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1000 Farms
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1000 Farms Initiative

Validating regenerative agricultural systems relative to conventional systems

The Issue

Modern industrial agriculture faces threats to production of nutritious and sufficient food for our nation and the world, made more acute in the face of a changing climate. There is currently a disconnect between human wellbeing and the resilience of both rural communities and the environment. How we have grown food since the outset of the industrialization of agriculture may not feed us in the future. Without changes in our food systems, the planet's topsoil will be seriously depleted in the next few decades, leading to food scarcity, nutrient decline, loss of key species, and threats to human survival. **Bold change is needed to save ourselves and our planet, and that change is needed now.**

A Solution

Regenerative agriculture sits at the intersection of a healthy environment, productive agriculture, and social and economic health and resilience. The many moving parts at that nexus require appropriate science to understand the system-level interactions of farms, and to develop and deliver relevant, forward-thinking solutions to growers. **Regenerative practices are implemented at the level of individual farms, but the solutions and their delivery need to reach growers and be implemented on a national level. That is why we are embarking on the '1,000 Farms Initiative'.**

What We Will Do

The '1,000 Farms Initiative' will demonstrate the power of regenerative agriculture on a network of farms, where we will assess the status of key agronomic, ecological, and economic factors. There are two overarching scientific goals:

1) Validate key regenerative agricultural systems around the U.S. relative to conventional systems

2) Develop data-driven roadmaps for transitioning key food systems from conventional to regenerative systems.

To achieve this, we will generate–by 2023–full site inventories annually on at least 1,000 farms that are in various stages of regenerative adoption. The information gathered from this initiative at this scale is unprecedented, and it is desperately needed to accelerate adopting regenerative agriculture at the level of individual farms and national policy. We will analyze the key factors to show producers the health of their land, how their land compares with others, and how to incorporate regenerative methods into their agricultural production. To save our planet, we must change our food system, and our initiative will produce the continent-scale data necessary to change national policies.

How We Will Do It

Ecdysis Foundation is uniquely able to successfully complete this initiative. Over the past 5 years, Ecdysis Foundation has been developing new technologies, procedures, and partnerships that are strategized to generate, analyze, interpret, and share an overwhelming amount of farm- and landscape-level data. We will collect and analyze data on soil, water, plant and animal communities, yields, nutrient density, and profitability to show the regenerative outcomes on individual farms. A detailed and multifaceted communications strategy has been developed for disseminating farm-level results to agricultural communities to inspire change. A systems-level monitoring program will establish the local, regional, and national impacts of this initiative on soil health, biodiversity, and farm prosperity.

Objectives

- **By 2023:** conduct full ecosystem and economic inventories on 1,000 farms annually
- **By 2025:** use partnerships, demonstrations and education curricula to extend the reach of our scientific research to 600,000 producer contacts
- **By 2031:** monitor and document changes on the landscape and in rural communities

A Deeper Dive

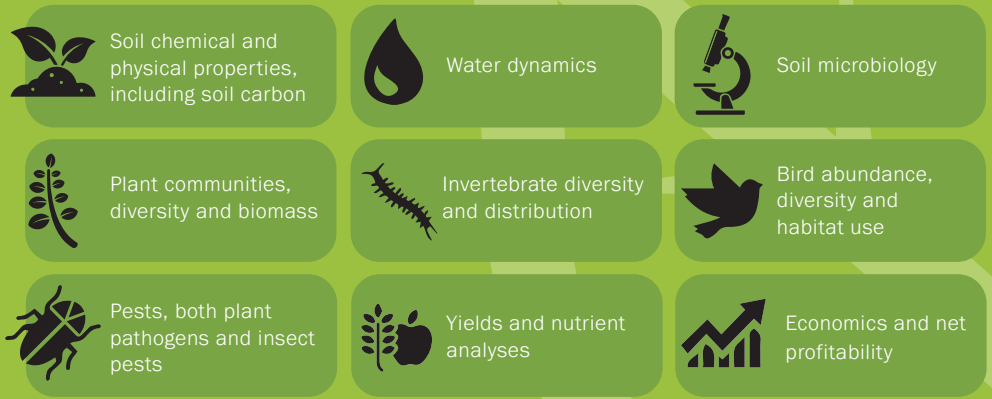
Conduct the Most Ambitious, Focused Inventory of Agroecosystems To-Date - Our over-arching goal is to use science, education, and monitoring to change agriculture in the next decade. In 2021, we will produce full inventories on more than 200 farms, and what we learn will help us to scale up and achieve our broader 2023 goal.

