



## Noah's Ark of Biodiversity discovered in the Caucasus Mountains



World scientists are working feverishly to avert global famine by searching for resilient crop varieties that can feed the world as we face climate change. More farmland is devoted to modern wheat than any other crop world-wide. Modern wheats are failing under heavy rain and drought extremes, predicted to decrease yields by 37 to 45% in the next decade<sup>1</sup>. Resilient traits are bred out of the gene pool of modern wheat due to breeding for high yield uniformity in agrochemical-soaked soil.

It is critical that we diversify food production or face world crop loss, famine and migrations of hungry people.

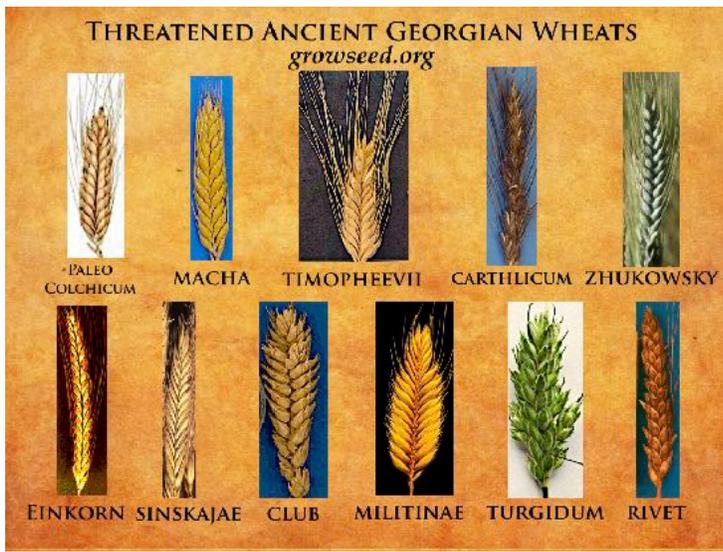
Fortunate for all of us, a botanical Noah's Ark of lost ancient seeds with extraordinary climate resilience, nutrition and flavor has been discovered in the remote Caucasus Mountains, nestled between Russia and Turkey. Unlike typical archaeological remains of broken pottery, these are *living seeds*, passed down generation by generation by peasant farmers.

Caucasus Mountains ancient grains were the first food crops domesticated by early Neolithic farmers 10,000 years ago at the dawn of agriculture. Caucasus Mountain ancient grains evolved traits to survive in harsh conditions, producing stable yields under weather extremes when modern wheats fail. Ancient grains are powered by sunlight, making easy-to-digest phyto-nutrients. Extensive root systems attract mycorrhizae that absorb trace minerals from soil, imparting rich flavor to bread. Gluten-safe ancient grains are the proverbial staff of life that sustained earlier peoples with vital nutrition that enrich our gut with probiotics.



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<sup>1</sup> <http://www.worldwatch.org/node/6271>



The Caucasus Mountain are a center of biodiversity of wheat spanning Fourteen species of wheat but *only one is commercially available - Einkorn (T. monococcum)*. Ancient Caucasus wheats include: *Timopheevii, Monococcum, Macha, Zhukowskyi, Paleocolchicum, Carthlicum and more*. These are the most disease-resistant grains in the world.

These seeds are not only resilient but are gluten-safe, easy to digest for most people with gluten allergies, nutrient dense and incredibly delicious.

Elkana, the Georgian organic farming association <[elkana.org.ge](http://elkana.org.ge)> works with the Svalbard Seed Vault buried deep under the ice of Norway to conserve tiny packets of seed biodiversity so they are not lost to the world in the event of catastrophe. In complement, Elkana has established a *Seed Ark Farm with an outreach network* to distribute their rare Caucasus Mountain ancestral grains to organic farmers and gardeners world-wide so that season by season, trained farmers will have increasing access to the world's most resilient seeds.



# Seed Ark

## Goals

### 1. Resilience

Reconnecting with wild Nature and the first stage of domestication to reintroduce the power of wild resilience of landrace seed, to Neolithic farming practices and cuisine, such as population diversity in the field, fermenting or soaking grains in the kitchen.

### 2. Gifting

In context of the rampant materialism that has caused us and our planet to lose balance and burn up, we are introducing an innovative solution to an unprecedented problem. *Gifting*. By removing materialism from our seed circle, we hope to rebuild relationships rooted in social and ecological values rather than in the economic commodification of the seed.

### 3. Community Building

Each person who receives our seed will be part of our Seed Ark Circle with agreements that include:

- a. **Participation** in our workshops and seed exchanges to share knowledge, skills, seed and baking methods.
- b. **Practice** - Organic or biodynamic management. Cover crop the season before planting to build mycorrhizae and living soil fertility. Plant at wide spacing of at least 10" between each seed. Under-sow clover in early spring. Save seed for whole plant health and population diversity.
- c. **Tithe** - 10% back to Elkana.



## Traditions of Grain Seed-Saving in the Caucasus Mountains

### **Nature Shrines**

Ancient Karvellian<sup>2</sup> people protected majestic natural places, rivers, springs, caves, trees and rocks as dwelling places of nature spirits. The first shrines were stone pillars or enclosures built beneath a majestic tree, grove or by an unusually beautiful rock. From early pagan times in the Caucasus Mountains, the people gathered at solstice and equinox, for festivals, weddings and funerals to sanctify, celebrate and commune with the spirit world for supplication and prayer.

