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15 Crops Secured in the Svalbard Global Seed Vault

Walk into almost any grocery store around the globe and you’ll find hundreds and hundreds of products, but this diversity is misleading. Out of the roughly 30,000 plant species that exist, “60 percent of calories globally come from four crops: rice, wheat, corn, and potatoes,” says Marie Haga, Executive Director of Crop Trust. “So when you go to supermarkets and see thousands of different products, you’ll actually find that just a few crops have contributed to whatever is in it.”

Seed genebanks across the world like the International Crop Research Institute for the Semi-Arid Tropics, NordGen, and The World Vegetable Center preserve genetic material of biodiverse plants by stocking seeds and freezing plant trimmings. The millions of samples genebanks have collected provide a means to protect diversity for plant breeders in the future who may want to harness specific qualities and capabilities from crops—like drought resistance, heat resistance, and natural pest-resistance.

Recognizing the important role these genebanks play, but also their susceptibility to local political crises and natural disasters, the Norwegian Ministry of Agriculture and Food, five additional ministries, NordGen, and the Crop Trust prepared and planned a global seed vault in Svalbard. Storing nearly 1 million seeds from genebanks worldwide in a cave at -18 degrees Celsius, the Svalbard Global Seed Vault ensures that if a genebank’s seeds vanish or fall into ruin, much the world’s biodiversity will still remain helping ensure food security.

Food Tank is excited to highlight 15 crops under the Svalbard Global Seed Vault’s protection.

1. Alfalfa
Alfalfa plays important roles in soil health, insect diversity, and irrigation efficiency on sustainable farms across the world. With three types of alfalfa sourced from large countries like Canada and China, the seed vault’s storage helps genebanks ensure future biodiverse alfalfa production not only for the crop itself, but for the other crops it supports.

2. Chickpea
Chickpea seeds from countries primarily in the Middle East and South Asia sit in the vault protected from future genebank disasters. The crop is a staple ingredient in India, Nepal, Pakistan, and Bangladesh, and its flour is gaining popularity in developed countries like the United States. To protect a positive future for chickpea seeds, over a dozen genebanks sent samples of their seeds for protection.

3. Coriander
A prominent herb in Indian, Mexican, and Thai diets, coriander’s vitality matters for global diets; however, in today’s rising temperatures, coriander may finish its life cycle more quickly. Genebanks in Russia, Canada, Germany, Austria, and the United States sent seed samples to the seed vault to back-up their own seed stocks, experiments, and research.

4. Corn
Even standard corn—or Zea mays—alone represents the work of over 30 genebanks to protect the world’s biodiversity and capacity to produce food. While corn is only one of 30,000 edible plant species that exist, it is one of four crops that altogether provide 60 percent of calories globally. Genebanks stored seeds from countries like Mexico, South Korea, Venezuela, and the United States to protect their own stocks of seeds.

5. Cowpea
Cowpea—or blackeye pea—seeds from Argentina, Antigua and Barbuda, Brazil, Columbia, and more provide African, Latin American, Southeast Asian, and American genebanks with reassurance in the face of climate change and poor biodiversity. While this reassurance can help comfort cowpea eaters, for whom cowpea is the first harvested crop each
year, it also comforts meat eaters around the world: farmers may favor cowpea as livestock feed in certain economic and climate conditions.

6. **Jack Bean**
Called the pig bean in Brazil, the jack bean is mildly toxic unless properly boiled. Yet, it is a drought-resistant source of livestock feed due to its deep roots. Sourced mainly from Brazil, the seeds in the seed vault represent a biodiverse livestock feed option that can resist climate effects like drought.

7. **Kidney Bean**
While new diet guidelines recommend eaters choose beans over beef to protect the planet, kidney beans pack extra potential as they only require a **tenth** of the water required to produce beef. Over 25 genebanks sent seed samples from Ecuador, India, Tanzania, Turkey, and more to protect the crop for the future.

8. **Oat**
Oat species like the common oat, animated oat, wild oat, and lopsided oat contribute not only to diets across the world, but also livestock feed. And although farmers regard some strains of oats as weeds, others consider oat plants as the newest opportunity for sustainable agriculture as powerful cover crops. The seed vault helps secure this potential for oats sourced from countries like Eritrea, Ethiopia, Poland, Germany, and more.

9. **Pea**
The rising popularity of pea varieties as an important ingredient for alternative meats might forecast a rise in pea production worldwide: global pea protein sales may even **quadruple** by 2025. In an effort to ensure global biodiversity, genebanks store multiple pea varieties at the seed vault including the garden pea, wild pea, and tawny pea from countries like Syria, Kyrgyzstan, Russia, and more.

10. **Potato**
Although the vault contains nearly 800,000 Irish potato seeds, the seeds from wild and lesser known potatoes provide a back-up for genebanks. As potato is a staple root vegetable all over the world, the vault’s supply provides an important back-up for genebanks experimenting with harnessing wild genomes for domesticated crop climate resilience.

11. **Rice**
With species of rice like African rice, wild red rice, and long-stamen rice, the seed vault has accumulated a back-up rice seed bank for genebanks all over the world. Sourced from countries like China, the Democratic Republic of the Congo, India, Japan, North Korea, Pakistan, and more, stocks of rice seeds represent that the world’s race to maintain biodiversity transcends political bounds.

12. **Sesame**
While sesame is considered **drought tolerant**, it requires good soil moisture and nutrition to take root. Sesame seeds from countries like Nigeria, Yemen, and South Korea stored in the seed vault help genebanks store sesame seeds amidst rising sesame production rates worldwide.

13. **Soybean**
Soybeans can produce both protein-rich foods and fuel. While soybean meal contributes to plant-based meat replacements, **98 percent** of the meal is used for animal feed—and humans use **88 percent** of soybean oil for food and **12 percent** for fuel. Nearly 20 genebanks contributed over 7 million soybean and wild soybean seeds to protect their own important crop collections that protect biodiversity all over the globe.

14. **Tomato**
Although many eaters are only familiar with the garden tomato, the seed vault also hosts seeds like the currant tomato, hairy tomato, and Chile tomato. While the hairy tomato’s genomes may hold the secret to **natural pest resistance**, the Peruvian tomato’s genomes may help struggling tomato types grow in **severe climates**. Seeds primarily sourced from South American countries like Ecuador and Peru provide a back-up to genebanks maintaining biodiversity in the face of climate change’s effects.

15. **Wheat**
The seed vault includes over 10 species of wheat, including common wheat, durum wheat, rivet wheat, and even lesser known variants like Karamyschev’s wheat, Polish wheat, and Persian wheat. Common wheat represents the second most frequently acquired crop in the seed vault, falling just behind rice. During the only instance in which a genebank removed their seeds from the vault, The International Center for Agricultural Research in the Dry Areas (ICARDA), located in Syria, accessed their stored seeds of wheat and other crops to replenish seeds lost during the civil war.