



### CANADIAN SEED COMPANIES

- Many Canadian seed companies buy in and repack
- Those that grow seed tend to produce many varieties but small quantities of each.



### CHALLENGES TO BULKING UP

- Isolation distance
- Climatic conditions
- Cropping pressure, eg corn
- Insect (leek moth) and weed pressure (carrot)
- Appropriately scaled equipment
- Developing a network of seed growers



## A POSSIBLE SOLUTION? SEEDS OF TRANSITION



### Seed Facilitation Fund 2014

- Collaboration between 4 farms and a seed company
- Put seed back in the hands of farmers.
- Acquire appropriately scaled equipment
- Develop a methodology for working together



## CEDAR DOWN FARM



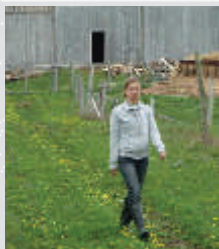
- Leslie Moskovits & Jeff Boesch
- Neustadt, ON
- Certified organic
- Farm Established 2010
- Summer and winter CSA
- Grain share
- Seed growing experience

## GREEN BEING FARM

- Nathan Carey & Tarrah Young
- Neustadt, ON
- Winter CSA
- Pastured pork, poultry and lamb
- Kure kure, pigs
- Seed growing experience



### REROOT ORGANIC FARM



- Caitlin Hall
- Harriston, ON
- Certified Organic
- Farm Established 2010
- Summer & winter CSA
- Pastured pigs, beef cattle and chickens
- Honey share
- Seed growing experience

### SAUGEEEN RIVER CSA

- Cory Eichman
- Durham, ON
- Biodynamic
- Farm Established 1997
- Summer and winter CSA
- Veteran seed grower



### HAWTHORN FARM ORGANIC SEEDS



- Kim Delaney & Aaron Lyons
- Palmerston, ON
- Farm Established 2000
- Certified organic
- Vegetable, flower & herb seed

### PROJECT OBJECTIVES

To establish a farmer led, collaborative seed growers network in Wellington and Grey counties in Ontario

Set up a seed cleaning hub at Hawthorn Farm in Palmerston ON.

Grow 5 farm tested varieties of bean, pea, beet and onion on 5 farms.

Harvest, clean, test and distribute seed.

Document project.

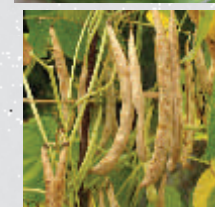
## SCALING UP - GROWING

### 2014 Grow Outs

	Cedar Down	Green Being	Hawthorn	Reroot	Saugeen River CSA
<b>Bean</b>	Bronco		Provider	Coban	Jade
<b>Pea</b>	Strike	Cascadia	Lincoln	Green Arrow	Sugar Ann
<b>Onion</b>	Dakota Tears	Gold Coin Cipollini	Siskiyou Sweet	Rossa di Milano	New York Early
<b>Beet</b>	Touchstone Gold	Bulls Blood	Early Wonder Tall Top	Guardsmark	Detroit Dark Red

## PEA & BEAN

- Farmers need large quantities
- Easy to produce seed – selfers
- Find varieties well adapted to short season growing
- Find productive, disease resistant varieties.



## BEET & ONION

- Farmers need large quantities.
- More challenging to grow for seed.
- Biennial
- Farmers often have winter storage set up.



## PRELIMINARY RESULTS

- 45 lbs Provider bean
- 43 lbs Jade bean
- 13 lbs Strike pea
- 65 lbs Lincoln pea
- Bulls Blood beet in storage
- Rainbow chard in storage
- Rossa di Milano in storage



## SCALING UP – SEED PROCESSING



## GENETIC MAINTENANCE

### Roguing:

- The process of examining a crop and removing unwanted individuals.



