“A beer a day keeps the doctor away”

Many health benefits related to moderate beer consumption have been found recently. French researchers now found that moderate beer consumption reduces the liver triglycerides and aortic cholesterol deposit; at least in mice. Two types of beers were used, a regular one containing ethanol and an ethanol-free beer. Liver tryglycerides contents were significantly decreased by either treatment. Cholesterol accumulation was significantly lower with regular beer; not so with alcohol free beer. So the conclusion was drawn that when administered in continuous and moderate doses, yet unidentified components of beer may exert beneficial effects towards atherosclerosis development through the alteration of lipoproteins metabolism. That is good news and means instead of drinking only on weekends abundantly, it is healthier to prorate your beer consumption to a daily basis. To your health !

How to extract Xanthohumol from hops

A very comprehensive range of preventive health benefits is attributed to Xanthohumol, a polyphenol unique to hops. The Xanthohumol content in cone hops is rather low; between 0.2-1%. Xanthohumol is not easy to solubilise! It is nonpolar and hardly soluble in hot water but shows good solubility in ethanol or ethanol mixtures. Nonpolar solvents like hexane will not extract xanthohumol either. Normal CO₂ extraction at <300bar does not extract Xanthohumol. But a CO₂ extraction of spent hops is successful. The ideal conditions proved to include a pressure of 800 bar and a temperature of 85°C and will produce an extract with 32% xanthohumol. A higher concentration can be obtained only with the help of fractionating separation.

Time and money savings in analysis of reduced iso-alpha acids in beers

To analyse the content of reduced iso-alpha acids in beer, HPLC analysis is the appropriate method since the UV bitterness unit method works with empirical factors. But HPLC analysis needs time and money. A rapid analysis introduced at the Polar Brewery shows a possible 60% cost savings. A sample pre-treatment like SPE (Solid Phase Extraction) is no longer necessary due to a direct sample injection, therefore both the SPE equipment and the time for the preparation is saved. Furthermore, the cleaning process after each sequence is faster and the time of analysis is shortened from 14min to 5min. Still all reduced iso-alpha acids are detected (Rhoiso alpha acids, Tetrahydroiso-alpah acids, and Hexahydroiso-alpha acids) with very good accuracy.

Did you know ...

...that post fermentation bittering products such as Redihop, Tetrahop Gold and Hexahop are less soluble at lower pH, and this has to be taken into account in terms of product dosing?

The products are adjusted to 8 to 11 pH to allow a concentrated stable solution. At lower concentrations hop acids are soluble in the low pH of beer (4.6). The localized high concentration of these product at the site of injection in the beer line is sensitive to pH, and if near a CO₂ injection point, the pH may drop temporarily and result in a decreased utilization due to the lower solubility.

Do you have any questions ? Ask us !

1 Degrace, P., Moindrot, B., et al: Moderate consumption of beer reduces liver triglycerides and aortic cholesterol deposit in LDLr(-/-) apoB(100/100) mice, Atherosclerosis, Feb. 15th, 2006
2 S. Geyer, extraction with supercritical CO₂-state of the art and outlook, Innovations in food technology, 30, February 2006