

# POPCORN

*Zea mays everta*

## Final Crop Analysis

### **Estimated Harvest goals:**

Market	Total Yield Goal [lbs/units]	Notes
CSA	700lbs	
FM	30lbs	

### **Cultivars/varieties and seeds:**

Cultivar	Source	Amount	Cost	Org or Untreated?
Glass Gem	Johnnys	2400 seeds	\$42.09	Org and untreated
Robust	Left over			

### **Reasons for selecting these cultivars:**

Appearance for glass gem, it is also an heirloom variety coming from original Cherokee corn. Robust seed was saved from previous year and performed very well. (we thought hybrid seed did not reproduce but it did great!)

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

Yes. Looks great. Robust had much higher yields than glass gem

### **Would you recommend these varieties again?**

Yes for both.

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

I would suggest saving the glass gem and robust for replanting next year. I would also recommend experimenting with cross pollination to get some new hybrids

*Farmer Notes:* I suggest that future farmers plan production so that there is enough seed to save. The glass gem is open pollinated so that could be a good option for saving seed.

### **How and when the crop was seeded/transplanted:**

#### **Field Planting Info:**

Planting #	Plant date	Number of row feet planted	Rows per bed	Planting method	Notes on survival in field
1	6/3	1000	2	Hand	Great stand!
2	6/21	1000	2	Hand	

**Farmer Notes:** Hand planting at high density worked great. Make furrows with a tractor, drop seed by hand and cover with a hoe. We only bought glass gem, but also had left over Robust seed, so we planted that also in two successions. We picked the entire field as one succession so that did not matter. We ended up with 5 beds total. Weeding was a breeze, everything was shaded out.

**Planting Information:**

**Expected yield/ft:** 11b

**Direct seed or transplant:** DS

**In-Row Spacing:** 6"

**Between Row Spacing:** 2.5

**Number of Rows Per Bed:** 2

**Bed Feet planted:** 1250

**Field Planted In:** B

**Number of succession plantings:** 2

**Broadcast Fertility:** none

**Additional Fertility:** Composted Chicken Manure 5-4-3 spread by hand before planting

**Cultural practices:**

Tractor furrows made, two rows per bed. Hand seeded and covered with hoes. Hand weeded and hoed. Clover ground cover planted when plants reach full height

**Notes on Irrigation:** None, not needed

**Diseases observed:** Moisture when picked, turned into mold in storage

**Potential Disease Threats:** Corn smut, Corn rust, Mold, Stalk rot, Eye spot, Gray Leaf Spot

**Insect Pests observed:** None

**Potential Insects:** corn borer, spider mites, leaf hopper, popcorn tends to be very robust and does not attract pests in general.

**Do you think the production practices needed for this crop was worth the yield that we received?** Suckers on Glass gem may be related to decreased cob size. Clover looks great. Robust came out great. The popcorn is very low maintenance, but at the same time, it does not generate a lot of income since it is given to the CSA. That being said, it is a valuable crop for the CSA. I think it is worth it and a pleasure to grow. I also think it is important for students to learn how to grow corn since it is a staple crop.

***Farmer Notes:** Glass gem is beautiful but not as productive as robust. It would be worth planting a mix of these two again, with Glass Gem for show and Robust for how big its yield is. It would be worth cross pollinating them further so each year it can improve, gaining visual colors from Glass Gem and size of Robust. For production practices, I think we really nailed it. Weeds were not a problem and we established a really nice cover crop under the corn. To seed the cover crop, we first rototilled between rows, so the soil would be soft and well prepared for the clover seed. Then roll the seeds in with grass roller.*

### **Harvest & Storage:**

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

Crop was ready in October, When silks were dry and even more so when the husks were dry

#### **How was it harvested?**

Harvested by hand into mesh bags

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

Could be sold as entire cob or could be sold as bags of just grain

#### **List different shipping practices for each market (if any)**

Moved using black crates directly to CSA

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

Harvest earlier and do not store in bags for more than a day or two, dry immediately on drying racks or hung up.

### **Storage and post-harvest handling:**

**Curing:** Curing was done on a drying rack made by Jason very quickly and out of panic and was not super successful but some of the harvested that was shucked right away was saved. Cobs are dried with husks (ideally) and then shucked when dry and stored in black crates in dry area.

**Storage Requirements:** Dry space where humidity can pass through container

**How should this crop be processed for long term storage:** Crop is dried in husks the shucked where it can dry entirely. Indefinite storage when dried correctly. As cobs or bags of grain if you need to save space.

**Where your crop was stored this fall?** Stored in barn in crates

**How well did this crop fair in storage and how did it enter storage?** Most was lost when stored waiting to be shucked with husks on. What was stored successfully has done well besides a little mold but hopefully will dry thoroughly for popping

#### **Were there any problems in storage?**

We left them in mesh bags for too long, which trapped moisture and caused mold to fester, which lead to the loss of most of the crop.

#### **What different or improved storage recommendations can you make?**

Storage is fine, processing needs to happen right away. As soon as it is out of the field, either hang cobs to dry or have a drying rack ready for them, so they can dry completely.

**Farmer Notes:** The popcorn was beautiful but most of it was lost because it grew mold before we shucked them since they were stored for a few weeks with their husks on in mesh bags, where the mold proliferated. Next time, do it right away and make it a priority, shuck them within a few days and have them drying in the open on a drying rack for a month at least.

#### Actual Yields and Sales: CSA

Date	Week #	Unit lbs., bunches, bags	Amount Per share	Total brought to CSA	Notes
10/18	7	Cobs	4 cobs full, 2 cobs half	342	
10/25	8	Cobs	4 cobs full, 2 cobs half	342	
11/1	9	Cobs	4 cobs full, 2 cobs half	342	

**Total Gross Income Received From Your Crop:** NA

#### Review and Recommendations:

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

We gave out approximately what we planned to give out for the CSA

We also planned to sell 30 lbs at the farmers market but did not

##### **What worked really well and should be continued?**

Giving them to the CSA worked well and people really respond well to the type of popcorn we grew

##### **What changes would you recommend for next year?**

I would recommend selling it at the farmers market and perhaps asking Big Y if they would buy it. This way, we can make money from another crop that stands out in retail markets

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

We should absolutely grow popcorn again, it is so easy to grow and is a beautiful plant. People love it and it stores indefinitely and could even be sold to make money in the spring.

**Farmer Notes:** Cook them in butter and they are really good. The popcorn was an example of the conflict that can present itself farming within UMass with other work from school being the priority. The popcorn got left sitting on the stalk too long and then was left in the bags too long and we lost a lot of the crop that way. It is a tough situation and makes everyone sad but it is important to remember that we tried our best but sometimes things fall through when there is so much to be done.