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HOP SCIENCE

KNOWLEDGE FOR YOUR SUCCESS

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



DRY HOPPING FROM A MEDIA PERSPECTIVE

We know many of the factors that have an impact on dry hopping and the resulting flavour, however, this German research team looked further into the role of the dry hopped medium in dry hop flavour development. They were able to show an increase for almost all measured hop components with the increase of ethanol addition, combining as dipole hydrophilic and lipophilic properties. They found that the octanol-water partition coefficient value (log p) of a hop oil component is a key attribute for the transfer rate from hop pellets into beer and the resulting concentration of several compounds in dry-hopped beer – though biotransformation reactions might still change the picture.¹

CHARACTERIZATION OF BEER HAZE

Several hop components have potential impact on beer haze, especially in craft beers. To analyse beer haze, these Dutch researchers developed a novel analytical method for beer haze profiling using a technique known as AF4-UVFLR-MALLS-dRI (unraviolet, fluorescence, multi angle laser light scattering and differential refraction-index detection). In contrast to its complex moniker, sample preparation is fast and easy. Unfortunately, the method unravels if the haze is composed of polysaccharides, proteins or polyphenol structures of certain molecular weights.²

WILD HOPS IN ITALY

Wild hops can be found almost everywhere – including Italy. Maybe these wild hops found in Umbria, Italy can help in future breeding to create new hop varieties. For this reason these Italian researchers have an inventory of the germplasm for a number of different wild hops.³

PLEASE MEET THE NEW MEMBERS OF THE HOP FAMILY

Boomerang, Gaia, Country and Jazz are the names of 4 new hop varieties coming out of the Czech breeding program. They were developed from UK

and continental European breeding material and characterized with the classical flavour profiles of herbal, woody and citrus notes. Boomerang and Gaia have high oil and alpha contents (1,5-3ml/100g and 10-15% alpha). Country and Jazz have lower oil and alpha contents (0,4-1,5ml/100g and 3-7% alpha). Welcome, and good luck to our new friends. Competition is high!⁴

HOPE NEVER DIES, BUT...

This vague idea, that glycosidase activity helps to increase hop aroma in dry hopped beers, may just stay a dream for now. Using beers dry hopped with Mosaic and using beta-glucosidase derived from *aspergillus niger*, these German researchers showed that the enzyme activity did not increase the concentration of the hop flavour components analyzed. However it was shown that more thiols (3-MH, 3-MHA and 4MMP) were found in the beer than were dosed. This may be due to the activity of other enzymes in the yeast strains used that were not monitored.⁵

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