

# Brewing Local IN BROOKLYN

*By John LaPolla*

**As any homebrew shop owner will tell you, owning a homebrew shop can have unexpected benefits. As our shop is located in Brooklyn, we're close to a lot of interesting places that offer us some really unique opportunities—like the chance to collaborate with the Brooklyn Botanic Garden!**





Brooklyn Botanic Garden raw barley.



Douglas Amport of Bitter & Esters threshing barley.



Malted barley with chit.

The Brooklyn Botanic Garden (BBG) is one of my favorite places, and I have been fortunate to both live and work near this amazing oasis from the chaos that is New York City. Many years ago, by chance, I happened to meet Maeve Turner (who is the head of the Herb Garden at the BBG), because she came in to buy homebrewing supplies. Over the years, we've grown to be friends, and I learned that she has been growing Nugget hops at the garden. She has generously shared some of the crop over the years so that we can brew with them at the shop.

This year, she grew some six-row spring barley for the first time and asked if I would like to have it. Of course I would! The funny thing was that she gave me the whole barley plants, stalks and all. My business partner Douglas and I had to hand

thresh the barley to remove the seeds from the rest of the plant. This involved rubbing the stalks to remove the seeds and then blowing on them to remove any chaff. The big grain producers have machines that do this, but we had fun doing it by hand. After several chaff-covered hours, we ended up with a pound and a half of barley.

We weren't sure if we should simply roast the barley to use in a larger batch of a dark beer, or if we should attempt to malt it. Malting barley involves germinating the kernels to create the enzymes that will convert starch to sugar during the mash. We sell plenty of malt at our shop, but we had never attempted to malt anything ourselves. We're always up for a challenge and the opportunity to learn, so we decided to try our hand at malting instead of roasting.

Following a *Zymurgy* article on home malting ("Introduction to Home Malting" by George de Piro, *Zymurgy* Jan/Feb 2001), I spent seven days soaking, sprouting, drying, kilning, and cleaning the seeds, but in the end, we had a pound and a half of malted barley ready for brewing. Such a small amount of barley would only yield about six bottles of beer at about 4% ABV. Coincidentally, it was harvest time for hops as well, so we were able to use barley and hops from the Brooklyn Botanic Garden to make our beer.

The last thing we needed was yeast. As a homebrewer, you purchase a specific strain of yeast that's been cultured by a lab and build it up to an amount sufficient to ferment a batch of beer. Given that we were already using barley and hops from the BBG, we thought it would

Maeve Turner of Brooklyn Botanic Garden picking pears.



Brooklyn Botanic Garden hops.

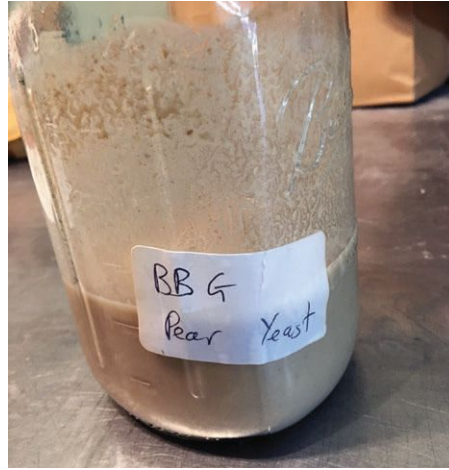


Brooklyn Botanic Garden pear starters.





↑  
Pears in starters.



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Pear yeast slurry.



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Brooklyn Botanic Garden hops and malted barley.

be prudent to source our yeast from there as well.

Yeast can be found almost anywhere, but you generally have a better chance of finding a good brewing strain on fruit. Maeve had given us a few pears from the garden to use as yeast sources. We cut them up and added them to three low-gravity starters of around 1.025 specific gravity. Many other microbes like to live on fruit besides yeast, so there was no guarantee we would get a yeast strain suitable for brewing.

We added a little bit of hops to the starters to help discourage wild *Lactobacillus* bacteria growth. Of the three starters, one grew mold (which was not unexpected) but two of them cultivated yeast.

