

One Sentence Description of Project

Can new technology revive an ancient textile fiber? We explore feasibility of developing a local linen industry; growing flax in an organic rotation on a diversified farm, then utilize newly-developed mechanical processing equipment to turn flax into linen products: line flax, tow fiber and roving, linen yarns, and handmade paper.

Description of farm or ranch and project coordinator background

██████████ was established in 2005. ██████████ is a shepherd, handspinner and weaver with an interest in flax as a textile crop. The farm is located on 37 acres of blufftop land in ██████████. ██████████ Wool products from the farm flock of mixed Shetland and Icelandic sheep are marketed directly to endusers from an on-site farm store and studio. In 2012, we grew our first fiber flax, and have learned how to process, spin and weave it by hand using traditional methods. The farm is open to the public, and includes space for small classes and demonstrations. We are a site for an annual regional art tour and fiber farm tour.

Project Coordinator ██████████ has worked as a volunteer in community development projects for many years. She serves on the Pepin Township Planning Commission, and is a member of the steering committees of a newly-formed local producers group and a regional Fibershed affiliate. An interest in sustainable, local economic development is the common thread in all this work. She and her husband, ██████████ are sculptors who have worked collaboratively for many years, creating public and civic artwork for communities across the United States.

Problem

Linen is an ancient textile material, cultivated for more than 10,000 years. Cloth made from flax – linen – is an extraordinarily long-lasting and high-quality textile. Immigrants to this region brought flax-growing knowledge and the tools for working flax into linen with them when they arrived here in the 19th century, but a local linen industry never took hold; flax is time-consuming to harvest and process, and cotton became the dominant natural textile fiber in the United States. Today, cotton and all other natural fibers are a smaller and smaller percentage of global textile production; replaced by synthetic, petroleum-based cloth.

Even so, interest in “local linen” is strong among hand spinners, knitters, weavers, and papermakers in our region. Many people have come to recognize the importance of developing (or rediscovering) options for locally-grown and processed textile materials. Flax is part of a traditional organic rotation; it grows well in our region without significant inputs, and has the potential to be a local, sustainable textile crop. At this time, no regional infrastructure for processing flax straw into finished linen products exists in America. A lack of processing infrastructure has prevented fiber flax from being grown at anything but a very small experimental scale.

Lack of processing machinery has been an insurmountable obstacle to overcome in beginning to explore the creation (or revival) of flax growing in our region. However, new developments in small-scale processing machinery present the potential to bring local linen production to our region. The purpose of our project is to begin to explore the elements of a system of growers and potential end-users who would be part of the “ecosystem” of creating a local linen infrastructure in our area.

Solution

██████████ is a project of Taproot Farm, an organic CSA farm outside of Halifax, Nova Scotia. Taproot began growing flax several years ago, and met the same challenges posed by lack of processing equipment that everyone interested in local linen production encounters. Taproot undertook an ambitious project to design and

build small-mill flax processing equipment, and as of fall 2016, their innovative processing line is complete and in operation.

The development of Taproot's game-changing processing machinery presents the possibility that the historic barrier to creating local linen may be surmountable if flax growing can be incorporated within the existing planting regimes of regional small, diversified farms, and production scaled to the capacity of a cottage industry-scaled mill of the type being developed by Taproot.

Short term

Our team will grow a modest amount of flax; one half acre in 2017 and 2018. Working in collaboration with Taproot, the bulk of our crop of flax straw will be transported to their site in Nova Scotia for processing. The processed flax fiber can be used for a variety of purposes; primarily handspinning, weaving, and papermaking. The purpose of the project is twofold; to demonstrate that flax can fit into an existing organic rotation on a diversified farm, and to show that flax and linen products could be produced here for a local/regional market.

Long term

This project is intended to be a preliminary feasibility study working towards building a local linen mill in our area using Taproot's machinery. If it appears feasible, our long-term goal is the development of a small, local linen industry here in our region.

Timeline

Spring 2017: Project kick-off meeting.

Mid April – Mid May, 2017: Planting

Mid-May – August: Outreach activities: Pepin Area Schools, Shepherd's Harvest festival, MN Weavers Guild and Textile Center, on-farm publicity (at Black Cat and AtoZ, open to the public).

Project outreach through growing season, field day at AtoZ.

Late August: Flax harvest

September/October 2017: Travel to Madison, present project to students of [REDACTED], project consultant and associate Professor of textiles, School of Human Ecology.

Late fall/winter 2017: Retting of flax on-site in Wisconsin, transport of retted flax to Taproot Fibre Lab for processing.

