

## **The Basics of Farm Tools and Infrastructure – Panel**

**Workshop Description:** Infrastructure costs can be a big expenditure for a beginner farmer, and without enough information, can result in some big mistakes! It certainly helps to hear from others who have tested various equipment and have found options that work successfully for different styles of farming. This panel discussion will review 4 key stages of farming: seeding; bed preparation; weeding; and harvest and hear from three farmers about their best recommendations and learning lessons for some of the essential tools and equipment that have supported their operations (with visuals!). Each panelist brings different agricultural experience and expertise to share and it should be a great opportunity to gain insights for your future decision-making.

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### **First Panelist: Bryan Dyck Broadfork Farm, NS**

Manages approximately 2 acres in Production for 2013  
4 acres in tillable land  
Most just coming into production  
2 full time employees/owners - no off farm income

Processing Vegetables:

#### **Wash Station**

We decided on a good flow of wash station and chose deep reservoirs in sinks to wash big batches of greens.  
Big chalkboard to write down harvests  
Cold Storage - Use a north facing porch, added a wall and installed a CoolBot Unit  
CoolBot - device that regulates the way an air conditioner works - it tricks the Air Conditioner to think the temperature is hotter than it is to 38-40F. It costs approx \$1-\$2/day to run the CoolBot at Broadfork 10 - 12 BTU's

#### **Harvest**

Grey bins salvaged from another farm;  
Vermont cart essential for harvesting, wheelbarrow and moving items around the farm;  
Serrated knives for vegetables and yellow handled field knife - head lettuce, broccoli;  
Loppers for brussels sprouts;  
Inherited trailers from a neighbor for garlic harvest;  
Rubber maid containers for packing and for market

## **Tools**

Lays Biotelo mulch (biodegradable non-GMO corn-base) - create two furrows with wheel hoe, lay the mulch and hill up the edges.

Lay drip lines by hand, using rebar to roll out row cover and drip tape;

Micro sprinklers and drip irrigation - impulse sprinklers faster to set up wind causes drift;

Other key tools:

-2 Wheel Hoes

-1 bought from a grower in Ontario

-1 Glaser - It is easier to use, has more adjustments but costs more money.

-Hand Hoes - Lee Valley Hoes - versatile and has a hook at the end.

-Broadfork that a local artisan on the South Shore has made.

Use a \$30 lawn mower adapted to mow high grass in place of a bush hog.

Backpack sprayer for foliar sprays

Reliable vehicle! Invest in a vehicle that can fit all of your harvest for market!

## **Land Preparation**

Bought a tractor and tiller;

Research before you buy. Auctions have affordable equipment but can get you caught up in the excitement and overspend.

Drop spreader - build great relationships with local farmers, you can exchange equipment

Broadcast spreader - great for CalPhos and other granular items

## **Seedlings**

House seedling in south facing sun porch until germination and put them outside

Hotbeds - found them to have inconsistent heating and were hard to fill

Use row cover for tender crops in the Greenhouse

Heated bench covered with row cover and plastic in the 1-layered greenhouse

Heating cables bought at Canadian Tire - usually used for melting snow on roofs.

## **Seedings**

Earthway seeder for beans,

Jang seeder for everything else. Take the felt cover off the back of the roller to successfully plant beets.

Caterpillar tunnels for spinach and overwintered greens

Rowcover with hoops for season extension

Use an old washing machine tub for a hoop bender

**Market stand**

Invested money and time to create a stand that they wanted. Good fabric and details that make your vegetables pop! So you can showcase your veggies in the best way possible!

Contact [www.broadforkfarm.com](http://www.broadforkfarm.com)

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**Second Panelist: Alyson Chisholm  
Windy Hill Farm, NB**

There are as many ways of farming as there are farmers!

Advice: Move away from the place you grew up in and move back as an adult. It allows you to broaden your perspective.

Planting

Transplanting, like the set spacing and the jump on weeds. Also reduces seed costs.

Seeders

1) Jang

Heavy, awkward, expensive, difficult to adjust and not accurate  
okay for carrots, turnips, radish

vs.

2) Earthway

Light, easily adjustable, fairly accurate, inexpensive, maneuverable

Good for carrots, beets, peas, beans, sunflowers, turnip, radish, spinach

Start with the Earthway and - when you have more money and more experience, consider purchasing the Jang

Seedling Starts Area

Heated tables - cables that are used on roofs to melt snow, sand, layer of aluminum plastic on greenhouse. Place bubblefoil blankets overnight and remove them in the morning.

Thermostatically controlled - start at warm and move to cooler places then the hardening off area and outside.

This year, they are creating an insulated room for germinating heat loving crops -

tomatoes, peppers, celeriac;

128 cell trays for everything; open flats for allium - gives them more soil to feed them;

Outside hardening off area - bent hoops and greenhouse plastic - protects from wind and harsh rain;

Always have a back up plan for all of your plans!

