Forschungszentrum Weihenstephan für Brau- und Lebensmittelqualität

INFLUENCE OF SEEDED HOPS ON GLYCOSIDIC BOUND HOP AROMA COMPOUNDS

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Abstract:
Only in Great Britain seeded hop cones were used. The rest of the world does only brew with seeded hop cones. Reason could be that the higher oil content and the higher biomass compared to iso-α-acid content should negatively influence the foam and the yield, respectively. The brew tradition in the UK is as well known for a lot of traditional dry-hopped beers. Dry-hopped beers hopped with unseeded hops often have an insufficient aroma stability. It is well known that some of these aroma active substances are glycosidic bound. Glycosidic bound aroma substances derived from hops are odorless substances formed by an aglycone and most of them with β-D-glucose. Another characteristic for seeded hop cones is their enzyme activity. These glycosidases are able to cleave glycosidic bound aroma substances. Maybe little by little over the period of beer storage.
The experiments started with yielding seeded and unseeded hop cones from one single plant of different varieties and different countries (UK and Germany). The glucosidase activity of these samples have been measured. As well as the amount of relevant and glycosidic bound aroma substances. Brewing trials should figure out the influence of different parameters as temperature, time, and homogenization on the content of aroma compounds.
The results did show no difference concerning the usual hop attributes. As well the aglycone content, hop oil content and sugar content have been similar compared between seeded and unseeded hop samples. But enzyme activity was different.

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