

SWEET POTATO

Ipomoea batatas

Final Crop Analysis

Estimated Harvest goals:

Market	Total Yield Goal [lbs/units]	Notes
Big Y	1144 lbs	
CSA	2800 lbs	
Farmers Market	76 lbs	
Dining	1300 lbs	
Student Businesses	575 lbs	

Cultivars/varieties and seeds:

Cultivar	Source	Amount	Cost	Org or Untreated?
Beauregard	Vicks Family Farms	1000 slips	180\$	untreated

Reasons for selecting these cultivars:

Beauregard is a very standard variety of sweet potato and one of the most popular varieties. It has nice orange color and does well in areas that get cool.

I was interested in also trying Japanese yams but the price difference between the Beauregard variety and the Japanese yams was huge. So I decided to keep things simple and stick with just Beauregard to save money.

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

Yes, the sweet potatoes grew great and look great right now. Considering they were often the crop that ended up getting skipped on for weeding I think they did really well. I have yet to taste one so I'm curious about the flavor still.

Would you recommend these varieties again?

Yes, I think Beauregard is a trusty and popular variety and should be included in next years crop.

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

I recommend Japanese Yams if someone is able to find someone who sells the slips for cheap/non-organic slips. This variety is currently gaining popularity (honestly, I think it is because they are the color of the yam emoji).

How and when the crop was seeded/transplanted:

We put down black plastic then had a large group of people to manually punch holes at a foot spacing. We hand planted all the slips in one afternoon on May 31st.

Field Planting Info

Planting #	Plant date	Number of row feet planted	Rows per bed	Planting method	Notes on survival in field
1	5/31	3000/ 6 beds	1	hand	High survival rate

***Farmer Notes:** When planting sweet potato slips it is important to dig holes deep enough to cover the majority of the slip (up to the top leaves) in soil. Our crew did this by hand using bulb planters (giant hole-punchers for soil). This caused us to take a whole afternoon to plant the sweet potato slips so I recommend using the water wheel on the tractor instead. It is best to plant them in full sun late enough in the season so the soil is warm. Our sweet potatoes looked pretty wilted the first few weeks they were in the ground but they perked up on their own as time went on, so don't feel panicked if this happens to you.*

Planting Information

Expected yield/ft: 3.5 lbs/foot

Direct seed or transplant: direct seed/ planting slips

In-Row Spacing: 12"

Between Row Spacing: 6'

Number of Rows Per Bed: 1

Bed Feet planted: 3000

Field Planted In: C

Number of succession plantings: 1

Broadcast Fertility: 4/23/19 Composted Chicken Manure 5-4-3 1000 lbs/acre

Additional Fertility: No

Cultural practices:

- We used black plastic in all 6 beds.
- Unlike potatoes, no hilling is required for sweet potatoes
- We went through and hand weeded the holes of the sweet potatoes on June 12th, 25th, 26th. As the season went on we had less time to give a detailed hand weeding but would do quicker walk throughs and pull the big weeds.
- We hoed the paths between the rows of the sweet potatoes on June 12th and 25th and about 4 more times in July and August.
- We used the under-cutter bar implement on the tractor to get them out of the ground.
- Once the sweet potatoes were dug and laying in the field, we hosted a volunteer day to get help with getting them all out of the field and packed into bags.

Notes on Irrigation:

The sweet potatoes were set up with drip lines underneath the black plastic. We turned the drip on during the excessively hot and dry times in the summer. Sweet potatoes don't require a lot of water though and can do well in dry soil once established.

Diseases observed:

There were no diseases observed on our sweet potatoes!

Potential Disease Threats:

Over-irrigation can lead to water-logging sweet potatoes which can suffocate the plant roots and lead to diseases such as powdery scab, blackleg, and tuber cracking.

Powdery scab: dark brown, pithy patches that may be raised and warty

Blackleg: inky dark colored and sometimes slimy lesion that develops on the stalk

Tuber cracking: cracks that form in the sweet potato that either stay open or heal creating a fissure

Insect Pests observed:**Wireworm**

Damage caused: Holes and scars from holes

How was it scouted or observed: While harvesting we observed some wireworms still inside of the sweet potatoes

Action(s) taken: All we could do was sort out the sweet potatoes that had damage from the wireworms.

Potential Insects: What should farmers of the future expect to see? Report more than one pest if applicable.

Wireworms: larvae of beetles that eat holes and leave scars in root vegetables

Sweet potato flea beetle: beetles cause damage to the growing leaves of the sweet potato

Leaf hopper: leafhoppers also cause damage to the leaves by feeding on them

Do you think the production practices needed for this crop was worth the yield that we received? Yes, we often times left sweet potatoes as our last priority for weeding and they looked alright for the most part. Of course if we left them unattended for too long they would become a slightly stressful weeding situation but never anything unmanageable. They produced a good yield and taste great, are good for storing, and add some weight to the CSA.

