

# HOPSTEINER – NEWSLETTER

April 2009

- Non Alpha Bitterness -



## Non – Alpha – Bitterness

For brewers, the most important compounds of hops are the alpha acids. During wort boiling the insoluble alpha-acids isomerise to soluble iso-alpha acids which are the main bittering compounds in beer. Depending on hop variety and hop product, there are several soluble unspecific resins other than the iso-alpha acids which contribute to beer bitterness. The content of “non alpha bitterness” can be shown by comparing the unspecific EBC 7.5 method with the specific HPLC method used for the determination of alpha acids (EBC 7.7). The ratios of these two methods are demonstrated in figure 1 and 2 for fresh aroma and bitter hops:

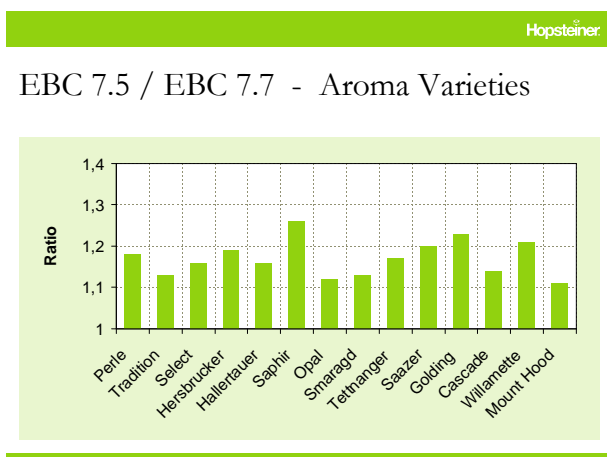


Fig.1: Ratio of the methods – Aroma varieties

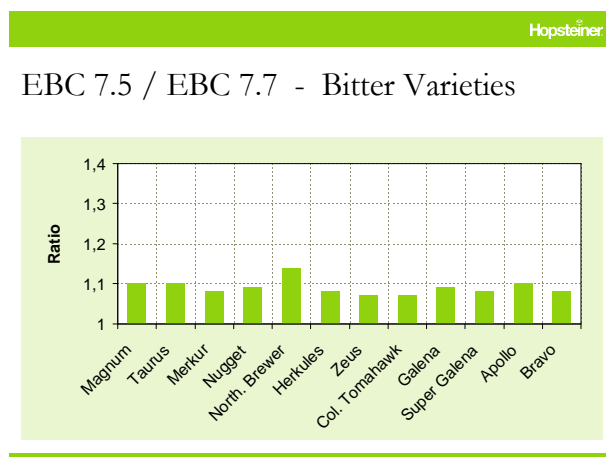


Fig.2: Ratio of the methods – Bitter varieties

The aroma varieties clearly have a significantly higher ratio and consequently, based on the alpha content, a higher amount of unspecific resins. The new aroma variety Saphir has a remarkably high ratio of 1.26, while the bitter varieties have an average ratio below 1.10.

Tasting panels described the bitterness of beers brewed exclusively with aroma hops as being “smoother” and “rounder” than beers brewed only with bitter varieties, although all the beers had the same number of bitter units. As far as the quality of bitterness is concerned, these unspecific resins have a positive influence on taste.

We can sum up by concluding that in particular the quality of higher bittered beers will benefit from a high dosage of aroma hops.