Meeting of project participants for mid-project assessment and planning for year two, project adjustments as needed in response to our experiences in the first year of the project.

Winter/Spring 2017-18: Outreach and marketing of 2017 flax products at demonstrations, fiber festivals, and at weavers guild meetings and similar gatherings, educating handspunners, weavers, textile designers, papermakers, and artists about flax/linen products. Papermaking and textile lab at UW-Madison with professor [REDACTED]

Mid April – Mid May, 2018: Planting

Mid-May – through growing season, 2018: Mid-May – August: Outreach activities: Pepin Area Schools, Shepherd’s Harvest festival, MN Weavers Guild and Textile Center, on-farm publicity (at Black Cat and AtoZ, open to the public).

Project outreach through growing season, field day at AtoZ.

Late August/early September 2018: Flax harvest

Late fall/winter, 2018: Retting of flax on-site in Wisconsin, transport of retted flax to Taproot Fibre Lab for processing. Meeting of all project participants to discuss final project assessment and reporting. Outreach to share project.

Outreach

Outreach focuses on established platforms, sites, and locations to maximize project visibility to both farmer/ranchers and to people with an interest in flax.

Both farms on the team have websites to which information about the project can be added. We have a Facebook presence with more than five hundred followers, and routinely posts information to other regional and national fiber- and textile related sites. National and international outreach is possible with web-based content, including sharing of project information on flax and linen groups on Fibershed.org and Ravelry.com.

High-quality documentation of our project will help to effectively share our work with others. [REDACTED] son of project team members at AtoZ, is a recent graduate of the UW-Milwaukee Film School, and is experienced in filming farm enterprises. We have included a line in our budget for his participation in the project as a documentarian.

Regional organizations; The Weavers Guild of Minnesota (2017 is their “Year of Linen”), Three Rivers Fibershed, and the Vesterheim Norwegian-American Museum in Decorah, IA, also present outreach opportunities. Our work with project consultant [REDACTED] at UW-Madison can also broaden our outreach by expanding the audience for our project.

Outreach to other farmer/ranchers is accomplished by the above, with the addition of two field days, communication to our local growers group, and outreach via our local UW-extension office. We are particularly interested in reaching out to other vegetable farmers, for whom flax could be a new cash crop. Vegetable farmers are well-equipped to deal with the potential hand labor involved in growing flax.

We have regular hours spring- fall during which we are open to the public.

Project information in the form of printed materials can be available on-site at both of these locations.

Impact

While our project is modest in scale, we feel it lays the groundwork for further development with far-reaching implications for local, sustainable agriculture. At this point in time, the majority of textiles being created worldwide are made from synthetic fibers. The long-term sustainability of this type of production, and the disposable “fast fashion” of which it is a part, is very much in question. We feel it is important to find ways to once again create some portion of the textiles used in clothing and household applications locally. A shift back to

a more local and regional mode of production, emphasizing natural fibers, will be beneficial both to rural economies and to the natural environment over the long term.

Our project begins to explore the practical systems of growing, processing infrastructure, and end user awareness which must accompany this shift. The grant funding we are seeking will help us to determine what combination of growing, processing, and market creation must be developed to support a local option for textile production.

Measuring Results

Environmental benefits: Linen made from flax is a natural, long-lasting textile which can be grown locally with minimal inputs. We will measure the environmental benefits of our project by reporting on how the crop grew in our area, and assessing how well our proposed methods of planting, weeding, and harvesting worked in our local conditions, including a systematic measurement of flax production on soil health, through soil testing. We hope to demonstrate that flax can be successfully incorporated within the rotational plan of a small diversified farm.

Economic benefits: We will measure the economic benefits of our project by measuring our yield of flax straw to finished flax and linen products, and by noting challenges and difficulties we might face along the way so that about this new, locally-produced textile fiber crop. Our project does not focus on the market for flax seed, but flax seed is a potentially valuable “byproduct” of a fiber flax crop, and we will record the amount of seed our project generates, and what end uses we find for it.

Social benefits: A flax mill could fit well with vegetable enterprises. Currently many young farmers in our area leave our community in the winter to get jobs in the city (the other “leg” of our local economy is tourism, and many people throughout our area struggle with seasonal unemployment). In the long term, development of a local linen economy could generate jobs that fit with both a farming- and tourism season. Flax can be grown in a wide range of climates across North America, and we feel that the work we are undertaking has the potential to be replicable and of social good for a variety of communities and regions across the United States.