

UVM ScholarWorks

Saving Seeds: The Svalbard Global Seed Vault, Native American Seed Savers, and Problems of Property

Item Type	article;article
Authors	Breen, Sheryl D.
Citation	Breen, S. D. (2015). Saving seeds: The Svalbard Global Seed Vault, Native American seed savers, and problems of property. <i>Journal of Agriculture, Food Systems, and Community Development</i> , 5(2), 39–52. http://dx.doi.org/10.5304/jafscd.2015.052.016
DOI	10.5304/jafscd.2015.052.016
Download date	2026-05-15 07:45:06
Link to Item	https://hdl.handle.net/20.500.14849/2866

**Saving Seeds: The Svalbard Global Seed Vault, Native American Seed-Savers,
and the Problems of Property**

Sheryl D. Breen
Assistant Professor of Political Science
University of Minnesota, Morris
600 E 4th St
Morris, MN 56267

Keywords: seeds, food sovereignty, property, ownership,
indigenous agriculture, farmers' rights

Saving Seeds: The Svalbard Global Seed Vault, Native American Seed-Savers, and the Problems of Property

To put it simply, seeds are the essence of life. Without their varied yields, the earth would have no agriculture, no livestock, no food systems, no ecological stability. In all shapes, sizes, and distributions, seeds are genetic powerhouses that store life's codes; they are as essential a resource as the water and soil that nourish them. Nonetheless, mounting evidence demonstrates steady erosion of the seed biodiversity necessary for viable food systems. Some seed varieties have been unable to adapt as habitats change or shrink, non-commercial seed-saving techniques have disappeared along with community elders, and a relatively small number of hybrid and transgenic commodity crop varieties – none of which yield useful seeds – dominate global agriculture while the botanical populations of historic landraces and their wild cousins decline. Political dangers abound as well; war and social unrest have decimated seed banks in Afghanistan, for example, and it is feared that some unique local varieties from other locations may have been permanently lost.

A number of seed-saving projects from local to international levels attempt to slow or halt this loss of seed biodiversity, alleviate environmental and health concerns, and proactively respond to climate change by protecting heritage food and agriculture varieties. The good news is that traditional seed-saving practices seem to be regaining a bit of ground in recent years – e.g., the popularity of seed-saving webinars run by Seed Savers Exchange – and tiny seed banks and libraries of open-pollinated varieties are springing up around the country. However, transgenic seed research and its associated coercive and covert marketing continue to gain legal and political strength on a global scale.

As a result, perceptions of seeds as genetic material and as autonomous and interrelated ecological entities are not universally shared; the very definition of “seed-ness” is non-monolithic in crucial ways. To probe these differences, this paper is part of a project that examines significant and disparate shifts in the collection, protection, and possession of food and crop seeds, all of which reflect divergent understandings of seeds as property in an increasingly globalized system. As a component of that project, this paper focuses on scientific and technological approaches to centralized long-term *ex situ* storage of food and crop seed varieties as favored by governments, universities, and many non-profit organizations in contrast with Native American communities' reliance on informal, localized *in situ* seed storage. As I will explain, this division delineates a theoretical and geopolitical demarcation on seeds as property that lies at the core of local and multiregional food sovereignty movements. For its analysis, this paper draws on 1) a curricular development project on Anishinaabeg farming and gardening conducted in partnership with the White Earth Land Recovery Project in Minnesota; 2) research visits and interviews with farmers involved in Native American seed-saving projects in the Cherokee Nation, Tesuque, Taos, and Zuni Pueblos, Navajo Nation, Tohono O'odham Nation, and with the Traditional Native American Farmers Association based in Santa Fe, NM ; 3) site visits and interviews at the non-profit seed-saving organizations Seed Savers Exchange in Decorah, IA, and Native Seed/Search in Tucson, AZ; and 4) research visits and interviews at the U.S. Department of Agriculture's National Center for Genetic Resource

Preservation in Fort Collins, CO, the USDA North Central Regional Plant Introduction Station in Ames, IA, and the Svalbard Global Seed Vault in Norway.

