Post Harvest Handling of Storage Vegetable Crops

Cedar Circle Farm, East Thetford Vermont USA

40 acres certified organic, river front, sandy loam, 3 properties, 13 covered growing spaces

Cedar Circle Farm, located in the center of Vermont

250 member CSA, PYO strawberries & blueberries, diversified vegetable production

Expanding season into the winter and early spring, growing 9 months of the year

Farm stand display in mid-December

2 winter farmers markets, farm stand open thru December

Planning or “what you do in the winter” is essential to growing storage crops.

The clean slate: open ground in spring, ready for the year

It all starts with seeds, grow specifically for storage

Onions: Cortland, Shallots: Conserving
Carrots: Bolero
Cabbage: Storage 99
Celery: Mars
Turnips: Juelin
Kale: Winterbor
Potatoes: Desiree, Russets
Turnips: Purple Top

A rainbow of colors even in a white winter
Find seed date by working back from harvesting date. Plan harvesting date on temp. Medium sized onions store better than large ones. We grow them in sets of 4 for the best size and $./row foot.

Storing only the best means only growing the very best. Often storage crops grow in the most “infected” time of the year. Sweet potatoes are a pest magnet, we grow them row cover.

Winter is coming… you’d better be ready. Winter is coming.

Doin’ the storage crop shuffle. Space indoors becomes valuable. Squash curing in pallet bins in our bedding plant greenhouse.

Harvesting by hand or with a little help from our mechanized friends. Using tractors for the heavy lifting = happy staff.

Fall is the age of the machine, be inventive, multipurpose. We use a potato digger and a bed lifter we purchased in 2013 for removing plastic mulch.
Finding the sweet spot between sugars and snow

Checking the storage crop for size and sweetness

The first comb, culling in the field at the time of harvest

Some cabbages just don’t form firm enough heads for harvest in the fall, we leave them in the field.

Hindsight is 20/20 right?

Spring parsnips
Daikon radishes
Nappa cabbage
Washed sweet potatoes
Sweet onions
Softneck garlic
Sugarsnax carrots
Rutabagas

Washing spring dug parsnips

Success! Diversity of storage and green crops!

More fall CSA members
More traffic to farm stand
More demand at market
Less spoilage
Crops to sell in spring
Food for us all winter
Potatoes until new potatoes!

A week’s list of our fall CSA

Get those crops clean!

Washing is the single most important job in the fall. It prevents spoilage and it’s good for the store.

To Wash:
- Potatoes
- Carrots
- Parsnips
- Beets
- Celeriac
- Turnips

We washed over 16,000 lbs of potatoes in 2013!

Packing is a process to improve on annually

Have you supplies on hand
Train & retrain
Monitor process daily
Maintain sanitation
Make sure crops are dry
Make sure crops are cool
Pack in manageable sizes
Pack in marketable sizes
Label each “batch”

We bag up carrots in 3 and 2 lb bags, as well as 50 lb bulk bags.
Curing, the dry side of storage crops, cleaning & packing

Understand the process
Monitor your space
Clean them up quick
Keep things dry in the process
Sort at processing

Clean onions on a bright, dry day with low humidity

The game changer: the barrel washer...

- Best piece of post harvest equipment we have ever purchased.
- Cut our labor time by 3 weeks in 2013
- Revolutionized the quality of our produce
- Easy to run, easy to clean

Really, this was our biggest step forward.

Quality Control

Store only the best, figure out what to do with the rest

Write it all down, keep track of it for next year

Records help you
Track your progress
Track your cost rate
Track your sales
View yourself as a business
Create a culture of accountability
Give you bragging rights

A whiteboard on a walk in cooler to take down quick notes

Storage Conditions: Root Crops

Carrots in 2 lb bags inside of 50 lb plastic storage “sleeve”

Storage Conditions: Potatoes, Alliums, Squash

Potatoes in wax boxes labeled with variety and grade
Sorry, that's not the end of it…culling in storage

Plan three months out; I need to allocate your crops...
On set spreading disease through out crops
Storage means we have less rotten crop later...
Be prepared mentally for a year round farming job...
Carrots dry and ready for packing.

There's storage, then there's long term storage

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We grow hard neck garlic which keeps for 4-6 months under ideal conditions.

Long term storage plans

- Hold onto crops/varieties that store best
- Pack long term storage crops differently
- Located long term storage crops in the best part of your storage area
- Do not pack, move or sort long term storage crops
- Have a different marketing plan for long term storage crops

Look how far we’ve come

Some varieties of potatoes store better than other.

Plan for a changing climate…

Scaling up our equipment

- Root harvester
- Conveyor belts
- Brush washer
- Bagging machines

The view through the barrel washer…
Scaling up our infrastructure

- Additional storage rooms
- More insulation in storage rooms
- Heated wash/pack area
- Additional walk-in coolers
- Plastic storage crates
- Move toward palletized system
- More water pressure

Potatoes spilling over to the other storage room in 2013

Pros and cons of staffing

Pros
- Provide full season work
- Prevents run season food waste

Cons
- It’s cold!
- Sometimes it’s really cold!
- Cars don’t start
- Water freezes
- No one is happy

Our farm stand manager on a -10 degree F morning in our unheated farm stand

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