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Farmers and Gardeners Saving Seed: Exploring the Reskilling of a Traditional Agronomic Skill and its Benefits.

Abstract

The project aimed to explore selected Midwestern entities engaged in promoting seed saving/seed exchanges among gardeners and farmers, including interviewing farmers and gardeners. Minimal prior research exists in this area, however research and information is seen as helpful to others interested in seed saving techniques, especially farmers seeking out lower priced inputs for their farming operations. This is a preliminary summary of the findings.

*Farmers and Gardeners Saving Seed:
Exploring the Reskilling of a Traditional Agronomic Skill and its Benefits*

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Sustainable Agriculture/Anthropology

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The intent of my research is to explore selected Midwestern entities engaged in promoting seed saving/seed exchanges among gardeners and farmers, including interviewing farmers and gardeners. This includes several individuals and entities who, while located outside of the region, have been identified by area seed savers as informing seed saving practices in the Midwest.

Research and information collected is seen as helpful to others interested in seed saving techniques, especially farmers seeking out lower priced inputs for their farming operations. Moreover, as minimal prior research exists in this area, this research becomes foundational for future work. Please note these findings are preliminary.

My research objectives include understanding why farmers and gardeners would choose to practice a traditional agronomic skill which, although once widely practiced, is contemporarily only practiced occasionally; and secondly, learning how participants regained this skill and practice.

I answer four questions in analyzing this data:

- Why save seeds? The importance of this question lies with the belief that for many seed saving is seen as inefficient, so why do it? What is the rationale for such a practice?

- How did seed saving farmers and gardeners ‘go about’ gaining this skill? The rationale for this query is understanding how people gain or regain a traditional agronomic skill that many others have lost.
- What one or two other preliminary themes emerged—concepts or ideas useful for exploring or beginning a seed saving practice?
- What resources do participants suggest? It should be noted that participants were overwhelmingly generous in their offerings of resources.

Seed Saving: Historic and Contemporary Contexts

Although it is unclear the actual percent of households (farmers or gardeners) who historically saved seed in the U.S., it may be reasonable to conjecture its significance from other historical data. During the mid to late 1800s, the U.S. government distributed millions of seed packets as a strategy for encouraging farmers to grow new varieties and crops. In 1897, this effort peaked with over 22 million seed packages or 1.1 billion seed packets distributed (Kloppenburger, 2005, pp. 61-63). Given these distributed seeds were not necessarily commercially available, it seems therefore likely, seeds needed to be saved if farmers were to plant these crops again.

In 1917, W.W. Tracy writing in an U.S.D.A. bulletin, advised both “home and market gardeners” not to depend on seed companies because of the “disturbing effect of the world war” (p. 3). He then detailed a guide for saving seed, noting “in earlier times the home saving of seed was the rule” (Tracy, 1917, p. 3). As the practice of saving seeds diminished, seeds were increasingly being commodified over time (Ikuta, 2009; Kloppenburger, 2005). Nationally in the 1960s, 63% of soybean farmers saved seed, while only 33% did so by 1991 (Mascarenhas & Busch, 2006, pp. 128-129). While in 1986, as many as 92% of Indiana soybean farmers saved seed for use in their next planting a full decade before GMO introductions (Mascarenhas & Busch, 2006, p. 132). Although seed saving has dramatically decreased among industrial scale row cropping,

there is an increase in seed saving amongst for example, organic vegetable farmers ensuring the availability of “organic and regionally appropriate seed varieties” (Organic Seed Alliance, 2016, p. 3). Additionally, a survey of organic vegetable producers in Wisconsin found “a capacity and interest” in seed saving as one aspect in enhancing regional seed systems (Lyon, Silva, Zystro, & Bell, 2015, p. 20).

A final indicator of the growing seed saving momentum is the increased number of seed lending libraries now in existence—often cited as approximately 400 in 46 states (Jarvis, 2015). Typically connected to public libraries, seed library patrons ‘check out’ seeds subsequently returning their saved seeds for others’ use. Last year, the Omaha Seed Library, checked out 10,000 seed packets, with the first saved seeds returned this year (personal communication, Ms. C., 2017).

Research Overview

For this research, sixteen seed saving farmers and gardeners were interviewed; with an additional interview with a representative of the Open Seed Source Initiative (OSSI). I selected participants via one of several ways: I knew of their seed saving practice personally having attended a class or course which they attended or were teaching; they were suggested by my dissertation committee members; other participants recommended them or mentioned learning seed saving from them; or I became aware of their practice through a listserv notice of their work.