Farmer Notes: Try to weed in the holes of the sweet potatoes early on because once they start to grow and vine out it becomes much more difficult to even get in the aisles. I recommend using the transplanter on the tractor to punch holes in the black plastic and drop the slips into place. Remember to weigh how many pounds you end up harvesting because it will be useful for next years crew (we forgot to write it down).

Harvest & Storage

When was the crop ready for harvest? How did you know?

Typically the leaves start to turn yellow when sweet potatoes are ready to be harvested. You can dig a few up to see how they look prior to harvesting all of them. Ours were harvested on October 10th.

How was it harvested?

We used the under-cutter implement on the tractor to dig them all out at once.

We hosted a volunteer day to get some extra hands for collecting the sweet potatoes into white bags. There was about 10 of us total who were able to come. It took us between the morning block @9am till about 2pm to get the job done.

When harvesting heavy bags of roots we would have one person drive a truck along the edge of the field while one person stood in the bed of the truck and collected the bags into the back as people carried them to the edge of the field.

How was it washed at the wash station?

We put some through the brush washer initially but they got kind of scraped up in it.

For the majority of the sweet potatoes we would use white rags to brush the dirt off before packing them.

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

Wholesale: brush washer

Dining: brush washer

CSA/Farmers Market: wiped down

List different shipping practices for each market (if any)

Dining: Wax boxes

Big Y: Wax boxes

CSA/Farmers market: Either keep them in the bags or transfer them into black totes.

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

A better system for washing the sweet potatoes for wholesale needs to be developed. The brush washer was too rough at times and cleaning them with a rag isn't thorough enough for Big Y and dining. I recommend experimenting with the root washer and the brush washer to see which one works best for sweet potatoes.

Storage and post-harvest handling:

Curing: We cured the sweet potatoes in the haygrove for about a month.

Washing before storage: No

Storage Requirements: 54-61 degrees, 85-90% RH, about 1 month duration

How should this crop be processed for long term storage: Cured and unwashed until an order is placed

Where your crop was stored this fall?

In white bags in the barn

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

The sweet potatoes did great in storage.

Were there any problems in storage?

No issues with storage

What different or improved storage recommendations can you make?

None

***Farmer Notes:** I recommend talking to Amanda and Jason about what methods for washing the sweet potatoes they would recommend. We resorted to wiping them down with clothes a few too many times which resulted in sending out orders that weren't as quality as they could have been.*

Actual Yields and Sales:CSA

Date	Week #	Unit lbs., bunches, bags	Amount Per share	Total brought to CSA	Notes
9/27	3	each	3 and 2	275	
10/1	4	each	4 and 2	342	
10/11	5	each	2 and 2	208	
10/25	7	White bags	unknown	6 bags	
11/1	8	each	3 and 2	275	
11/8	9	-	Take what you want	All	We had a surplus of sweet potatoes
11/15	10	-	Take what you want	All	So that last two weeks CSA members could load up

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

Market	Price/unit	Total Units sold	Total amount of sales
Dining	\$1.75/lb	1275 lbs	\$2231.25
Big Y Amherst	\$1.75/lb	180 lbs	\$315
Big Y Northampton	\$1.75/lb	173 lbs	\$302.75
Big Y South Hadley	\$1.75	171 lbs	\$299.25
Big Y Greenfield	\$1.75	50 Lbs	\$87.50

Total Gross Income Received From Your Crop: \$3,235.75

Review and Recommendations

What was different between what was done and what was planned?

I had planned on growing a second variety of sweet potatoes along with the Beauregard. But we were not able to find someone who sold the varieties slips for a price we could afford. However, this change happened early enough in the season for it to be noted in my original crop plan so technically we did follow the plan.

What worked really well and should be continued?

Doing one massive harvest of the sweet potatoes (and parsnips) was amazing. It was nice to know they were all out of the ground and in the barn during harvest days. Having the ability to have the whole crew in one location rather than sending some people to South Deerfield to harvest roots made communication and timing during class harvest blocks better.

What changes would you recommend for next year?

I would try to up the amount of sweet potatoes we sell to dining because they can always use them. We had a large amount of excess at the end of this season and the food bank was unable to take all of it so it is a shame we didn't sell more during the season.

In terms of planting I would recommend planning a day when you can use the transplanter on the tractor to punch holes in the plastic and drop slips. We got the job done doing it without a tractor but it would have been more time efficient to use one.

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

Yes, sweet potatoes bring in a good amount of money and are a relatively low maintenance crop. They were a big part of every CSA as soon as they were harvested and available.