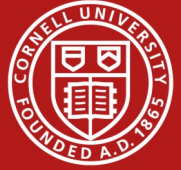


Growing of a Lettuce Seed Crop

By Natasha Field



For an example of how to grow a seed crop, we grew out Garnet Butter Gem lettuce from seed in 2022.

We started them in trays on April 13th in 72 cell trays, seeded 1-2 per tray. As they germinated, we thinned them to one per cell based on vigor. We transplanted them into the field on May 13th. We planted them in one row since that was the space we had available for them in this area, which was a seed production area, both outside (pictured below) and in a high tunnel (to the right in the photo).

Other options for planting these out is to plant them in a full bed, harvest the outer two rows for market and leave the center row for seed production, as well as possibly planting other crops that have a short DTM alongside the lettuce. You could also plant your seed lettuce in two or three rows on a bed as well.

We irrigated the lettuce as it was extremely dry in 2022.



As we transplanted, we evaluated the plants for vigor and type. For instance, we didn't plant out lettuce that was extremely small, or had clear differences from the others. The two pictured below were off-types. If you are working to maintain a variety or grow out for a seed company, you most likely won't be doing heavy selection of the crop compared to a breeding selection project. Removing off types keeps the variety from drifting as much.



After transplant, we kept the lettuce weeded and watered until they reached market size in mid-June. We also had to protect the lettuce from deer and rabbit browse as that field had heavy pressure.

On June 14th, we went through the lettuce and looked for more off-types.



In the below pictures, the lettuce type we wanted to see is at the bottom of the photo, with off-types at the top. We removed the off-types and they went to market.



Seed head formation really got going around July 26th, with the plants bolting and forming seed heads. Our plants were in a protected area with two sides that had hedgerows plus two high tunnels, so we didn't trellis them. But the plants get to be four to five feet tall with shallow root systems, so if you grow them in an open field or windy area, it might be worth trellising.

Make sure to keep an eye on the lettuce as they bolt, if plants are bolting two or three weeks ahead of the rest, it might be a good idea to remove them, to prevent accidentally selecting for early-bolting plants.



Within a week, the plants were fully flowering, although I wasn't able to get a picture. Towards the end of flowering, Aug 10th, here is a photo of the plant. Lettuce does have a long flowering and seed production period, in that there will be dry seed and flowers on the same lettuce head. The majority of the crop will produce in a block, so just keep an eye on things. Lettuce is a self pollinating crop, with pollination occurring before the flowers open, but isolating them at least 50 feet is a best practice to prevent crossing. Pollinators will still visit the flowers and there is a chance of crossing.



By August 15th, the seeds were beginning to dry down. It is very clear in the photo below as the seed heads develop a white, protruberance that in the wild would allow the seed to float away and disperse seed. These seeds are dry or close to dry. But you can see a lot of the seed isn't at that stage. You may or may not see the quantity of white fluff as these were tunnel grown lettuce and weren't exposed to rain or dew.



By August 31st, the seeds were mostly dry, mostly developed and ready for harvest. We cut the seed heads in the middle of the plant and brought them into a high tunnel on plastic to finish drying. There are two photos below, one is from a high tunnel with the fluffy white seed heads. The other is outdoor production, where you can see the white fluffy parts have fallen off due to rain on the plants. The seeds are still ready to harvest, so make sure to check the seed itself and see how mature it is. You can also see a few yellow flowers on the plant, even if it is harvest time. If you wait too long, the seed may start to fall, so keep a close eye once you see a few seed heads starting to dry.



After that comes drying, threshing and cleaning seed.



This material is based upon work supported by the National Institute of Food and Agriculture, U.S. Department of Agriculture, through the Northeast Sustainable Agriculture Research and Education program under sub-award number LNE22-446. Learn more about [Northeast SARE](#)

Cornell Cooperative Extension Eastern NY Commercial Horticulture Program

<https://enych.cce.cornell.edu/>

nf257@cornell.edu, enychp@cornell.edu

February 2022