Analysis of Iso-alpha acids in beer
There are various HPLC methods to measure the Iso-alpha acid content in wort/beer. Often in this context, solid-phase extraction (SPE) is used in sample preparation. This ASBC subcommittee reports that the repeatability and reproducibility of the HPLC method without the use of the SPE treatment is acceptable and have recommended the modified HPLC method.1

Determination of pesticides in dried hops
For most natural products, plant pesticides are typically needed to ensure a vigorous crop. But growers must be careful to balance between combating pests and pathogens, and producing a crop that can pass the import tolerances or maximum residue limits (MRLs) established by the various countries to which they export hops. In this context these US researchers established an HPLC method that is capable of detecting 28 of the most important pesticide compounds in dried hop cones. The rationale was to develop a method that could quantitate all compounds of interest at or near the lowest tolerances set by the U.S. Environmental Protection Agency (EPA), the Food and Agriculture Organization of the United Nations (FAO) Codex, the European Union (EU), and the Japanese Ministry of Health, Labour, and Welfare (JMHLW). 2

Alpha Acids catching the bad guys
As reported in October 2010, these German researchers are investigating alpha acids and iso-alpha acids as potent hydroxyl-scavenging and iron chelating compounds. Their newest results confirm that alpha acids inhibit oxidative degradation much more effectively than iso-alpha acids. As this inhibition conversely correlates with the iron (Fe²⁺) concentration, they conclude that alpha acids act as iron chelators and thus prevent the generation of new oxygen radicals.3 So obviously the alpha acids, if one can prevent some of them from being isomerized, can do additional favours for your beer.

A Review: The role of hops in brewing
Although hop technology has been a substantial part of brewing science for the last 130 years, we are still far from claiming to know everything about hops. Hop research is typically focused on hops as a bittering agent, as an aroma contributor and as a preservative. Newer fields in hop research are directed toward the relevance of hops in flavour stability, brewing process utilisation, the technological benefits of hops in brewing as well as hops as a source of various substances with many health benefits. However the more we find out about the so-called "spirit of beer", the more questions emerge that demand answers. We at Barth–Haas felt honored to be asked to write this article which gives an overview of the up–to–date knowledge on hop aroma, hop derived bitterness, and the role of hops in flavour stability as well as light–stability. This is one of the JIOB Anniversary papers, so Happy Birthday JIOB!4

The hop aroma compendium – a flavour guide
No other raw material used in brewing has such a great influence on the aroma, flavour and bitterness of the beer as hops. And yet, until now we have confined ourselves to grouping hop varieties into aroma varieties and bitter varieties and to using hops accordingly in the brewing process. But does this classification make any sense? We have been using hops for brewing for more than a thousand years and yet our descriptions of hop aromas are almost exclusively restricted to terms such as hoppy, spicy, floral and fruity! We have therefore cooperated closely with two world champion beer sommeliers and a perfumist to itemise and describe in detail the aromas of the most important hop varieties. What we found were unique aromas for each variety. The original hop aroma is, of course, only a starting point, but those who know the hop aromas and their effects can also arouse enthusiasm among their customers for nuanced beers.

You can order the compendium for 99€ at www.barthhaasgroup.com