

LETTUCE

Lactuca sativa

Final Crop Analysis

Estimated Harvest goals:

Market	Total Yield Goal [lbs/units]	Notes
CSA	2100	
Dinning	100	
Student Business	45*EF 60*GO 60*SN	
Big Y A	100	
Big Y N	50	
Big Y G	20	
Farm Market	20	

Cultivars/varieties and seeds:

Cultivar	Source	Amount	Cost	Org or Untreated?
Muir	Johnny's	1000	\$19.40	Org
Red cross	Johnny's	1000	\$10.24	Org
Coastal Star	Johnny's	1000	10.91	Org

Reasons for selecting these cultivars:

Picked these varieties to satisfy the needs of a red, green and romaine. Coastal start is nice large romaine with heat tolerance. Some say that butterhead cultivars don't transport well and are a pain to harvest and wash, but they do taste good, so they are not all butter heads!

Did the variety description meet your expectations?

Yes

Would you recommend these varieties again?

Yes! Romaine was a huge success, if you can sell more in the summer, same with iceberg. Butter heads are nice and leafy green are good too. I really would like to see Muir gown again it was so gorgeous and happy up in 9 it was just planted too late so we didn't get to harvest all the successions.

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

We grew iceberg for summer production and I loved it! Its nice to harvest and great for eating. We grew the crispino variety and it did well. Sadly we didn't have extra seeds for fall planning so we stuck with just the three listed above. I bet people would buy a fall iceberg (Crispino was excellent) if it grows okay when the temperatures get colder.

Farmer Notes: *After having lettuce this year I have a theory which you might try and implement. More small successions in summer then as summer ends plant fewer large successions. In the summer sometimes we couldn't harvest all the lettuce heads before they bolted. Harvest half a row and the next few days the rest could bolt. There is where successions would help reduce the chance of losing yield due to bolting. The difference of a week planting in the summer can mean bolting and not. Then as the days get shorter and colder plant large rows of lettuce. Then when the heads are full, the darker cooler days will help keep the heads from bolting and with a little remay you can keep your heads from freezing and have lettuce far into the fall!*

How and when the crop was seeded/transplanted:

Greenhouse seeding:

Variety	Seed date	Tray size	Number of trays	Notes on germination
Coastal Star	7/22	128	3	
Red Cross	7/22	128	3	
Muir	7/22	128	3	
Coastal Star	7/29	128	3	
Red Cross	7/29	128	3	
Muir	7/29	128	3	
Coastal Star	8/5	128	3	
Red Cross	8/5	128	3	
Muir	8/5	128	3	

Field Planting Info:

Planting #	Plant date	Number of row feet planted	Rows per bed	Planting method	Notes on survival in field
Coastal Star	8/12	100	3~4	Hand planted in Tractor Furrow for all	
Red Cross	8/12	100	3~4		
Muir	8/12	100	3~4		
Coastal Star	8/19	100	3~4		
Red Cross	8/19	100	3~4		
Muir	8/19	100	3~4		
Coastal Star	8/26	100	3~4		
Red Cross	8/26	100	3~4		
Muir	8/26	100	3~4		

Farmer Notes: *(PLANT EARLIER) We fudged the in bed spacing and did three or four staggered bed plantings. This may affect the speed at which these heads grew but also may have just been the cold weather. We also needed remay for the cold weather would have killed our crops.*

Planting Information:

Expected yield/ft: 2.5lbs

Direct seed or transplant: TP

In-Row Spacing: 10"

Between Row Spacing: 10"

Number of Rows Per Bed: 4

Bed Feet planted: 900ft

Field Planted In: 9

Number of succession plantings: 3

Broadcast Fertility: 6/17/19 Composted Chicken Manure 5-4-3 1000 lbs/acre

OMRI Potassium Sulfate 500 lbs/Acre

Additional Fertility: none

Cultural practices:

For lettuce we ended up with enough starts that we decided to plant 4 rows per bed instead of 3. This meant we had to furrow the beds by hand with a shovel. For weeding hoes and hands can be used but with the busy fall lettuce weeding was not a top priority. The lettuce did need remay to protect it from the cold weather and this must if late season heads are desired.

Notes on Irrigation: None. Happy without!

Diseases observed: No significant diseases observed.

Potential Disease Threats:

Downy Mildew and lettuce mosaic virus are two common diseases that can occur but thankfully these were avoided. Look out for white looking mold fibers for downy mildew, where mosaic will make the leaves yellow unevenly.

