



NEWS FROM THE TASMANIAN INSTITUTE OF AGRICULTURE

Media Release

Chiefs of Staff, News Directors

Saturday 8 August 2015

Solving a 40-year beer mystery

While many people are this week celebrating International Beer Day with the finished product, few people know of the extensive research that goes on before the amber liquid reaches your glass.

Scientists at the Tasmanian Institute of Agriculture (TIA) have solved a 40-year mystery and are now working on a solution to the problem that is ruining thousands of batches of beer each year.

The team of food safety researchers at TIA, which is a joint venture between the University of Tasmania and the Tasmanian Government, discovered that a special consortium of fungi occurring on some barley malt interfere with the beer fermentation process.

"For many years brewers were not sure what was causing yeast to clump together too early in the fermentation process and ruin the brew batches," team member Dr Mandeep Kaur said.

"We discovered that this phenomenon, which is known as Premature Yeast Flocculation (PYF), occurs in the brew when the barley grain is carrying certain naturally occurring fungi."

The TIA team is now developing a cost-effective, accurate and rapid DNA test to identify if these fungi are present on barley malt arriving at the brewery through funding from the Grains Research and Development Corporation and Joe White Maltings.

"Testing for the PYF using currently available small scale fermentation assays is very expensive, takes four days to complete, and thus timely testing large batches of barley grain or malt is generally not commercially practical, especially when the results are also not reproducible," Dr Kaur said.

"Some of the barley that Australia exports overseas has to sit in quarantine for six weeks while these tests are carried out and the tests can have variable results.

"We are also working on ways to modify the conditions that barley is malted and stored under to suppress the fungi so that even if the barley contains the fungi, it can still be used in brewing."

Australia produces on average 2.5 million tonnes per year of malting barley.

The average Australian malting selection rate is the highest of the world's exporting nations with around 30-40 per cent of Australia's barley national crop selected as malt, which makes up over 30 per cent of the world's malting barley trade.

Information released by:

The Tasmanian Institute of Agriculture
Phone: 61 3 6226 6216
Email: tia.comms@utas.edu.au