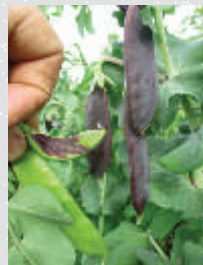
### Selection:

- Desired genetic attributes are kept in a population



## WHAT ARE WE ROGUEING FOR?

- Accidental crossing
- Disease vulnerability
- Lack of vigour
- Early bolting
- Bush v.s vining habits
- Flesh to seed ratio
- Bitterness
- Late flowering
- Early shattering



## WHAT ARE WE SELECTING FOR?

- Delicious taste
- Disease resistance
- Cold soil emergence
- Seedling vigour
- Yield
- Colour
- Trueness to type (uniformity)
- Storability
- Size
- Shape
- Texture
- Earliness



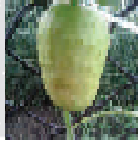
## WHEN DO WE ROGUE / SELECT?



1. As seedlings



2. When flowering\*



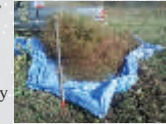
3. At fruit set



4. Full maturity

## HARVEST EQUIPMENT

- Hand Harvest
- Buckets, bins, blades, bags, tarps
- Billhook, scythe, hay fork



## COVERALL



- Drying space for fall harvest
- All weather processing
- Storage of large amounts of plant material



## Combine processing steps



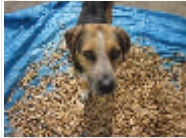
Harvest/thresh into bins with a tarp liner.

- Saves space
- Cost of production v.s value of seed crop
- Weather & time sensitive



Stripping DRY pods into container.

## THRESHING DRY SEEDED CROPS

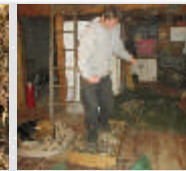
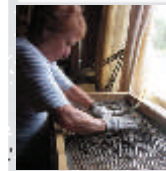


Thresh by foot, paw or hand



Thresh mechanically

## THRESHING BOXES



- Great for small seed lots
- inexpensive.
- Easily improved & adapted

## Appropriately scaled threshing equipment:



- Flexibility
- Portability
- Efficient use of resources. Time, labour, etc,etc

## MECHANICAL THRESHING AT HAWTHORN FARM



Converted chipper shredder  
Allen Dong and Roger J.  
Edberg, I-Tech, P.O. Box 413,  
Veneta, Oregon 97487

## MODIFIED HAMMERS

Blunt flails thrash plant material to, separate seed from chaff.



- Use in a well ventilated area
- Be aware of rocks or other debris exiting the hopper at a high rate of speed

Power Sources:

- Electric motor
- New/used 4 stroke engine
- Bicycle/ human power

\*Adjust pulley sizes according to rpm of power source



## MIGHTY MAC 2.0



Wider flails



- Larger hopper accepts greater amount of beans
- Electric start
- Heavy duty



## CLEANING SEED BY WEIGHT

- Compressed air
- Variable screen box fans
- Shop Vac
- Air columns

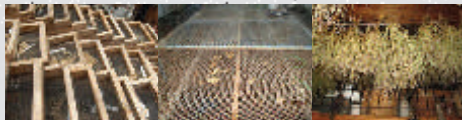




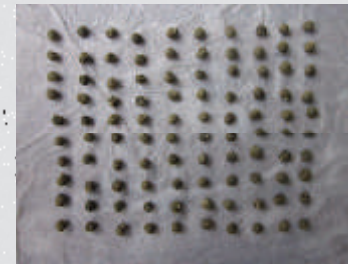
## DRYING INFRASTRUCTRE



Allow for maximum air-flow. Heat levels should not exceed 95. F

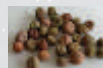


## TEST



## LESSONS LEARNED

- Seeds of Transition is very much an ongoing experiment.
- Growing this seed is a gift to the greater community. Seed is relatively cheap to buy and it is difficult to justify the time commitment. Onion example.
- Ongoing communication is key to success.
- Need to find the balance between unique varieties and useful varieties.
- Incorporating seed into a busy farm business and family is very difficult.



## MORE LESSONS

- Seed crops must be incorporated in the farm plan every step of the way.
- Produce a calendar with a rough schedule for seeding, roguing, harvest etc.
- Planning should start in Jan – Feb with a face to face meeting in mid-March for final planning and a social.
- Farmer / seed company collaboration key to success.
- The desire to produce seed is very strong. It keeps us engaged in the deeper work of farming.

