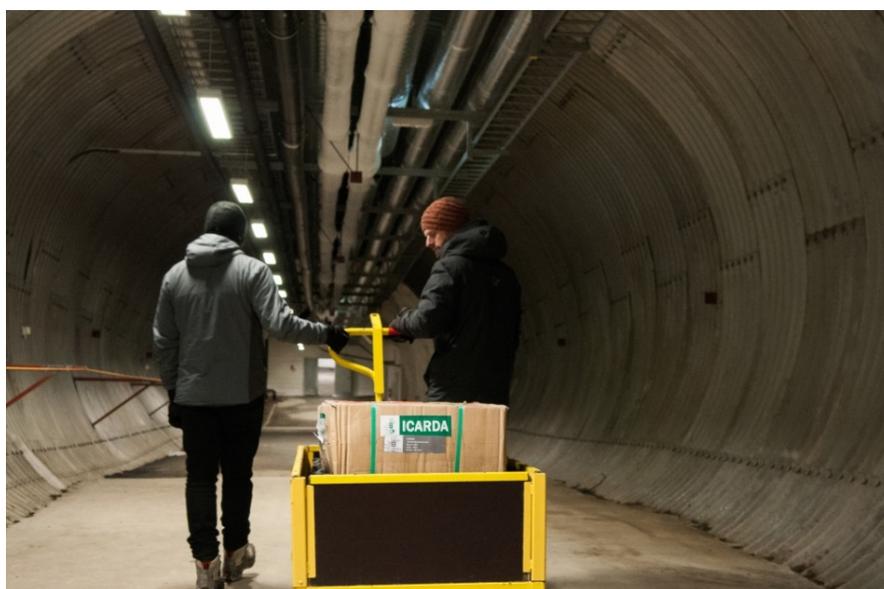


Ensuring our future with diverse food supply
World heritage seed collection makes its way from Syria to Svalbard
April 22, 2014

Beirut and Bonn, April 2014. More than 80 percent of the globally unique collection of crop genetic resources residing with the Genebank of the International Center for Agricultural Research in the Dry Areas (ICARDA) at Aleppo in Syria is now safely duplicated at the Svalbard Global Seed Vault in Norway. With the seventh shipment of seeds arriving in the Arctic facility in March 2014, the Svalbard seed vault has received a total of 116,484 plant genetic materials so far. The latest two shipments were sent by ICARDA's resident Genebank Team in October 2013 and February 2014 even as the difficulties continue in Syria.



Genetic Resources team at ICARDA, Aleppo, Syria, ready to send the seventh shipment to Svalbard Seed Vault, February 10, 2014



Seed shipment arrives at Svalbard Global Seed Vault, Norway March 5, 2014

Safeguarding these genetic materials is a critical mission for ICARDA, says its Director General, Dr. Mahmoud Solh. “We are entrusted with the genetic wealth from some 128 countries – a resource we cannot afford to lose as it ensures long-term public welfare.” The Genebank at Aleppo has been home to a globally important collection of landraces and wild relatives of cereals and legumes – many of them rare – collected through hundreds of collection missions over the past four decades. Dr Solh confirmed, “almost all the germplasm collections are now saved outside Syria.”

The ICARDA Genebank stores perhaps the world’s biggest collection of barley, faba bean and lentil crops in the world, along with ancient varieties of durum and bread wheat. It holds some 150,000 accessions, 65 percent of which are unique landraces and wild relatives of cereals, legumes and forages collected from regions in the world where earliest known crop domestication practices were recorded in civilization, such as the ‘Fertile Crescent’ in Western Asia, the Abyssinian highlands in Ethiopia and the Nile Valley, and the Central Asia and Caucasus region where a number of crops are known to have originated. Crops in these regions have developed naturally robust desirable genes from thousands of years of survival, adaptation and evolution.

Dr. Ahmed Amri, the crop scientist heading the Genetic Resources Unit at ICARDA explains that the Genebank holds a veritable treasure of seeds from indigenous crops in the world’s dry areas. “This is a uniquely rich resource for agricultural scientists seeking genes that can be used in international and national breeding programs to develop crop varieties tolerant to climate change, diseases, pests and harsh weather conditions.”

Marie Haga, leading the global mission in the conservation of crop diversity as Executive Director of the Global Crop Diversity Trust, commends the works carried out by ICARDA. “The loss of seed collections at times of conflict is an unfortunate fall out. We applaud the work of ICARDA’s Genebank staff which has gone above and beyond their duty to assure the conservation of this global heritage. We need to safeguard as much as possible of this diversity because any one of these varieties might have the trait we need to adapt to future known and unknown challenges”.

The last couple of years have been far from routine for the Genebank’s 12-member team in Syria, charged with duplicating the seed and documenting, packaging and shipping them to users around the world from the seed facility, located in Aleppo since 1983. With uncertain working conditions, a particularly demanding task has been accurately preparing the seed and labelling them with documentation, explains Dr. Ali Shehadeh, the lead scientist supervising the distribution effort. Proper cataloguing is imperative, he says, to ensure that seeds are stored in the correct location in the Global Seed Vault in Svalbard among some 20 million seeds from around the world. Sustained team efforts have, however, slowly but steadily, ensured the duplication and transfer of most of ICARDA’s plant genetic resources to the Svalbard seed vault.

The Svalbard Global Seed Vault holds the key to safeguarding the future of global food supply as it stores ‘back-up’ copies of seeds from genebanks the world over. The current situation for the globally important genebank in Syria precisely illustrates the purpose of the Seed Vault – to be a safety net for valuable seed collections”, says Svalbard’s Coordinator Ola Westengen.



The Seed Vault preserves safety duplicates at -18° C in an inert atmosphere surrounded by permafrost, ensuring seed conservation for generations to come. Some one-third of the world’s important food crop varieties are currently stored at the facility. Managed jointly by the [Global Crop Diversity Trust](#), the [Nordic Genetic Resource Center](#) (NordGen) and the Government of Norway, the facility is serving as the insurance plan for countries and the world in case of a catastrophic wipe out of crops.

“The role of gene collection in preserving crop biodiversity and ensuring future food supply has become particularly important as climate change poses a serious threat to crops and food security in the developing world,” emphasizes Dr. Solh, as ICARDA strives to improve food security in dry areas through its agricultural research-for-development initiatives.

Today, 98 percent of ICARDA’s accessions are also safely duplicated in other reliable genebanks outside Syria and the remaining 2 percent stored in the center’s relocation sites in Lebanon, Morocco and Tunisia.

ICARDA’s Genebank in Aleppo continues to operate albeit limited activities, delivering on core tasks such as maintaining the collections and distributing accessions to researchers and its extension partners around the world.