THE BUZZ

ASBC Method Highlight: Hops-12

Why measure the Hop Storage Index?
When hop cones or hop products are subjected to prolonged or inappropriate process and storage conditions, an oxidative decrease has been observed in both α- and β-acids content and has been found to be variety dependent.

All hop varieties age over time. Precious hop oils including both aromatic and bittering oils tend to break down over time, and older hops will lose aroma, flavor, and bitterness as they age.

What influences hop storage?
Heat, light, and oxygen all have a detrimental effect on hops, none of which brewers would typically desire in their beers.

Heat can degrade hops by as much as four times when they are stored at room temperature versus those stored at freezer temperatures. Best practice is to store hops in a freezer regardless of whether they are in pellet or whole form. Colder temperatures preserve the aromatic oils as well as the bittering alpha acids.

Light can also contribute off flavors in beer if hops are exposed to sunlight. They should be stored not only in a cold area but also in one free from light.

Oxygen, again, as with most processes in brewing, has a negative impact on hops. Oxidized alpha-acids become less bitter plus old hops take on the cheesy isovaleric off-note. Sealed vacuum containers offer the most resistance to oxygen. If you can smell the aroma of hops through the bag or container, oxygen is making its way in.

Whole hops have the shortest storage life due to the increased surface area and therefore possible exposure to oxidation. Tightly compressed pelleted hops packaged in vacuum containers lend themselves to the longest shelf life for the hops. They also take up less space for storage.

Method Highlights

The Hops-12 method follows the methodology and reagents for Hops-6A. Please read all Safety Data Sheets for all reagents and ensure your laboratory can accommodate those reagents accordingly.

The Hop Storage Index (HIS) is a simple ratio of the sample absorbance at the 275 nm wavelength divided by the absorbance at the 325 nm wavelength. Please review the method for guides for the HSI ratio that estimates hops with shorter and longer storage lives.