

# Vegetable Seed-Saving as a Business Enterprise

- Who is Growing Seed? Has grown seed? For your own use? For exchange? For sale/ marketing /distribution?
- Do you have varieties you maintain and work with? How many generations (plant) have you grown them out?
- Who considers themselves in the seed growing business?
- Growing or contracting for a seed company?

- We have been doing some or all of these things on some scale for 40+ years. Starting 29<sup>th</sup> season of vocational agricultural focus on seed growing, but that has almost always been in the context of a broader, more diversified agricultural practice.
- Be advised: what we have done and how and why we have done it is probably in no way typical or comparable to what anyone else has done or how they would do it.
- My goal today is to share my experience and what I know about seed growing, and above all to enable, encourage and inspire you to grow seed.

- Until very recently in the history of agriculture every farmer grew their seed.
- if they didn't, they had nothing to go on with in the following seasons.
- The first people to put seed in paper packets and sell them were the Shakers in this country, about 200 years ago.
- It is only in the last 100 years that people who grow food have been ever more and more getting their seeds from bags and packets rather than from the plants themselves, and that the seed supply has been out-sourced to commercial suppliers and their contract growers, and that the development and the breeding and maintenance of plant varieties has been outsourced to academic and commercial institutions.
- This has had disastrous consequences:
  - for agricultural biodiversity,
  - for the culture of agriculture,
  - for the quality of food,
  - for local culture, color and adaptability,
  - and for the inner wealth, enrichment and individuality of both the farm and the farmer.

- Our larger goal and ideal is that seed growing and all that goes with it will again be integrated into the culture of agriculture, not only the knowledge and skills necessary, but the rewarding sense of responsibility, the desire and satisfaction, and the deep enrichment that go with it.
- We are working not just for our self and our own operation, but for the transformation of agriculture.



Current business. Meadowlark Hearth Farm began in 2010. We are starting out our 10<sup>th</sup> season. We have 3 businesses:

- Beef and raw-milk dairy,
- vegetable production CSA, coop/restaurant sales, farmers market.
- Seed production.
- 540 Acres

Seed & vegetables on horticultural scale, about 1% of land. 30% in wild lands. Close to 70% in hay and rangeland. Seed and vegetables bring in equal amounts, about 75% of gross farm production income. Animal products about 25%.

Seed production is totally integrated into vegetable production. Very minimal input, all fertility, soil mix, etc comes from the farm. complete fertility cycle. We planned it this way, that seed would come out of a whole farm, and that we grow our seed to food crops. Direct experience, selection, not just a variety we are working with, but a stable adaptive population of that variety. The reproductive element stays on farm, not outsourced. whole plant cycle, generation after generation.



# Our History with Seed Growing

- Engagement with Seed Savers Exchange in the 70s and 80's
- Began full time community/market scale gardening at Camphill Village Kimberton Hills 1983-86, continuing in Camphill Village Minnesota.
- Did formal work training with Swiss and German Biodynamic Seed companies, 1991-1993.
- Two seasons of seed/vegetable production in upper mid-west, then started Turtle Tree Seed in 1994.
- 1998-2009 Established Turtle Tree Seed as a sheltered workshop in Camphill Village in Copake, NY, where it continues to this day.
- Began Meadowlark Hearth Farm in Scottsbluf, NE in 2010

# A Seed Initiative in US arising

in western Nebraska near Colorado border, 2 hours from Front range and Rocky Mountains  
arising out of the wholeness of a farm organism approached Biodynamically!







Placement of MH farm: High Plains flat lands with sandstone bluffs seen in background, surrounding the area for 30 miles. Sept 29, 2018:



# meadowlark hearth farm business: since 2010

grass fed/grass finished micro cow beef dairy compost supports our vegetable CSA and vegetable seed fertility needs.

Out of 5 vegetable gardens on our 500 acres CSA we select and trial vegetable seed crops:

## **DRY SEEDED**

Beet/chard/spinach

cabbage-broccoli-some kale/mustards/radish/rutabaga/

Carrot/celeriac/parsnip

Onion/garlic/leek

Corn: sweet/pop/field corn and grain crops possible in the future

Lettuce/sunflower/

Herbs and flowers

Bean/pea/alfalfa....future

## **WET SEEDED:**

Cucumber/squash/melon

Tomato/pepper/eggplant





At our farm: arid, dry, 12-14 inches per year : Selecting chioggia beets by interior appearance.

Roots are still plantable with the cut...challenge to grow chenopod seed with good germ in areas where there are temps above 90 F like the high plains. Chenopod embryos don't form well in that heat. The Biodynamic varieties like Butterflay from Europe at this point are still cheap enough to import...beet seed is hard to import from non EU countries like Switzerland.

