DRY BEANS

Leguminosae, Phaseolus, vulgaris

Final Crop Analysis

Estimated Harvest goals:

Market	**Total Yield Goal** [lbs/units]	**Notes**
CSA	1400	
FM	40	
Earth Foods	20	
DC	50	

Cultivars/varieties and seeds:

Seed Source	**Suggested Variety**	**Cost**	**Pelleted or coated seed? Y/N**	**Organic? Y/N**	**Notes**
High Mowing	**Jacobs cattle**	**$2.95/oz.**	**N**	**Y**	
Johnnys	**Kenearly Yellow Eye**	**$4.35/pk**	**N**	**Y**	
High Mowing	**Pinto**	**$2.95/pk**	**N**	**Y**	

Reasons for selecting these cultivars:
Mostly appearance and native varieties that can withstand the excess moisture of New England climate

Did the variety description meet your expectations? Why or why not?
Yes all of the varieties yielded good beans. The Kenearly was the most productive/ most planted. Jacob's cattle produced largest and most beautiful beans but less in quantity.

Would you recommend these varieties again?
Yes to all

Make suggestions for two other varieties you think would be interesting to try in 2020. List your reasons.
Calypso because it looks cool
Black turtle because it's very recognizable black bean

Farmer Notes: *I recommend that future farmers plan to plant enough beans to save seeds for the following year. It would be easy to do and will save a lot of money because bean seed can be expensive. I also recommend keeping the varieties separate in their beds, for simplicity when harvesting.*

How and when the crop was seeded/transplanted: Crop is seeded by hand in tractor made furrows then covered with hoes. Was planted in mid-May (May 13)

Direct Seeding:

Planting #	Seeding date	Number of row feet planted	Rows per bed	Planting method	Notes on survival in field
Jacobs Cattle	5/13	2000	4	Hand	
Kenearly Yellow Eye	5/13	2000	4	Hand	
Pinto	5/13	2000	4	Hand	

Farmer Notes: *Could have planted more densely, some plants did not survive, germination rate was around 70-80%. This left a lot of open space where weed grew which made us weed out the field many times. We also tried filling in holes by moving baby plants that germinated close together for a better stand in the field.*

Planting Information:

Expected yield/ft: 1 lb

Direct seed or transplant: DS

In-Row Spacing: 6”

Between Row Spacing: 1’

Number of Rows Per Bed: 4

Bed Feet planted: 2000

Field Planted In: B

Number of succession plantings: 1

Broadcast Fertility: 5 /13/19 Composted Chicken Manure 1000 lbs/acre

Additional Fertility: no

Cultural practices:
Planted in 4 rows. Hand weeded and hoed many times. Were sprayed for leafhopper (see IPM section)

Notes on Irrigation: None

Diseases observed: None

Potential Disease Threats: Pod Rot. leaf spot, rust, root rot. mold

Insect Pests observed:
Mexican bean beetle, leaf hopper

Damage caused: Hopper burn
How was it scouted or observed: randomly spotted
Action(s) taken: Spray pyganic and Azadaractin

Potential Insects: Leaf hopper, bean beetle, aphids

Do you think the production practices needed for this crop was worth the yield that we received? We had to weed way too much. The cost to produce the beans was not made up for with sales since it was only distributed to the CSA. That being said, I think it is possible to plant at a high enough density that you only need to weed once or twice.

Farmer notes*: Seeds should be planted at higher density to shade out weeds quicker. It is very important that when the beans are weeded, every worker is doing a thorough job because any unthorough work will turn into a mess with a few weeks left alone.*

Harvest & Storage:

When was the crop ready for harvest? How did you know?
Dry beans ready in August when the entire plant is mostly dry, at least pods thoroughly dry

How was it harvested?
Entire plant cut by hand with a knife, machete or clippers, then put on white whale then put back on the ground and covered in plastic then fed into combine by hand while stationary. The plants were not entirely dry by the time they got to the combine and some had gotten wet from being under the tarp. Took a team of about 7 people two hours or so with Zack there for combine operation.

List different post-harvest practices for each market (if any)
All stored in burlap bags

List different shipping practices for each market (if any)
Beans were distributed to CSA in 1 lb bags

What different or improved harvest and shipping recommendations can you make?
We planted the field so that the combine could drive through. Make sure you grow beds that are spaces so the combine can drive through. Grow a thick stand, plant seeds 2 inches apart and thin if you need to, get a full stand, so that the harvesting can happen all at once with the combine. When you harvest it, time it so that they only get handled once. Make sure the plants are dry and there is no rain in the forecast for a long stretch. If you cannot drive the combine through the field, drive it onto the field, where the husks can shoot back onto the field. We handled the beans way to many times and made a lot of panicky decisions so be calm about the beans and try to harvest them right.

Storage and post-harvest handling:

Curing: Dried in burlap sacks

Storage Requirements: Dry and even temp (in break room worked well)

How this crop should be processed for long term storage:

Shelled and dried in sacks.

Where your crop was stored this fall?

Break room at SD

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

Sacks in break room. Some beans swelled and went bad but most were fine

Were there any problems in storage? [Any rotting, pest damage, color issues, condensation]

Some individual beans went bad

What different or improved storage recommendations can you make?
Just make sure they are dry when you bag them, I recommend making big drying tables and spread the beans on them right after harvest.

Farmer Notes: *The beans were my favorite crop to grow. They are beautiful and it empowering to know how to produce beans. Learn from what we have done this year because we made many mistakes, but they can be avoided. The beans have been grown on this land for thousands of years and the beans love this land, so plant them! People love beans.*

Actual Yields and Sales: CSA

Date	**Week #**	**Unit** lbs., bunches, bags	**Amount Per share**	**Total brought to CSA**	**Notes**
11/1	9	1 lb bag	1	104	
11/8	10	1 lb bag	1	104	

Total Gross Income Received From Your Crop: Does not apply since they were only given out to the CSA

Review and Recommendations

What was different between what was done and what was planned?
We planned to be able to to give 2lb bags to the CSA but only ended up giving away 1lb bags. We also planned to sell 10 lbs for 4 weeks at the farmers market but did not. We also planned to give some to dining but did not accomplish that either.

What worked really well and should be continued?
We only gave them to the CSA twice which seems like a lot of work for not a lot of payoff.

What changes would you recommend for next year?
I recommend growing the same size field and selling fill-your-own bags at the farmers market and seeing if Big Y would buy bags. I think high end retail markets would like the dry beans since they look so nice. If we displayed them in jars so people could see them, I think people would buy them and pay a high price.

We talked to the chefs at the beginning of the season about selling a standing order to them but we were not able to grow enough. I recommend either going for that and doing the math to see if the profit will be worth the space and work. It is also okay to just focus on selling them to Big Y and pushing them at the farmers market.

Should we grow this crop again? Why or why not?
I think dry beans should be grown again if you can find a market that really wants them beside the CSA such as Big Y, Dining or farmers market, making it more profitable since they were somewhat challenging to grow. They would be very easy to distribute for retail or wholesale.

Farmer Notes: *The Dry Beans were a test for everyone involved. They required using the combine under the supervision of machine master Zack and took a lot of weeding. However through ambition we were able to grow a crop that is uncommon to grow in Massachusetts and they came out very good. It is important if these are grown again to increase the planting density and aim to control weeds quickly, leaving few bare spots. Then if the weeding is done well, the plants will dry better and can be harvested directly into the combine, not moved onto the truck and stored in the field under plastic while it rained, causing some plants to get soggy and sprout. Make sure that the hard work you is productive and profitable so you are not wasting time that could be used growing something more desirable or easy to grow*

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