Hop Storage

The enemies to fresh hops are oxidation, sunlight and water. Care should be taken to help reduce these so you get the full use of your hops. They are not near as fragile as food items such as a loaf of bread. But like bread, you can notice a change in the aroma and flavor of the hops with age. Unlike bread when properly packaged and stored, they will last for years with good flavor and aroma characteristics. Good flavor can be achieved after 3 years of storage when done right.

Oxidation takes place at a slow rate because hops are in a dried state. To slow oxidation down further, store them as cold as possible. Refrigeration is the norm for the commercial hop distributors. Freezing in a deep freezer is even better. Vacuum packaging helps by removing the oxygen from the hops. Traditionally in England, hops were stored in the cellar in the burlap bale. Temperatures were closer to 50°. The hops will have a character that is less bright than the ultra fresh hop flavored beers that we love in the US, but a good thing to remember when you are worrying about your hops.

Sunlight speeds up the rate of oxidation. Easy to see, as the hop leafs will brown. Do not confuse this with some hops varieties that normally lean towards the tan color such as Columbus. With their high alpha acid there is more lupulin which is yellow, helping tint the color towards tan. Storing hops in the freezer with the light off will solve the sunlight degradation issue. Remember the bread, it did not go bad sitting on the counter all day, hops are more durable.

Water vapor from humidity helps break down the hop flavor. It is in the air, your freezer, everywhere. Packaging is how we solve it, a plastic bag works well in slowing down water vapor transmission.

For long term storage, vacuum packaging and cold storage works very well. The bag is an important element as all bags are not equal. The metalized Mylar bags that we see so commonly are great. They stop sunlight completely and do a good job on oxidation and water vapor. Some clear plastics do even better on the later two issues. Multi layer plastic bags are currently available that outperform Mylar for oxygen and water vapor transmission. Naturally sunlight passes through easily, but conscientious brewers store their hops out of the sunlight. The bags will still have a firm feel, but both enemies still transfer through the bags, the physics of gas are not as straight forward as items we can easily see. Commercial vacuum packaging machines do a better job removing the oxygen inside the bags than home models. The same is also true with vacuum storage bags.

Sealing vacuum bags is important. With the clear bags you can see the seal and reseal if necessary. Hop petals are dry and like to fly out into the seal area while sealing. Add another seal as seals with hop petals across will slowly leak over time. It is best to put a ½" wide seal on your bags. If you have a home machine with a narrow seal, add more seals next to the first seal. You can reseal slick commercial bags with a home vacuum packing machine. Some will be able to draw out the air, if not start the machine and press out the air by hand. On bags that leak, take the time to repackage them in a new bag.

Hop Bitterness will decline with age. I have used hops that are 5 years old, stored in the freezer with good success. Use 5% decline in the alpha acid per year for your bitterness calculations.

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