Many peoples of the Caucasus Mountains believe that trees were the abodes of spirits. In ancient times there was old holy oak at Lashari. Feudal lords tried to cut the tree in order to subdue the Pshavi tribe, but were not successful.

Some people hold shrine festivals to this very day. The location of a shrine and its structures are consecrated, often surrounded by majestic trees. The oldest shrines are structures built of dry slabs of stone, some with very old pillars, echoing the Asherot pillars of ancient Israel, while newer shrines may have a cross atop. Some shrines have an area for beer brewing, a room containing large copper pots to boil wort with presses, jars, plates, and for baking

The lands of the shrine became a reserve where no economic activities such as farming, mowing, felling trees or building occur. The harvest from the land nearby is used for festivals, while oxen are sacrificed at festivals. The meat is divided equally between the people of the village. Often village cemetery is located near the shrine.

### **Rome**

As Rome pillaged and conquered, they murdered local spiritual leaders from the Druids to the Sanhedrin, the Ancient Israeli Council of Elders, destroying nature shrines and temples in its wake. Although Colchis became a nominal Roman province in 63 CE, the region had significant independence well guarded by her fierce mountain tribes. The Caucasus people's reverence for Nature and majestic nature shrines were not lost. The cultures of the Caucasus Mountains retained elements of polytheism echoing Celtic and early Israel's 'high places' with an honoring of the unifying feminine nurturing spirit,<sup>[4]</sup> as well as adoration of certain trees at special times in the cycle of the seasons. The pine tree was honored on the [winter solstice](#), echoing the modern [Christmas tree](#). <sup>[3]</sup> <sup>[4]</sup>

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<sup>2</sup> Karvellians were the ancient tribes of the Caucasus Mountains

### **Consecrated Wheat Fields and Bread Traditions**

Since its introduction, the church integrated the local traditions of the people by adding its layer of myth and symbol to traditional folk beliefs. Churches were erected on or next to the old shrines. Ancient folk rituals were integrated within the Georgian folk-church. Field research by the botanist Tamar Girgvliani documented from ancient times that special fields were set aside for the cultivation of grains to be baked into sacramental breads. The fields were near sacred trees and nature shrines that became churches and monasteries<sup>3</sup>. Churches took care of fields to grow grain for rituals. Flour made from the grain was used for breads on festive days.

### **How did the exemplary quality of the ancient grains of Georgia develop?**

Centuries of careful selection of the highest-quality grain evolved in consecrated fields for the bread offerings. The selected grains were saved from the harvest for replanting, and used to produce flour for bread-offerings. Villagers interviewed still recall the location of consecrated wheat plots although some plots today may be planted with other crops as well. The special nature of sacramental wheat was expressed in the exceptional treatment given to the flour and the offering bread made from it, which at particular times of the year was not to be eaten or even seen by anyone who was not a member of the household.

Ploughing, sowing and harvesting dates were determined according to the moon calendar. The plough man of the first furrow was called 'Mekvle. It was believed that a generous yield depended on his experienced agricultural knowledge. The first plowing was celebrated with wine blessing, ritual dance and song. Breads baked from Macha or Zanduri flour at the old moon was kept until the harvest or the next ploughing season.

Many traditions are still practiced: blessing of the first furrow, sharing seeds and sourdough. Wheat grains are used in rituals related to birth, marriage and death, symbolizing life and renewal, abundance and fertility. Wheatgrass is an inseparable attribute of the Easter celebration. Consecrated 'Korkoti' wheat is cooked with raisins and walnuts is traditionally served after funerals, and for the New Year symbolizing the revival of nature as well as good luck. Wheat grains are poured on the heads of a newly-weds for fertility and prosperity.

### **Traditional Seed Exchanges**

An interesting tradition of Seed Giving<sup>4</sup> took place in villages. Before the seed-giving day, under a full moon, a family would prepare: wine and specially-shaped breads symbolizing oxen, ploughs, etc. for a festive community gathering.

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<sup>3</sup> Girgvliani 2010: 62–73

<sup>4</sup> [https://dspace.nplg.gov.ge/bitstream/1234/189900/3/Our\\_Daily\\_Bred.pdf](https://dspace.nplg.gov.ge/bitstream/1234/189900/3/Our_Daily_Bred.pdf)



# მარცვლელის ხიდობანი

## SEED ARK FARM

გადაშენების საფრთხის ქვეშ მყოფი ძველი ქართული ერთნლიანი და მრავალნლიანი კულტურების აღდგენის ინიციატივა - გამრავლება, სელექცია და გავრცელება ადგილობრივი მეურნეების მონაწილეობით.

An initiative to restore almost-extinct ancient Georgian annual and perennial food crops back to the hands of our local farmers. The Seed Ark program includes multiplication, selection, distribution and market development by and for local farmers.

დაარსდა  
Established 2004

ფართობი  
Plot size 4.8 ha





*Elkana's trusty Caucasus Sheepdog guarding the fava beans.*



*US Seed Ark: Kyle, Cathy Ziese, Cr Lawn, Eli Rogosa, Ian Robb and Koen the baker  
Ian, who co-leads our project, is part of the biodynamic Turtle Tree Seed Company and is  
managing the grow-outs on Camphill's biodynamic field with Kyle the farmer.*

**For further information contact Eli Rogosa: [growseed@yahoo.com](mailto:growseed@yahoo.com)**

