

OCTOBER 2016

HOP SCIENCE

KNOWLEDGE FOR YOUR SUCCESS

by Dr. Christina Schoenberger, christina.schoenberger@johbarth.de



HOW MEANINGFUL ARE IBU VALUES?

These US researchers looked into several parameters that can influence IBU values such as pH, ABV, alpha acid addition and dry hopping in general. In a pH range from 4.1 to 4.9 they found that below a pH of 4.35 bitterness is perceived less intensely and described with sour and astringent. Above 4.35 bitterness is perceived more intensely and described being lingering. It was also found that dry hopping actually reduces the perceived bitterness while increasing the tested IBU values.¹

THIOL PRECURSORS FROM HOPS AS A SOURCE FOR FRUITY BEERS

These French researchers specifically looked into 4MMP, 3MH and 3MHA as fruity thiol components in beer, but are also known in wines. In wine, these components are in the juice from the grape as precursors and liberated only during fermentation. Analysing the same precursors in hops they found a concentration that was about 100 times of that found in beer. Looking into kettle addition, fermentation and dry hopping huge variations were found in the concentrations of these precursors which leads to a lot of questions that demand further research.²

SELECT THE PRUNING DATE FOR HOPS CAREFULLY!

It is easy to imagine that the harvest date has a big influence on the hop oil content and hop oil composition of the harvested hops. A couple of studies have shown this already. These Japanese researchers delved far deeper into factors influencing the final hop aroma in hops and looked specifically at the variety Saaz to determine if pruning date is important. By collecting extensive data throughout four harvest years in four different regions, they found that harvest time was the most influential factor in determining hop aroma characteristics among the various factors in cultivation. They also found that the chemical

compounds associated with floral, fruity, and citrusy characteristics are highly dependent on the harvest time or pruning date. This is a further confirmation of our Barth-Haas hypothesis – it seems that everything you do matters in terms of flavour with hops!³

THE BARTH HAAS GROUP TASTING SCHEME

Isn't it about time we all use the same language when describing hop aroma and flavour? Not only a language that allows one to draw a specific flavour profile of each hop variety and hop intensity beer, but also a language that allows comparisons between different studies on variety specific hop flavours? After our extensive work on more than 120 hop varieties, Barth-Haas has composed a tasting scheme that includes 12 flavour categories that are rated by intensities using more than 100 different specific descriptors. The results gained by this new way of hop evaluation can be presented in form of spider graphs, text, or a combination of both.⁴

REFERENCES:

1. Driesner K.: The IBU, pH, Dry Hopping, ABV and perceived bitterness <http://www.asbcnet.org/events/archives/2016/proceedings/Pages/default.aspx>
2. Dagens, L.: Hops provide important sources of thiols precursors <http://www.asbcnet.org/events/archives/2016/proceedings/Pages/default.aspx>
3. Inui, T.: A role of harvest time on aroma characteristics and related compounds in Saaz hop <http://www.asbcnet.org/events/archives/2016/proceedings/Pages/default.aspx>
4. Drexler, G.: The language of hops <http://www.asbcnet.org/events/archives/2016/proceedings/Pages/default.aspx>

EVENTS



Brau Beviale is Coming Up:

Visit us at Booth 219 in Hall 1; we have exiting beers for you to taste!

For this year's Brau Beviale, we have again prepared special tastings sessions for you. Our topic this year is: "Same variety, different pellet, different flavour". The tasting session takes approx. 40 minutes and will be offered four times during Brau. Please register here: <http://www.barthhaasgroup.com/de/hops-academy#termine>