### Land Preparation

Under 4 acres in total 1/2 in cover crop 1/2 in veggies.

Uses a tractor allows the farmer to sit down and it does a lot of work in a short time.

We have 2 tractors - rotovator with bed shapers to create raised beds  
5 feet centre to centre spaced beds squeezes out more plants per bed  
Human power and rake are used for a stale bed, bed preparation  
Head start before the weeds come in, use rake to pull out clumps or rocks  
Weeding - Stirrup hoes. You can buy them at Johnny's you can buy the head and find your own handle.

Don't plant any closer than the width of your narrowest hoe  
Wheel Hoe - made by someone in NS. Used for pathways or widely planted crops i.e. corn.

### Mulches

Organic mulch for garlic, contains moisture and creates habitat

Plastic mulch for strawberries

Landscape cloth is great because you can walk on it. You can roll it up. The holes you make are the holes you will have for the next 10 years so consider your plant spacing beforehand. Burn the holes, tin can with a torch to heat the metal.

Work with disposable plastic until you know the spacing you want to work with

Weeding starts when planning the season, not when you see your first flush of weeds. We grow buckwheat in weedy areas and use other cover crops.

Great discoveries are born from mistakes.

### Tools

Small skinny trowel for loosening individual carrots

Pruners with curved ends - green peppers, eggplant, zucchini

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knives - kitchen knives - plastic handles - serrated blades - harvesting broccoli, zucchini, leafy leeks,  
Kitchen scissors - leeks, onions  
Harvest bins from Dubois

### Wash Station

Rubber maid bins are nestable, stackable, food grade and have a lifetime warranty!  
Laundry tub and table -solid resin top, tilted so water runs off catch silt and water  
Wash stations get wet - lots of fill underneath - water drains well  
Wood floor with gaps for water flow.  
Tables for heavy bins. Create ergonomically friendly spaces.  
Hoses along the top - each station has its own hoses  
Harvest carts  
Salad spinner for salad greens

Walk - In cooler - 1500 on kijijji - \$350-500 just to turn it on every year.  
Packing bags for delivery - attractive, insulated for freshness, stackable only on shelves in the truck.  
Available from 4 Imprints - larger the quantity the cheaper the price. We want them to last 3 years or more so we take care of them.

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### **Third Panelist: Tim Livingstone Strawberry Hill Farm, NB**

Tim had a different entry in to farming. He saved for years and bought the CSA (200 members) which he had managed.

### **Greenhouse/Transplants**

Invested in a 2nd hand greenhouse. Hired Jamaicans to help to move and set up. 30 x 90 double poly with roll up sides. Wood stove heat.

Built a little greenhouse inside the big one and ran the electric heat inside the smaller greenhouse to create a germination room.

### **Seeding**

Seeding table - Lay 16' 1x5's on bales of hay.

Puts up a sheet of plastic in greenhouse so they are not heating the whole area just the sections where there are plants. They move the plastic as more transplants are started.

Started with a wood stove and slept in the greenhouse to feed the wood for the fire. Bought an oil furnace for \$150 and now has an alarm system that sends a text to his

phone if the GH gets too cold or too hot.

Blackmore Seeder/ Needle seeder - works on vacuum put over tray, release vacuum and the seeds drop in. Tray trial experiment - 144, 288, 72 4 seeds per plug - 4 corners of cell - peeled the 4 plants off, open 100- 140 trays onions  
288 single seed in a cell made the best transplants

## **Bed Preparation**

Good cultivation is very important. 2 tractors - deep tine with a foot on it, use to bring up grass, digs deep enough for a bed shaper and tiller.

Borrows and rents a spreader for broadcast acti-sol chicken pellets.

Loves the Jang seeder! Kept a careful log to record the wheels and sprockets. Uses a database system to keep track of seeding rates.

Heavy clay soiler - has a plastic layer and and bed maker. Water wheel planter used only 2-3 days per year.

Plants peas and beans with a two row corn planter.  
Uses a snow blower to blow snow away from the side of the greenhouse and uses it to plow driveways for extra income.

Borrows neighbour's seed drill for seeding cover crops.  
Reggie weeder for strawberries

## **Harvest**

Packing - haven't devoted a lot of money to packing infrastructure. Lay bunches on bed spring

Truck box - potatoes end of September ran reefer for 2-3 days and the nights were cool enough to cool down the days.

Small heat pumps on a cool bot more efficient use of electricity  
Develop infrastructure as you go.

Question was about keeping deer away. We used a \$300 fence and charger around a 3-4 acre field. Single strand is baited with tin foil and peanut butter with oil. Also sprayed sweet potatoes with rotten fish emulsion  
Smell gives them a check, smell peanut butter touch foil and get a shock the purpose is to prevent the deer from jumping.