In examining the interview data I realized as much as I wanted to focus on deskilling and the regaining of a traditional agronomic skill, participants instead were using the space and time of our interviews to talk about the benefits of seed saving. I start therefore, with the benefits of seed saving.

Why save seed?

Saving seed has clear benefits as well as constraints. Reasons cited for saving seed and benefits accrued include the following:

- Preserves heirloom and open pollinated varieties otherwise lost. This includes preserving varieties in demand for niche markets; as well as preserving critical crop germplasm necessary for a more diverse and future resilient agricultural system.
- Creates more varieties adapted to local diseases and to changing climate conditions. Key to this benefit is how often a variety is saved and subsequently grown out, whether yearly, periodically or only once in a lifetime.

For instance, several smaller producers and gardeners explained one strategy for maximizing efficiency is saving enough seed from one crop for an ensuing five years of planting. This means potentially saving a seed variety only a handful of times over one's life span. Others spoke of selecting seeds from the most robust plants rather than attempting to identify and single out specific traits.

Those saving seeds at larger scales noted the need for a greater number of plants to select from. Typically participants recounted employing a mass seed selection process tied to understanding the interrelationship of traits.

- Offers seed varieties tied to supporting the expanding local foods movement. According to several participants, this movement encourages if not promotes the need for local seed varieties. An aspect of this is saving seed from a cultural perspective, ensuring crops which are culturally, spiritually and historically significant and valued are available to local community members. These crops/foods—have strong ties to a community's cultural, culinary/food heritage and traditional diet. Moreover, these crops are known for their many health and

wellbeing benefits. An example of this is the seed saving and food system work undertaken by Dream of Wild Health amongst others.

- Promotes social and cultural resiliency creating new linkages among people and organizations. These linkages result in a more resilient food system and greater food security. Over and over participants recalled forming new linkages with other seed savers and naturally expanding into other realms. Examples of these linkages can be found in various organizational efforts which include demonstrating culinary uses of local foods from saved seeds, developing heirloom crop restoration projects, teaching gardening skills and guiding immigrant gardeners in gaining seed saving skills.

Participants mentioned linkages with minimally another seed saver or organization and minimally supporting one activity in expanding seed saving knowledge and skills to others. The underlying belief voiced by many participants is by having more seeds in more people's hands leads to more varieties developed and to a more resilient agroecological system.

Further, culturally-based/tribal organizations are creating seed networks, such as White Earth Land Recovery Project's Midwest Indigenous Seed Keepers Network. These efforts highlight seed saving as an activity promoting healthy families and food systems while strengthening cultural communities.

Drawbacks to seed saving include time and equipment requirements, and the need for different production practices for example, insuring seeds are stored correctly and cleaned well. Participants clearly recognized saving all of one's seeds as infeasible and the practice as especially challenging at certain farm scales. However, organizations and resources exist to support farmers and gardeners in exploring more fully the efficacy of seed saving for their household or farm operation. These resources are listed at the conclusion of this report.

How do farmers and gardeners 'go about' gaining this skill?

For many participants a specific experience triggered their entry into seed saving, such as the loss of a favored variety; while for others a salient factor was being raised in a household with a garden. A few seed savers described gaining the skill as a child. Regardless of the entry point, three broad interconnected approaches illustrate how seed saving skills were developed. These three approaches are environmental, social and expansive learning.

The first two terms, environmental and social learning, are gleaned from Glen Stone's (2016) work describing agricultural knowledge production amongst farmers in India. Although I use his terminology, I depart from his definitions employing a different conceptualization for these two terms.

Stone starts by delineating *environmental learning* as a learning strategy tied to payoffs from the environment (Stone, 2016, p. 6). Specifically, he defines it as "observing and basing decisions on empirical payoff information from experiment" while noting in his research this style "was not even a major factor" in seed choice (p. 6).

My interview participants described instead a much more iterative process, grounded in a seeking and incorporating of feedback from the natural environment. Seed saving was explained and described as an on-going, iterative process—rather than a one-off--requiring an understanding of some 'science', with an engaged willingness to observe plants and their life cycles. Effective seed saving then, was an outcome strengthened overtime through an iterative inquiry and problem solving approach based on natural systems understanding. While this may seem like a nuanced understanding of difference from Stone's assertion, I believe it may explain the agroecological approach seed savers favor, founded on a sense of personal agency.

Maximizing seed saving outcomes--especially for novices--included starting with saving seed from only one variety and one known well to the seed saver. Another suggestion was to begin by saving seed from self-pollinating crops such as beans, lettuce and possibly tomatoes. Several participants mentioned starting with saving seeds from 'easy' varieties such as herbs and flowers.