Divergent approaches to seeds as property are not new, of course. Since agriculture arose 10,000 years ago, farming and food systems have revolved around varying configurations of how seed possession is controlled, how and whether seeds can be claimed as private or collective property, and how seed varieties can be stored, held protectively, and/or distributed as gift, exchange, or commercial commodity. Understandings of seeds as property have been and remain diverse and dynamic, but in their various forms these arrangements are further evidence of the extent to which theories of property are a foundation of political society. My project works at the intersection of political theory, environmental studies, and ecoagriculture to analyze the ways in which conflicting perspectives on seed ownership are reconfiguring contemporary understandings of sovereignty, political power, and ecological sustainability.

I believe that the practice of seed storage, as examined in this paper, is particularly illustrative. Despite the united goal of preserving little-known varieties, seed-saving projects demonstrate deeply divergent understandings of the biological implications and relationships of political power involved in long-term *ex situ* seed storage. To analyze this theoretical gap, I examine the division between scientists who argue that tribal heritage seeds should be intensively collected, studied, and preserved in government long-term depositories, on the one hand, and indigenous seed-saving groups that refuse to participate, on the other hand. Despite the increased threats to local food systems posed by climate change, leaders of tribal seed-saving projects largely continue to reject the growing scientific appeal for secure centralized genetic protection in facilities such as the National Center for Genetic Resource Preservation and the Svalbard Global Seed Vault. Instead, Native seed-saving groups favor *in situ* alternatives that maintain local control but which researchers fear are fragile and insecure.

This division between indigenous calls for informal community seed banks and the government's science-based appeal for technologically controlled long-term storage is an epistemological as well as ecological problem. While Native American seed-savers describe seeds as living, responsive, reflexive beings, research scientists see seeds as containers of active genetic material that are ecologically critical to a bio-sustainable earth. While some Native American farmers see the storage of seeds in liquid nitrogen tanks as a morally untenable form of incarceration, research scientists seek ever-improved ways to preserve and modify seeds through biotechnology. As a result, Native Americans have been persistently unwilling to share seed samples with government seed banks and the increasingly anxious directors of research institutes and germplasm depositories continue to struggle in their attempts to collect and conduct research on the domesticated landraces of essential food crops and their wild ancestors.

This paper uses two contrasting cases as the basis of analysis. First, I examine the Svalbard Global Seed Vault, which opened in 2008 and is a state of the art facility built into the mountainous permafrost on an arctic Norwegian island. The vault accepts global seed deposits in an effort to preserve the long-term biodiversity of plant genetic resources. The

vault is the long-awaited alternative to the perceived fragility of *in situ* seed collections, all of which are prone to deterioration or complete loss due to economic, political, technical, and/or climate instability. Construction of a global seed vault was stalled for more than two decades, in part due to disputes between developing countries, industrialized nations, and the commercial seed industry about access and sharing of proceeds from research and patenting. The Food and Agriculture Organization's International Treaty for Plant Genetic Resources for Food and Agriculture, which took effect in 2004 and opened the way for the vault's construction, eased the polarized atmosphere and attempted to clarify ownership rights, but critics continue to voice concerns about farmers' rights and benefit-sharing provisions.

Second, I examine Native American seed-saving efforts in the U.S., drawing primarily on projects to preserve heritage and culturally significant seeds and devise food sovereignty policies at the local or tribal level. In general, Native American projects focus on the integration of cultural heritage and food independence through understandings of seeds as a tribal commons. For example, the community farm project at Tesuque Pueblo in northern New Mexico teaches youth how to garden at the same time it has constructed a low-tech adobe seed bank and holds an annual conference on traditional farming practices. Heritage seed lines are held as collective property and, although shared through seed exchanges, have not been commercialized. The Cherokee Nation has followed a different format with a separate seed garden in Tahlequah, OK, and an annual gift ceremony during which the Cherokee president presents seeds to any Cherokee Nation member. Through these contrasting cases – the Svalbard vault and localized Native American seed-saving projects – I analyze the ways in which divergent understandings of “seed-ness” and seed ownership are crucial elements in discussions of food sovereignty, political power, and ecological sustainability.