

# NEWSLETTER 12/2013

## TECHNICAL SUPPORT

### Variations in Hop Aroma Depending on Crop Year

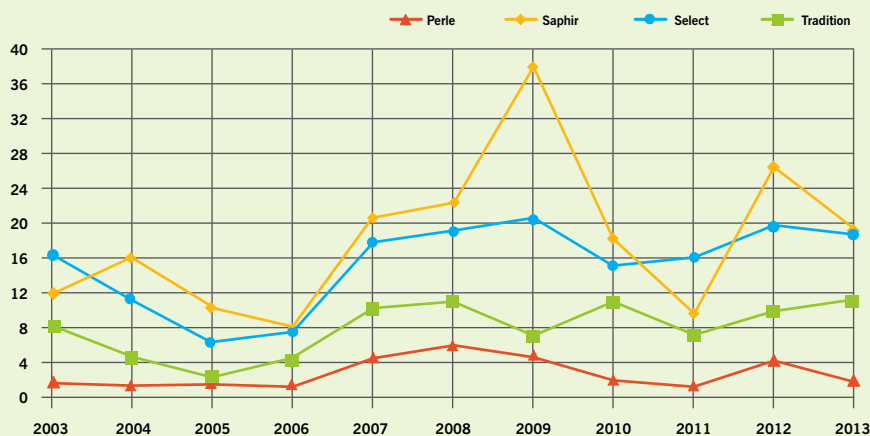
As in previous years we would like to demonstrate how the contribution of hop oils to beer can vary from one crop year to another. We have chosen linalool as a representative hop aroma substance as it correlates well with the sensory impression of hoppy aroma in beer.

The concentration of alpha and linalool can vary independently from each other. For example, in a year with higher alphas, linalool concentrations do not necessarily increase similarly. Consequently, for each variety, we calculate the ratio of linalool (ppm)/ alpha (% HPLC, EBC 7.7) to assess how much aroma is added without changing the bitterness.

This is very significant in the case of late hop addition.

Compared to the last years we do not see big changes for the ratio linalool/alpha in crop 2013. Considering sampling and analytical deviations of the different methods involved (total oil and linalool analysis, alpha HPLC), there won't be a dramatic influence on hop aroma in the final beer. For this crop we recommend to leave the addition as it was in crop 2012 or to carry out an analysis of the special hop lot to be used as a late hopping.

Ratio Linalool / Alpha Acids



If you need any assistance, it would be a pleasure for us to support you in terms of analyses or additional information on further varieties.

Please do not hesitate to contact us.

*Simon H. Steiner, Hopfen, GmbH*

Newsletter, December 2013

HOPSTEINER  
FORUM

# FORUM 2014



Notice the dates of the upcoming Hopsteiner **FORUM** in 2014:

- 7th Hopsteiner Forum: **April, 9th**
- 8th Hopsteiner Forum: **May, 14th**
- 9th Hopsteiner Forum: **June, 18th**
- 10th Hopsteiner Forum: **July, 23rd**
- 11th Hopsteiner Forum: **September, 3rd**
- 12th Hopsteiner Forum: **November, 14th**

Topics will soon be available on our homepage [www.hopsteiner.de](http://www.hopsteiner.de).

Do not hesitate to contact us.  
[info@hopsteiner.de](mailto:info@hopsteiner.de)

### Guidelines 2013 – out now!



+++Hopsteiner calendar+++

  
**Hopsteiner**

COMMITTED TO THE BREWER