

POTATO

Solanum tuberosum

Final Crop Analysis

Estimated Harvest goals:

Market	Total Yield Goal [lbs/units]	Notes
CSA	3850lbs	
Dinning	3500	
Student Business	350lbs*EF 300lbs*GO	
Big Y A	500lbs	
Big Y N	500lbs	
Big Y G	90lbs	
Big Y SH	500lbs	
Catering	750lbs	
Farm Market	79lbs	

Cultivars/varieties and seeds:

Cultivar	Source	Amount	Cost	Org or Untreated?
Yukon Gold	Chappelle's	200lbs	\$110	Org
Adirondack Blue	Chappelle's	200lbs	\$144	Org
Red chieftain	Chappelle's	200lbs	\$168	Org
Kennebec	Chappelle's	200lbs	\$184	Org

Reasons for selecting these cultivars:

These varieties were chosen to satisfy our market needs. It's safe to grow one gold, one red and a color variety. I think Dinning special requested Adirondack blue and of my favorite, I think Red Chieftain got the best flavor!

Did the variety description meet your expectations? Why or why not?

Yes, the Adirondack blue was stunning in person!

Would you recommend these varieties again?

Yes! The blues were beautiful and not heavily affected by disease or pest. The gold and chieftain were okay and the Kennebec seemed to have trouble not rotting in storage.

Make suggestions for two other varieties you think would be interesting to try in 2020. List your reasons.

If your feeling up for something maybe fingerling potatoes? Not sure how the harvesting machine would do with them but maybe worth a shot? Also we ended up just giving mixed bags to the dining commons so maybe nice little bags of roasting mixed potatoes would work?

Farmer Notes: Take notes on which plants sprout first, which plants flower first and how notice how different the plants look depending on variety! The Adirondack Blue were so purple it hurt, not just the spud but the plant and even the flower pistol! Notice and enjoy the beauty of life and creation!

How and when the crop was seeded/transplanted:**Direct seeding**

Planting #	Seed date	Seeder Used	Settings Used	Notes on germination
Adirondack Blue	5/1	Potato Planter		
Red Chieftain	5/1	Potato Planter		
Yukon Gold	5/1	Potato Planter		
Kennebec	5/1	Potato Planter		

***Farmer Notes:** I believe we ended up planting an extra row for each variety. Kennebec variety did not store very well, worm damaged got worse. Also the Gold and Kennebec seemed to lose their skin when we washed them.*

Planting Information:

Expected yield/ft: 4 Lbs

Direct seed or transplant: DS

In-Row Spacing: 8-10"

Between Row Spacing: N/A

Number of Rows Per Bed: 1

Bed Feet planted: 3000

Field Planted In: A

Number of succession plantings: 1

Broadcast Fertility: 4/16/19 Composted Chicken Manure 5-4-3 1000 lbs/acre

Additional Fertility: None

Cultural practices:

To plant the Potatoes we used a tractor mounted PTO driven potato seeder. This was a huge time saver and really helped get all our seed into the ground. It was a fun activity and really required full effort to not miss any holes in the rotating carousel. The potatoes also needed to be hilled at least twice over the course of the season. This helps the plants not fall over and gives the potatoes more room to grow also it keeps the potatoes covered so they do not green and sprout. Weeding was a delicate process that ranged from hand weeding, wire weeding and outright just pulling anything that was close to flowering and wasn't a potato!

Notes on Irrigation: About how often what this crop irrigated, how? Anything else you are seeing in the records worth mentioning
Potatoes did fine without artificially irrigation.

Diseases observed: No substantial diseases were observed

Potential Disease Threats:

Common scab, Fusarium Dry Rot, and early blight are all diseases which can occur and cause severe damage. The best method of defence against these problems is healthy soil and healthy seed potatoes. Other than actually digging up the tubers and checking for disease, the quality of the foliage will give some signs of how the tubers are doing. CPB will be obvious when you see it, they eat all the leaves and just leave the large stems.

Insect Pests observed:**Colorado potato beetle**

Damage caused: Eaten foliage

How was it scouted or observed: Crop walk through

Action(s) taken: On July first Pyganic and Entrust were sprayed at 18oz per 1.5 acre. On July 4th Pyganic was sprayed additionally also at 18oz per acre.

Leaf hopper

Damage caused: Eaten foliage

How was it scouted or observed: Crop walk through

Action(s) taken: On July 4 Azadirachtin was sprayed at 16oz per .1 acre and again Pyganic

Potential Insects:

Other than the CPB and leaf hopper, wireworm caused some damage around harvest time. Although there isn't a lot of ways to manage this pest it is something that should be noted when harvesting potatoes.

Do you think the production practices needed for this crop was worth the yield that we received?

This year our yellow and golden varieties, Kennebec and Yukon Gold seemed to lose a lot of their skin when we put them through the root washer. Kennebec also didn't store particularly well. It seemed that our red had the most insect damage.