**Chenopod family:**

**Beets, chard, spinach**



Beet seed note the tying up the plant...essential for small seed growers to keep the biennial plants off the ground.



# Harvesting beet seed by hand:





Threshing beet seed by machine but can be done under foot with smaller quantities.



Cleaning the sticks out of the beet seed after threshing





Selecting roots out of a produce field, cutting tops rather than tearing them off. Leave 1-2 in.





BIENNIALS FOR SEED: Planting the carrot roots selected and stored from the previous year in the spring of the following year.



Carrot seed does well in western Nebraska,  
challenged only by bad grasshopper years. No wild  
carrot (queen anne's lace as on the coasts and  
milder climates)





Bullsnakes love our root cellar and keep mice under control. These are spring cabbages, heads harvested in the spring 2016, allowed to grow supplementary heads, put into root cellar in fall 2016 then replanted outside in spring of 2017 to flower and pollinate to seed. Is especially helpful to cut heads when it is not a storage cabbage if you want to grow seed in a cold climate.







Planting second  
year cabbages  
in the spring.

# Selecting **storage** cabbages in the autumn





Selected some cabbages to winter over outside which is experimental in our climate, also cut some heads off and storing in the root cellar, beside them king Richard leeks which will also go through winter and we will harvest seed from them. On going discussion with seeds people about leaving heads versus cutting them off. If ut off, seed is larger but there is less of it. If heads are left on then, in the spring an x is made with a knife on the top of the head.





seeds in the pods. Notice strings holding up the plants....Tying up biennial plants going to seed, is essential for the small seed growers...keeps stems from breaking and falling from the weight of the pods and keeps out rot and dirt potentially saving hours of cleaning!

**Brassicas:**

cabbage, broccoli, cauliflower, some kales, Brussel sprouts, collards,

mustards: pac choi, Chinese cabbage etc

Radishes

Rutabagas



Also in the brassica family are the mustard types, different species than cabbage oleraceae, the mustards species do well also in the high plains and there are not as many mustard weed types as there are in wetter climes.



Lettuce in Nebraska has 2 challenges...1. often there are wild lettuces and they can cross with the cultivar or lettuce variety so need to watch that no closer than 50 feet and trial lettuce, 2 also need to watch when they are shooting up to remove bottom of the leaves on the plant. Even though it is a dry climate, if the bottom leaves are not removed then there is a problem sometimes with rot of the plant. In wet climates like Switzerland lettuce is roofed to prevent the botrytis, a fungal situation that does not allow the flowers to develop properly.







Great corn variety from Europe biodynamic breeding called Dauman. It is a super sweet AND open pollinated.

We are working on multiplying it because the large seeded crops like corn, beans and cucurbit family are very expensive to import from Europe. Isolation for corn in our area has to be mostly timing. We have corn fields for animal feed to the north and west of us. We always send in for a gmo test of every seed lot of corn variety that we offer to make sure there are not gmo's in it.



*DRY SEED THRESHING: an onion seed crop.* We love to have people visit especially when they lend their soles!!!





Cucurbits grow fairly well in western Nebraska



# Wet threshing via hand, cucumber contract





Solanum family flesh is often passed on to our CSA members once the peppers or tomatoes are deseeded. King of the North contract for another larger seed company....the bags in the back will be offered to our CSA members.



# Wet threshing by machine, tomato contract





Getting into tomato deseeding If we don't have a large enough batch of seed to do it through the machine: Really soupy business!



OUR LIVING ROOM takes on a new meaning for living rooms! Buckets are filled with fermenting tomato seed to release the seed from the jelly sacks, after that they will be washed and dried.





Alliums do well in western Nebraska: Mulching the garlic seed! 2018 and wonderful when people help with this!



