

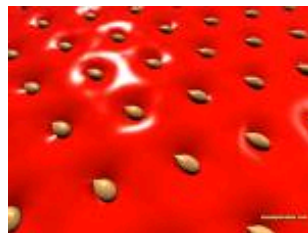


Superfruit Seed Vaults

“Preserving plant genetic resources for all time.”



Papaya (*Carica papaya* L.) showing black seeds



Closeup graphic of strawberry **achenes** -- although seeds, the achenes are actually the "fruit" of a strawberry, as each one derives from an ovary.

The Global Seed Vault Project

The [Svalbard Global Seed Vault](#) is a secure seedbank located on the Norwegian island of Spitsbergen in the remote [Arctic Svalbard archipelago](#).

The facility was established to [preserve a wide variety of plant seeds from locations worldwide](#) in an underground cavern.

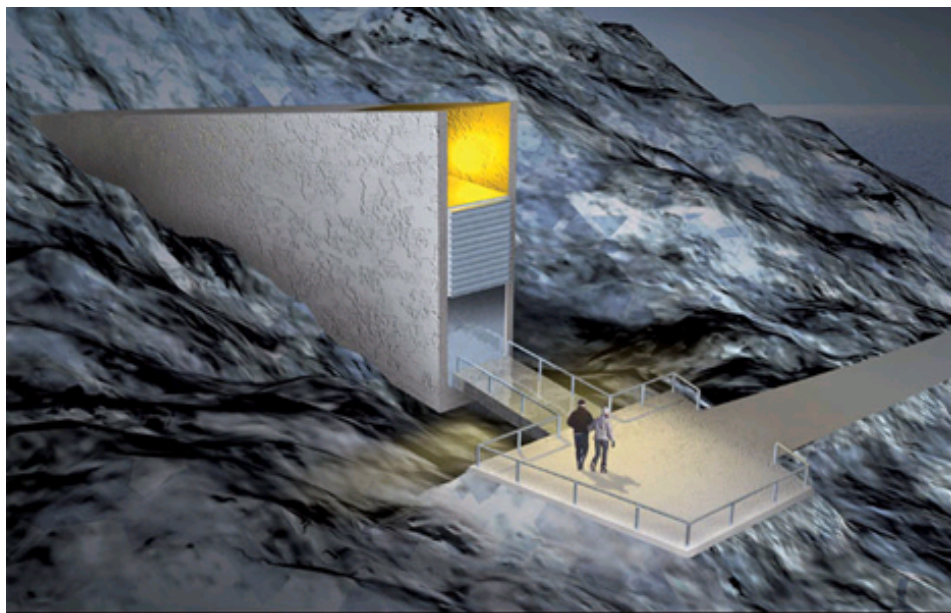
The Seed Vault [holds duplicate samples, or "spare" copies, of plant seeds](#) held in genebanks worldwide.

The Seed Vault will provide insurance against potential loss of seeds in genebanks, as well as a refuge for seeds in the case of large scale regional or global crises. It is a storehouse for some 3 million plant species.

While the popular press has emphasized its possible utility in the event of a major regional or global catastrophe, the Svalbard Vault will certainly be more frequently accessed when genebanks lose samples due to mismanagement, accident, equipment failures, funding cuts and natural disasters.

Such events occur with regularity. In recent years, some national genebanks have been destroyed by war and civil strife. There are some 1,400 crop diversity collections around the world, but many are in politically unstable or environmentally threatened nations.

***Statement by the Government of Norway
inviting the world's seedbanks to store
seeds at Svalbard [click!](#)***



Graphic of the entrance to the Svalbard Seed Vault, Norway

US National Clonal Germplasm Repository (NCGR)

USDA, Corvallis, Oregon

Within NCGR's greenhouses, sheds, and freezers, which sprawl through 60 acres of orchards and field plantings, are the *fruits, nuts, seeds and pollen of roughly 10,000 plants collected from all over the world.*

It is the repository's job not only to protect these precious bits of propagation as some sort of worst-case-scenario refuge, but in many cases, to perfect them through countless rounds of experimentation, making the modified fruit available to farmers worldwide.

In an effort to get more people eating healthy fruit, scientists at NCGR are trying to create cheaper fruit – one that's not only larger and easier to pick, but sufficiently disease-resistant to reduce the need for expensive pesticides and the cost of replanting fields.

Taking strawberries for example, a wild variety of strawberry that's evolved immunity to a specific soil fungus is dosed with the pollen of a large-fruited Chilean strawberry.

The cross would combine immune strength with favorable berry size.

The resulting plants end up in the lab's juice-jar collection until they're big enough to transfer outside. Once the plants are in the ground, NCGR scientists are able to see exactly what they've created, select the best of the bunch, and start the process all over again.

And again...

And again... It can take years. Sometimes as many as 15 years to get a strong **cultivar**.

*On average, it takes as many as **20,000** seedlings to produce one commercial cultivar, or variety.*

After nearly 20 years of continuous research, NCGR has released only 7 strawberry varieties.



Striving for the "perfect" strawberry (*Fragaria vesca*) at the National Clonal Germplasm Repository in Corvallis, Oregon -- what would it take?

The right stuff for breeding a new berry cultivar!

- disease resistance
 - easy to pick
- appealing shape and color
 - favorable size
- the right level of sweetness
 - shipping hardiness

Read a 2009 [article from the Portland Monthly Magazine about the NCGR](#), *click!*

*Check out the new Archives just for [superfruit essays](#), *click!**

Twitter for Superfruits News

We're starting a new online update feature using [Twitter](#), a free micro-blogging service where we can periodically broadcast news updates on berries and superfruits.

Twitter is simply a "short message service" ([SMS](#)), just 140 characters for quickly broadcasting a message to our educational network of subscribers for the Berry Doctor's Journal. SMS is the same technology as cell phone texting, short messages being used by over 2 billion people. It's the fastest growing network service on the internet.

And you can reply using Twitter to stimulate a conversation or follow-up question.

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