A second learning approach is through *social learning*. Stone suggests social learning as learning driven by social criteria, such as emulating a higher status farmer's practice (p. 9). Again, while finding the term useful, I suggest an alternative conceptualization as learning through associating or linking with others. This also includes linking with organizations, groups or networks from whom seed saving skills can be learned.

Practical social learning approaches articulated included seeking out other skilled individual seed savers to learn from (for instance, seed saving farmers, work or volunteer opportunities); organizations (such as seed libraries and seed exchanges); and structured learning experiences (examples such as apprenticing with Organic Seed Alliances farmer's seed production program, online seed saving classes and seed schools). There are also culturally based networks, organizations and individuals introducing individuals as well as communities to seed saving. Examples of these efforts includes the White Earth Land Recovery Project's Midwest Indigenous Seed Keepers Network.

Social learning is a favored mechanism for developing seed saving skills. Many participants cited examples of teaching others seed saving or of advocating/fostering its practice. Participants having gained knowledge themselves, then located opportunities or found ways to guide others whether formally through a structured setting or informally. Clearly seed savers see their knowledge as something meant to be shared, given the wide extent to which participants were promoting or had promoted seed saving in some fashion.

A final way of learning is what I am calling *expansive learning*. As delineated by seed savers, it is a process of learning seed saving as a natural response or inclination to expanding one's farming or gardening knowledge and capabilities. Seed saving then emerged for many, as a natural next step. In fact more than one participant cited the difficulty for novices to jump into seed saving without having some requisite gardening knowledge or actual practice (minimally a season). Otherwise, foundational knowledge is missing. Thus, the importance of an expansive learning strategy.

Other themes which emerged

First, I would be remiss if I did not mention how often participants talked about involvement with seeds as a salient or transformative experience. For many participants it was about something extraordinary. This could include understanding the nature of the food system's dependency on seeds; partaking in something almost mystical; experiencing a strengthening of one's agency; and/or cultural connections and wellbeing.

Second, although clearly guidelines exist for seed saving, occasionally participants highlighted the importance of a playful attitude with seeds. This includes being surprised when seeds which should not have germinated did given environmental conditions. Moreover, although seed saving involves a lot of work, participants did not frame these activities as burdensome or unpleasant, but rather work done willingly.

One final theme was realizing seed saving may be less feasible beyond mid-size farming operations. This then becomes an area for more work exploring to what extent and how seed saving can be scaled up to larger farming operations.

So what is missing from participants interviews? More about the times these seed savers discontinued seed saving, which typically arose from losing space and losing the

routine for seed saving through a move. For another, is more investigation reconciling crop harvesting conflicts with seed production times. Here the challenge is figuring out how to save seed while harvesting crops with limited resources.

Conclusion

Seed saving is an immensely learnable skill and practice. Many organizations exist to support gardeners and farmers in learning these techniques. Multiple formats for learning are available from online webinars to hands-on experiences and apprenticeships. The resource section provides a good starting point by listing some of the available guidance for developing a seed saving practice.

I would like to note in closing, seed saving's potential contribution to promoting agroecosystem resiliency, something which becomes increasingly more important in times of environmental and climate change. Seed saving in and of itself involves experimenting with seeds; and creating novelty (e.g. developing locally adapted varieties, new socio-cultural linkages). These same two qualities are crucial for complex adaptive systems, such as food systems and agriculture, to adapt to climate change and extreme weather events (Gunderson & Holling, 2002; Schipanski et al., 2016; Walker & Salt, 2012). Specifically, in times of unexpected weather events novelty and experimentation--such as what undergirds seed saving--can provide needed social, human and natural capital and resources for a more effective and resilient response. Thus, seed saving may be more than a quaint practice, rather it may have real applications and implications for agrobiodiversity. Agronomist, Jack Harlan, asserted this well when he said, "that in the end, if diversity is to be saved, it may have to be saved by amateurs, people who love their seeds...throughout history, the amateurs had always been the ones to save diversity" (Fowler & Mooney, 1990, p. 219).

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Resources

[Center for Rural Affairs](#)

[Dream of Wild Health](#)

[Mustard Seed Community Farm](#)

[Native Seeds/SEARCH](#)

[Open Source Seed Initiative](#)
[Organic Seed Alliance](#)
[Pepperfield Project](#)
[Riverbend Farm](#)
[Rocky Mountain Seed Alliance](#)
[Sand Hill Preservation Center](#)
[Seed Savers Exchange](#)
[The Seed Libraries Social Network](#)
[Seed Library, Omaha Public Library](#)
[Sierra Seeds](#)
[Seedshed](#)
[White Earth Land Recovery Project](#)

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