

Brewing Vegemite beer for science

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Dr Ben Schulz investigated claims that Vegemite can be used to brew beer.

Is Vegemite more than a spread? Or can it be used to brew beer?
University of Queensland researchers have put the theory to the test.

School of Chemistry and Molecular Biosciences researchers investigated claims that Vegemite and a similar product, Marmite, have been used to brew a cheap form of [beer](#).

Vegemite and Marmite are iconic Australian, New Zealand and UK products made from brewer's [yeast extract](#), and popular as spreads on bread or toast, and as ingredients in other foods.

Dr Ben Schulz, who co-wrote the paper with Science Honours student Edward Kerr, is a yeast researcher who also investigates the biochemistry of beer manufacture.

He said it had [been recently reported](#) that Vegemite was being used as a yeast source for home brewing in Indigenous Australian communities where alcohol was banned.

"Vegemite is also banned in prisons in Victoria, Australia, due to its reported use in home brew alcohol production," he said.

"As the Vegemite production process would be expected to effectively sterilise the spread, it was unclear how the addition of Vegemite would benefit alcohol production."

The researchers brewed Vegemite beer to understand the process, creating a product that looked like ginger beer, was safe to drink, but was bland with a Vegemite after-taste.

They found that they could not culture the microorganisms necessary for fermentation from the spreads, consistent with these food-grade spreads being essentially sterile.

They then tested if the addition of Vegemite or Marmite could assist in fermentation when additional viable yeast was also present.

Fermentation did not occur when yeast was added to solutions containing only glucose, but progressed efficiently when Vegemite or Marmite were also added.

"Our data showed that home-brewed Vegemite beer could be easily made from sugar, Vegemite, and yeast - but not from just Vegemite and sugar, or sugar and [yeast](#)," he said.

"The Vegemite added the nutrients necessary for the fermentation process, but there are also many other sorts of food apart from Vegemite, such as fruits or ginger, that could provide those additional nutrients."

Dr Schulz estimated the real-world cost of Vegemite beer as about \$0.09 per 375 mL compared with the retail cost of bulk commercial beer at about \$1.60 per 375 mL or home brewed beer at about \$0.27.

"Vegemite beer is therefore substantially cheaper than other readily available products," he said.

The findings were published in *PeerJ*.

More information: Edward D. Kerr et al. Vegemite Beer: yeast extract spreads as nutrient supplements to promote fermentation, *PeerJ* (2016). [DOI: 10.7717/peerj.2271](https://doi.org/10.7717/peerj.2271)

Provided by University of Queensland

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