Easy indicators that we had yeast were the smell (which was pleasant) and the remarkably similar appearance to com-

mercially available yeasts we've used thousands of times. It's too bad we don't have a microscope, but that would be a good choice if you're looking for that extra level of verification.

Finally, we measured the pH to make sure it had dropped to at least 4.5 so that no pathogens were living in the starter. I built these starters up by adding them to progressively larger starters until I had a healthy slurry of wild yeast. This was thrilling! We were going to make an all-Brooklyn Botanic Garden-ingredient beer. As far as anyone knew, this had never happened in the garden's more than 100 years of existence.

With the help of our employee Jack, we then proceeded to make the beer. This would be the test to see if we had malted the barley correctly. We double-milled the malt and mashed it at 155°F (68°C). After

an hour, I took a refractometer reading—had we not malted it correctly, there would have been no sugar. Drum roll please... and success! Our gravity readings indicated that starch conversion had happened. We had sweet, delicious wort.

We then boiled the wort as we would with any other beer. We added the Nugget hops twice during the boil: at 60 minutes and at flameout. Not knowing the alpha acid levels of the hops, we had to make an educated guess. We had previously made a test beer with Rahr 6-row to try out the hops and see how much we would need for the final beer. Using the information we gleaned from the test beer, we were able to determine that we'd need a lot more hops than we'd anticipated for our new batch. Additionally, we wanted to make sure the yeast made a good beer—it did.

↓  
The mash.



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Maeve Turner adding hops to the boil.



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John LaPolla of Bitter & Esters and Maeve Turner of Brooklyn Botanic Garden.





Brooklyn Botanic Garden beer fermenting.



Bottling Brooklyn Botanic Garden beer.



Brooklyn Botanic Garden beer with label.

We fermented our gallon of beer for two weeks. The test batch developed some sulfur aroma during fermentation, which is not uncommon with wild yeasts. We wrapped a heat belt around the fermenter for the last three days to help dissipate that aroma. This yeast is a fast fermenter and very attenuative. The original gravity was 1.040, and the final gravity was 1.004, yielding an estimated alcohol content of 4.7% by volume. Once fermentation had finished, we transferred the beer into bottles with a little bit of corn sugar.

The wait was worth it! We ended up with six bottles of a golden wild ale. The color was sparkling hay and the taste reminiscent of a fine saison, crisp and dry. The aroma included peppery phenols, and, dare I say, a hint of pear? The hops balanced the yeast and malt flavors perfectly.

But don't take my word for it. Maeve was kind enough to set up a meeting for us with Adrian Benepe, president of the Brooklyn Botanic Garden. We sat outside on their fragrance garden terrace on a warm fall day and enjoyed this delicious beer. Both Adrian and Maeve were impressed by the final product and asked if we'd like to do it again next year. Yes, yes we would!

We liked this beer so much that we sent a sample of the BBG yeast to Bootleg Biology for them to isolate. Hopefully, in a few months, we will have this yeast for sale at the shop!

We had been documenting this experience on Instagram, and of course everybody wanted to try the beer, but we only had three bottles left after the tasting at the garden. So we held a raffle, and four lucky winners got to come to the shop for a private tasting. We ended up raising \$300 for

the garden and had a great time. And yes, everyone loved the beer.

All in all, this was a wonderful learning experience and a way for us to make something truly local. Thank you to Maeve, Adrian, and the Brooklyn Botanic Garden for their help and for providing the ingredients.

**John LaPolla is co-owner of Bitter & Esters homebrew shop in Brooklyn, N.Y. Bitter & Esters has been in business for 10 years, is New York City's only homebrew supply shop, and won the AHA's Homebrew Shop of the Year Award in 2019.** 🌿

Tasting with (left to right) Maeve Turner, Botanic Garden president Adrian Benepe, and John LaPolla.



Photos courtesy of Michael Stewart, courtesy of Brooklyn Botanic Garden (beer with label & tasting)