***Farmer Notes:** Keep an eye out for potato fruits! It's cool to think that potatoes originally were propagated by seeds, they look like little tight tomatoes. I don't know much about seed saving for potatoes, but there must be some cool history and or possibilities there. Potato breeding must be quite the lucrative business especially as plant diversity dwindles I think we had a yield of 2.1 lbs per foot. That's assuming that a white harvest bag had 50lbs of potatoes in it. We recorded that we filled 126 bags (34 Kennebec, 31 Red Chief, 32 Adirondack Blue, 29 Yukon) $126 \times 50 = 6300 \text{ lbs} / 3000 \text{ bed feet} = (2.1 \text{ lbs} / \text{bed foot})$*

Harvest & Storage:**When was the crop ready for harvest? How did you know?**

Potatoes were ready at the end of the summer, other than digging up a potato and seeing if the skin has hardened watching the leaves wilt and yellow is a great sign to start paying attention.

How was it harvested?

First Jason used the rototiller raised up to mow all the above ground matter. Once the foliage was removed we used the potato digger to uncover the spuds. The more the merrier when it comes to harvesting 14 beds of potatoes. We filled two green bins 75% (up to the draft mark) then poured two, three quarter greens into one bag, trying to hit around 50LBs bags.

How was it washed at the wash station?

Potatoes lasted longer unwashed. Not all varieties faired the same. Keeping them dirty in white bags until we needed them, putting them through the root washer and sending out was our practice.

List different post-harvest practices for each market (if any)

We washed them all for all markets.

List different shipping practices for each market (if any)

Usually black totes were the best way to transport the potatoes, coming right from the root washer, they did better in open air then a lock top.

What different or improved harvest and shipping recommendations can you make?

We had the system down well this year. If i can recommend anything it would be label or color the bags or something. Differentiate between varieties, it saves time so you don't have to open every bag.

Storage and post-harvest handling:

Curing: Happens in ground

Washing before storage: NO

Storage Requirements: cool dark space.

How should this crop be processed for long term storage: Any rot needs to be removed before storage.

Where your crop was stored this fall? Deerfield cooler

How well did this crop fair in storage and how did it enter storage?

Overall storage went well. One thing that became apparent was that the Kennebec variety was a lot more prone to rot and thus we had to move out the fastest before they got to bad in storage.

Were there any problems in storage?

Light damage from wire worm and other things would cause nasty rot.

What different or improved storage recommendations can you make?

Nothing much, other than coloring bags so we could tell the difference between varieties.

***Farmer Notes:** Help develop a system for cleaning and reusing the white harvest bags. We saved a lot of them not sure we if plan on using all them but something to consider. Is there chance of disease if we don't clean them? If so how do we mitigate the risk. Also try and record how many lbs come from each individual bed, so an accurate yield per foot can be established. Compare yield bed vs bed, we only have yield for the entire year for 2019.*

Actual Yields and Sales: CSA

Date	Week #	Unit lbs., bunches, bags	Amount Per share	Total brought to CSA	Notes
9/13	1	lbs	4	416	
9/20	2	lbs	4	384	
9/27	3	lbs	4	453	
10/11	5	lbs	5	8 Bags	
10/18	6	lbs	5	8 Bags	
10/25	7	lbs	5	6 Bags	
11/1	8	lbs	4	386	
11/8	9	lbs	5	446	

Other Markets – report total amount sold to each market over the season

Market	Price/unit	Total Units sold	Total amount of sales
DC	\$1/lbs	2530	\$2530
Earthfoods	\$1/lbs	88	\$88

Total Gross Income Received From Your Crop: \$2,618

Review and Recommendations:**What was different between what was done and what was planned?**

I think that the biggest difference between what we did and planned was number of rows. We originally planned 10 rows and ended up planting 14 one more of each variety. Other than planting Red Chieftain rather than Red Pontiac all went according to plan. This crop is straightforward and should be to continue as a part of this farm.

What worked really well and should be continued?

It was instrumental to have a standing order with Dining. They are flexible on variety and quality. This needs to happen in order to move the volume we did this year. Harvesting with the potato digger and then dumping into white bags was very successful. Not overfilling green bins and dumping two into a white bag helped keep their weight roughly at 50lbs.

What changes would you recommend for next year?

One change I might suggest is finding a way to get an agreement with Big Y to buy our potatoes. This would be the next step in increasing our sales for potatoes. Also might find way to get a trailer or truck in the field so we don't have to carry out hundreds of bags and show a way to demarcate between varieties once in bags.

Should we grow this crop again? Why or why not?

Yes! Its successful fun delicious and most importantly can make money.

Farmer Notes: Put in the work, stay late, laugh hard and grow some veggies that help fill our community's bellies. DC came in clutch and made us a boatload of money! Think about expanding to Big Y or ramping up our DC standing order?