

RESEARCH DIRECTIONS

Good Taste in Beer

Associate Professor Vincent Higgins from the Nanoscale Organisation and Dynamics Group, together with Dr Peter Rogers from Carlton and United Breweries have been awarded a UWS Research Partnership Program grant to examine the effects of hop extracts on the metabolism and viability of industrial yeasts and relate these effects to commercial opportunity.

'The bitter taste of beer is due to the addition of Hop cones prior to the fermentation process' says Associate Professor Higgins. "Apart from their use as bittering agents hop plants are renowned for being a source of bio-active materials. Perhaps less well known is the variety of flavours and aromas available from different cultivars."

Hops interact with yeast which can affect the ester (flavour) profile of many beers. They contain a range of polyphenols that affect sensory perception, flavour stability and even physical stability. Many herbaceous plants have been used in beer making and date back to the days when beer was a much safer option than drinking water. Hops, however, have prevailed and the advantages of other recipes have been lost over time. But that's changing. Specific hop extracts such as xanthohumol a potent antioxidant are becoming available for commercial use. And many brewers are becoming interested in 'whole of plant' use, quite apart from the bittering properties of the hop cones. Compounds that differentiate the flavour response generated from yeast are interesting and potentially commercially useful. A good way of screening for commercial advantage, and differentiating between hop varieties utilises the new gene technology.

"Cutting-edge functional genomic and metabolic profiling technologies will link yeast gene activity to flavour and stability of the finished product" says Professor Higgins.



Additionally, these data may lead to therapeutic applications, and extend the medicinal opportunities for hops.

Project Title: Functional genomic analysis of the effect of Hops on yeast fermentation.

Funding has been set at: \$15,000

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For more information on UWS Research Partnership Program, check:

http://www.uws.edu.au/research/researchers/funding_opportunities/internal_research_grants