Insect Pests observed: None

Potential Insects: What should farmers of the future expect to see? Report more than one pest if applicable. Aphids, leaf miners and cutworms are all pests that can damage lettuce heads. Encouraging natural predators and crop rotation seem to have kept these pests at bay. A good thing to learn to identify leaf miner. It can start in the greenhouse and can simply be picked out. It will appear as little squiggly tan lines on the leaves, just remove the infected leaf and hope for the best.

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

We planted lettuce in 4 rows per bed which is almost too close. If spaced evenly it can work, however if when creating the furrows by hand and you aren't exact, the spacing can be too tight. Either making sure the spacing is dead on or just plant 3 rows.

Harvest & Storage:

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

Lettuce is a little tricky to learn when it's ready. A good trick is to gently squeeze the head and if it is firm that a good indicator of maturity.

How was it harvested?

Give us the details, tools used, people needed to get it done, problems in the field] My recommendation is to get your harvest number, walk down the bed cutting and then once you hit your number pack out. Lettuce harvest should always begin with a sharp large knife. Time spent sawing through a soft lettuce head with a tiny pocket knife is time wasted. Jason will show you the best method, but if you gently part the leaves between the far outside leaves and then slice you will free the head and leave the dirty leaves attached to the ground.

How was it washed at the wash station?

A good little dip and dunk makes the lettuce all ready for distribution and eating.

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

All lettuce was treated the same

List different shipping practices for each market (if any)

Usually we packed lock lids with lettuce. Occasionally on a small delivery a wax bushel snuck in.

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

Learn to tuck and roll, yes kind of like gymnastics but with lettuce. Especially the romaine, the heads fit but only with a nifty squire and roll and pack. Count and remember your pack numbers and learn which way gets you the most heads but also don't over pack. Lettuce is a VERY fragile crop.

Storage and post-harvest handling:

Curing: N/A

Washing before storage: triple bay sink or dunk tank

Storage Requirements: 34 degrees and 95% RH

How should this crop be processed for long term storage:

Where your crop was stored this fall? Cooler in barn

Actual Yields and Sales:CSA

Date	Week #	Unit lbs., bunches, bags	Amount Per share	Total brought to CSA	Notes
10/18	5	Heads	2	174	
10/25	6	Heads	2	169	
11/1	7	Heads	2	174	
11/8	8	Heads	2	174	

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

Market	Price/unit	Total Units sold	Total amount of sales
Wholesale	\$12/case	24	\$288
DC	\$2/lbs	25	\$50
Sylvan snack bar	\$2/lbs	10	\$20

Total Gross Income Received From Your Crop: \$368 :(planted too late

Review and Recommendations:

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

Two things greatly affected our season for lettuce. The first was heat. During our summer production we lost 2 maybe 3 whole rows of head lettuce due to a hot weekend. It was a perfect storm, Amanda and Jason were both on vacation and a select few were forced to make a hard call. That bolting of so much head lettuce cut our summer production short. Then the second major mistake was my planning of planting our fall lettuce was far too late. We did not get CSA head lettuce in the fall till over the second CSA in October. We didn't have much to offer DC or Big Y and what could have been a profitable fell a little short.

What worked really well and should be continued?

Summer romaine and iceberg were very successful. Green, red and romaine in the fall were happy but they should have been started earlier.

What changes would you recommend for next year?

I think succession are great, If I could recommend it would be more successions. If we didn't have a 500 foot bed divided into just two successions but maybe 4, heat mishaps may affect one planting but rarely will you lose a whole bed. Amanda and Jason plan summer production but maybe talk about trying multiple successions in one bed so the crew can get a feel for what it is like to work and weed such a diverse bed. Look at my seed dates and they might need to be started earlier if you don't want to have such a gap between summer production and fall.

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

YES! This crop is amazing, delicious and makes buck if you don't let it all bolt!

Farmer Notes: *Farming is hard work! Remember on a co-op farm doing less work means more work for someone else. Putting in the work always pays off. If it means staying till 6pm on a Friday so you don't lose two full beds of lettuce you might just want to delay your evening plans. In the moment you might feel indecisive but looking back you are gambling months of work for a few hours. Start seeding end of June, through July NOT end July beginning of August. We had three succession in the fall and only one of the three was really ready to harvest by the time they fully stopped growing.*