Red hot chili peppers arrive in sub-zero Arctic Seed Vault

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A new collection of some of North America's hottest foods—an eclectic range of New World chili peppers—were delivered to the cool Arctic Circle environs of the Svalbard Global Seed Vault this week, where their exotic tongue-scorching qualities can be kept safe for centuries.

The seeds were delivered to the vault by a seven-person bipartisan delegation from the U.S. Congress, led by Senator Benjamin L. Cardin (D-MD), Chairman of the U.S. Helsinki Commission, and including Assistant Senate Majority Leader Dick Durbin (D-IL). The seeds were handed over to Dr. Cary Fowler, Executive Director of the Global Crop Diversity Trust, the institution that funds the operation and management of the seed vault, as well as the transport of unique seeds from collections around the world. The latest samples of seeds come from the United States Department of Agriculture (USDA) National Plant Germplasm System (NPGS) in Fort Collins, Colorado.

Other members of the bipartisan delegation are: Chris Smith (R-NJ), the Helsinki Commission's Ranking Republican; Senator Tom Udall (D-NM); Representative Louise McIntosh Slaughter (D-NY); Representative Robert B. Aderholt (R-AL); and Representative Lloyd Doggett (D-TX).

The so-called "doomsday" seed vault now contains seeds of more than 525,000 crop varieties, making it the most diverse assemblage of crop diversity amassed anywhere in the world. Overall, this week's deposit consists of a total of 537 varieties of 13 crops.

It includes Wenk's Yellow Hots, a pepper that starts out yellow and hot and cools somewhat to red and medium-hot; Pico de Gallo or "Rooster's beak," a medium-hot salsa staple; and the unpredictable San Juan "Tsile," a New Mexico chili still grown by elder farmers in a Native American pueblo that can be anything from mild to medium to hot.

"The world is interdependent when it comes to crop diversity, the essential raw material needed for a healthy and robust food supply," said Senator Cardin. "As we manage the impact of climate change around the world, the seed vault in Svalbard will be the safety deposit box that ensures we can keep that food supply intact."

"The journey of the chili pepper from the indigenous cultures of the Americas to its current status as an essential ingredient in many Indian and Asian cuisines is a marvelous example of the global disbursement of agricultural diversity," said Senator Udall. "I'm very pleased that we are saving one of New Mexico's most famous and most delicious crops in the Svalbard Global Seed Vault."

The USDA's Agricultural Research Service (ARS) has sent tens of thousands of seeds from its National Plant Germplasm System to the Svalbard Global Seed Vault since January 2008. "Our goal, over the next 10 to 15 years, is to have the majority of the system's 511,000 collections represented in the Svalbard vault," said Edward B. Knipling, ARS administrator.

He added, "While we've sent samples from some very familiar crop species, such as maize, soybeans, and peanuts, we're also sending more exotic germplasm, such as seeds of the wild strawberry Fragaria iturupensis, collected from the island of Iturup on the lower flank of the Atsunupuri Volcano in far eastern Russia. ARS has a strong commitment to sharing its crop diversity to ensure that Svalbard is well positioned to help protect the world's genetic diversity."

In addition to the assortment of chili peppers, the Fort Collins collection also deposited in the vault this week melons, peanuts, beans, sesame, hibiscus, squash, gourd, and 448 different varieties of sorghum. Sorghum is a crop that is grown around the world and is a dietary staple for 500 million people in over 30 countries. It is getting renewed attention as a "climate change ready" crop due to its ability to withstand hot and dry conditions.

"Sorghum is an amazingly versatile crop—it's used for flour, bread, animal feed, beer and, increasingly, biofuels—and it's likely to become ever more important to global food security given its drought tolerance," said Fowler. "But production in many areas is threatened by insect pest and plant disease," he continued. "This intensifies the need to conserve sorghum diversity so that plant breeders can find the genetic traits they need to equip this important crop for these challenges."

The seed vault was constructed deep in a mountain on a remote Norwegian archipelago near the North Pole as a fail-safe back-up to existing crop collections around the world. Collections are constantly under threat from wars and natural disasters but also small but important threats like lack of funding to pay for electricity to store seeds in refrigerators. The seeds in the vault are the property of the country or institution that sent them and are available in the public domain through these institutions. Crop collections around the world serve the daily needs of farmers and plant breeders in their work to find new traits that can boost yields or address problems posed by diseases, pests or shifting climate conditions.