institution

International Center for Agricultural Research in the Dry Areas (ICARDA) National Genebank of Tunisia

Related website

www.icarda.org

DURUM WHEAT AND BARLEY ARE THE major staple food crops of Tunisia, occupying one-third of Tunisian cereals' cultivated area. Therefore, there is a need to collect, conserve and sustainably use these precious resources, particularly in the face of recurrent droughts, pests and diseases affecting the country.

This BSF project aims to collect, conserve and mine wheat and barley landraces, as well as multiply the landraces with drought and disease resistance to positively impact income, food security and resilience of poor farming communities. All project activities revolve around the systematic inclusion and acknowledgement of the value of farmers' knowledge, skills and preferences, as well as their active participation in all the phases of project implementation.

Currently, 483 accessions of barley and 7206 accessions of durum wheat landraces have already been planted for seed multiplication at experimental stations. These are being evaluated against disease reactions, pests and abiotic stresses, various phenotypic traits and molecular diversity by farmers and scientists.

These landraces are to be used for 'diversity fairs' and farmers' participatory selection and evaluation. Over 233 landraces of durum wheat and barley conserved *ex situ* in other genebanks have been identified and repatriated for selection and evaluation. Five demonstration plots have been installed, covering all target regions and are being used by farmers for participatory selection of the landraces and evaluation of biotic stress tolerance reactions in different cultivating conditions.

This project is expected to enhance on-farm conservation and use of durum wheat and barley, and to initiate targeted hybridization to incorporate stress resistance into the farmers' preferred local landraces to increase yields and build resilience in face of climatic shocks.



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