# Protecting the onions hollow stems going to seed from hail storms

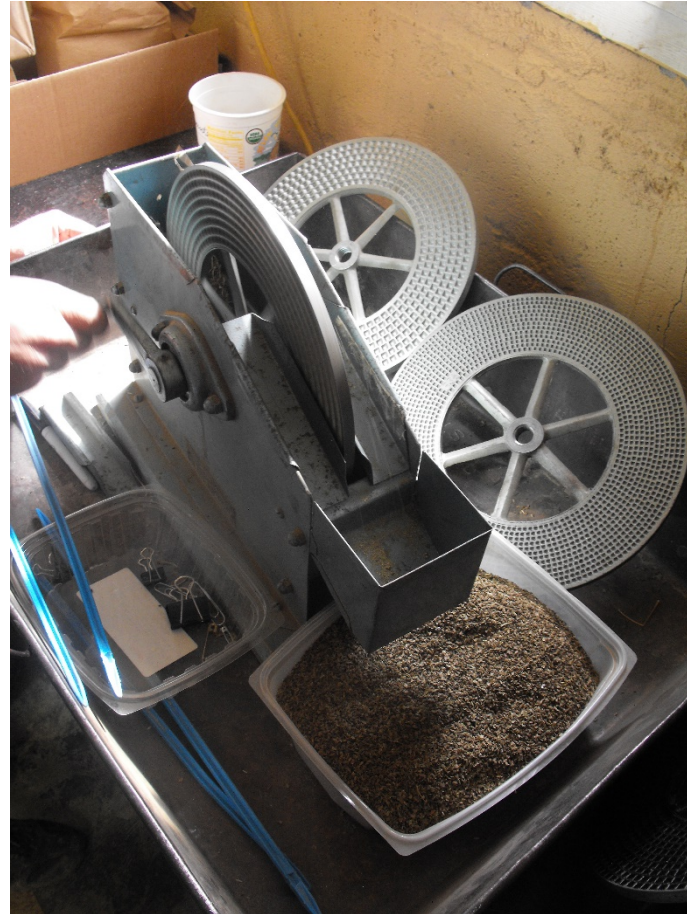




Specialized screens with certain amount of wires going both ways are essential for being able to clean small lots of seed.



A small indented disc cleaner , used to check larger machines for what size but we use it as a cleaner for our small batches of seed.





Tray work was shown to Nathan at his internship in Switzerland biodynamic seed company: Sativa. There a lot of ways Nathan uses this tray.





Blowing seed to upgrade lots is how we use this machine.....often lighter seed is also not as good germ.



# Other friends who work at the farm











# Pollination of onion flowers by a wide variety for insects





Social Work supports the farm and supports the social fabric that is so important to the farm.





Working together to build the biodynamic seed work will gives a great amount of JOY to the group who works toward the goals of understanding the seed and its magic. Seed festivals, high school classes visiting through Living Environment Foundation





# Please visit us!

- Please tell anyone that you know who might be interested in taking on the seed growing, cleaning, testing and marketing arising out of Meadowlark Hearth Biodynamic farm to contact us!
- [meadowlarkhearth@gmail.com](mailto:meadowlarkhearth@gmail.com)
- Thank you for coming today.





# Seed Growing as part of the farm business:

- Getting Started:
  - If you plant seeds you can grow seeds!!
  - Try it first. Grow some of the crops and varieties you like out to seed. Gain some experience and confidence. Replant them the next season and see how they do for you. Share them with others for the same purpose.
  - Find a mentor. Talk to/visit people who are doing it/ have done it. Take a short course in seed growing. SSE Campout/conventions. OSA conferences and tours.
  - Decide how you want to market.
    - Direct regional sales. Seed racks. Regional cooperative.
    - Paper or online catalog/ offering.
    - Contract growing for a seed company.
    - Working with another more experienced contract grower to help fulfill and expand contracts.

# Contract Growing:

- The demand is out there. The market hasn't been saturated yet.
- For the most part, we have not had to go looking for contracts. They have come looking for us.
- We do actively cultivate our relationship with other seeds people/ seed distributors. We have been engaged with the organic seed movement and many of the key players from its very early beginnings in North America.
- Investigate, cultivate, and tap into the demand. See what varieties are not being adequately provided. Talk to seed suppliers. Tell them what you have. Send them seed to trial.



# ECONOMICS:

- Economic Return: About the same as vegetable production.
- Don't be afraid to negotiate or turn down a contract if it is going to return less than you have to put into it.
- Look for economic synergies. Dual seed/vegetable/animal feed crops. Processing (example: popsicles, dried food, salsa , baby food).
- Build a diversified portfolio, both in the seed crops and in other farm income/ activities.
- Engage in education, outreach and social activities.

# RESOURCES NEEDED:

- Human resources: Time, knowledge and skills
  - Land, climatic conditions, and isolation
  - Seed stock. From seed company, maintenance and development on the farm or not? Non-hybrid, proprietary? Relationship with breeder/ seed saver/ seed company.
  - Equipment
  - Funds
- Start small and build
- You can start doing it for yourself, gain experience and reduce inputs before jumping into marketing.



# THE ECOLOGY OF SEED GROWING

- Nature of plant communities and populations in relation to seed.
  - (example Celery/Celeriac)
- Adaptations and limitations in reproduction.
- Interaction with the animal kingdom, other species and varieties of plants, and the surrounding environment. Pollination, weeds, pests, climate, fertility.
- Annuals, biennials and perennials.
- Timing, seasons.

# Delivering a quality product that will build your market:

- Meticulousness at every step:
  - Stock seed
  - Planting and labeling
  - Cultivating and caretaking the mother plants. Ground prep, fertility, water, timing, spacing, trellising, weeding, etc.
  - Harvest
  - Curing and processing
  - Preventing contamination
  - Quality control and Testing
  - Packaging and shipping.