Farm Selection - We will use farms in various ecoregions to represent much of the diversity of growing conditions and cultures around the country. The food systems we select will include a variety of dominant livestock systems and approximately two dozen different crop species. We intend to inventory at least 30 farms of each food system, and will ensure that we represent small-holder, and minority-, indigenous-, and women-owned farms. Farms in each food system will span the continuum from conventional farms not wishing to change (control set), farms that have begun adopting regenerative practices, and established, successful regenerative operations.

Partnerships To Achieve Scale - To achieve our goal of 1,000 farms by 2023, Ecdysis is partnering with organizations and companies who have established trust and collaboration with farmers and ranchers across the US and whose networks we can leverage to expand our outreach. Just a few examples of the types of partnerships we have built include:

General Mills **Ducks Unlimited** **Mad Agriculture (The Perennial Fund)** **UC Davis** **USGS**

Measurements - Science conducted on this scale requires harmonizing, standardizing and automating approaches to collect, process, characterize, and curate samples and data. Our research will balance tried-and-true approaches with new techniques that advance and scale the science on ecosystem monitoring. Measurements will quantify:



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Infrastructure Needed to Accomplish Our Goals - We intend to establish research centers in multiple ecoregions by 2025. The recently redesigned research facility at Blue Dasher Farm in Estelline, South Dakota, is the headquarters for Ecdysis Foundation. This 5,000 ft^2 facility on an operating regenerative farm is a prototype for the other research centers. A second 5,000 ft^2 facility will be needed by 2023 to support this initiative. New Ecdysis centers will be strategically located in rural areas, providing high-paying jobs and focused on integrating staff into local food communities.

Translation of Research - Education and Demonstration We will translate our primary research into practical recommendations that farmers and policy makers can use to promote regenerative agriculture locally and on a national scale. Our focus will be to directly communicate our research to the farming community and to indirectly reach a broader audience through various educational partnerships. Our hope is that local and regional scientific institutions will be inspired to work on regenerative food systems, accelerating adoption of these practices.

Our education programs will provide technical guidance to help inform decision-making in regenerative farming and will develop a support network that can foster change in our food system. First, we will use our education to highlight what successful regenerative operations look like in food systems around the U.S., giving farmers models for designing or improving their farms. Then we will provide research-based recommendations for transitioning to regenerative systems. Our programs will provide growers with tools and resources, such as monitoring kits to assess the health of their farms and to know whether their decisions about adopting regenerative approaches are succeeding.

What We Need - Science on this scale is expensive. We need your financial support if we are going to change agriculture. Each full-site inventory costs $7,500. Repeated future inventories (optional) will document changes from adopting regenerative practices. We are seeking donors who will sponsor farms, particularly for small, minority-, indigenous-, and women-owned farms for whom the cost may prevent participation. We need your help and partnership, adding your farms to the inventories or suggesting others' farms as field and demonstration sites.

Sponsor a Farm for $7500

To discuss larger gifts that can support implementation of this initiative over the next three years, please contact us directly for full budgetary information.

Our Recent Research at a Glance

We have generated results for the scientific community as well as for growers. Recent studies include:

Fenster et al 2021: https://f1000research.com/articles/10-115
Pecenka and Lundgren 2019: https://www.sciencedirect.com/science/article/pii/S1439179119302610
Smart et al. 2019: https://www.nature.com/articles/s41598-019-52485-y
LaCanne and Lundgren 2018: https://peerj.com/articles/4428/
Pecenka and Lundgren 2018: https://peerj.com/articles/5220/

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