

# The Iconisation of Yeast Spreads

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Spent brewer's yeast is the second largest by-product generated by the brewing industry. The term "spent brewer's yeast" is used to describe yeast that is surplus to the brewer's needs or is no longer needed in the brewing process.

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## 1. Introduction

The production of yeast spreads from brewer's spent yeast commences with the selection of an appropriate quality of spent brewer's yeast that is substantially free of bacterial contamination and extraneous materials such as filter aids and excessive hops flavours and aromas. The yeast extract processing plants require a reasonably consistent supply of spent brewer's yeast in terms of dry weight, residual sugar and ethanol. Some producers of yeast extract allow the yeast to grow on a sucrose substrate in order to achieve sufficient supply of raw spent yeast and as a mean to reduce residual hops components <sup>[1]</sup>. The typical production is as follows: the spent yeast slurry is heated and salt and enzymes are added after which the hydrolysis process proceeds at 63 °C during which yeast enzymes facilitate the hydrolysis of various yeast cell components. The additional enzymes permit particular hydrolytic reactions to be emphasised in order to speed up and steer the hydrolytic process towards specific quality parameters. Following the hydrolysis process much of the yeast cell wall particulates are removed. The remaining liquid is concentrated by means of a rotary drum filter and multi-stage vacuum evaporators after which spices can be added to finish off the flavour profile <sup>[2]</sup>. This produces a relatively fluid product whilst the pastier yeast extracts tend have yeast cell wall materials added back in to achieve the desired consistency required for a spreadable product <sup>[1]</sup>.

## 2. Recognition and "Iconic" Status of National Yeast Spread Brands

When approached by the researchers, all passers-by recognised the jar of yeast spread shown to them. In the UK, 44% of passers-by indicated that they "loved" the product, while that proportion was 43% and 71% in New Zealand and Australia, respectively (**Table 1**),  $\chi^2 = \text{df } 4, n = 1173, \text{CV} = 84.91, p < 0.001$ . When asked whether the brand was "iconic" in relation to their country, 99% of Australians answered "yes", 84% of New Zealanders answered "yes" and 61% of Brits answered "yes".

**Table 1.** Recognition and "iconic" status of national yeast spread brands.

	United Kingdom <i>n</i> = 702	Australia <i>n</i> = 249	New Zealand <i>n</i> = 222
Recognition of national yeast spread brand	100%	100%	100%
"love" the product	44%	71%	43%
"hate" the product	28%	5%	19%
Neither "love" or "hate"	28%	24%	38%
Assigns iconic status to brand	61%	99%	84%

## 3. Awareness of Other (National) Yeast Spreads Brands

All participants were asked whether they were aware of a number of other yeast spread brands. In the first instance this was carried out by showing the passers-by pictures of four other yeast spreads. In the UK nearly 72% of people recognised Vegemite and 27.4% of the passers-by had consumed Vegemite (**Table 2**). About 11% of Brits thought that Vegemite tasted nicer than the UK Marmite, while 23% disliked the taste of Vegemite, the remaining 2/3 of Brits thought

that Vegemite either the same or just “different, but OK”. Among the Brits, only a small proportion of people thought that the New Zealand Marmite tasted nicer than the UK Marmite, while more than half disliked the taste of the New Zealand Marmite. Only a very small proportion of Brits indicated that they ever consumed Promite, and those that did overwhelmingly indicated that Promite taste “different, but OK”. None of the Brits ever tasted the Swiss Cenovis (**Table 2**).

**Table 2.** Awareness and consumption of other (national) yeast spreads brands in the United Kingdom ( $n = 702$ ).

Other Brands	Vegemite	Marmite (NZ)	Promite	Cenovis
Aware of *	71.7%	6.4%	3.1%	0.9%
Have previously consumed *	27.4%	2.7%	2.1%	0%
Nicer	11%	4%	14%	0%
Same	18%	30%	19%	0%
Sensory recall **				
Different, but OK	48%	15%	67%	0%
Horrible	23%	51%	0%	0%

\* as a proportion of the total sampled population ( $n = 702$ ), \*\* as a proportion of the population who indicated that they consumed the other spreads.

In Australia, most passers-by were aware of Promite (61%) and both the New Zealand and British Marmite at 40% and 26.5%, respectively (**Table 3**). Nearly a quarter of Australians indicated that they had previously consumed Promite, closely followed by the New Zealand Marmite at 21.3% and the UK Marmite at 14.4%. None of the passers-by in Australia had ever consumed Cenovis. Roughly  $\frac{1}{3}$  of Australians indicated that they disliked Marmite, while almost  $\frac{2}{3}$  indicated that they disliked Promite. A small proportion of Australians indicated that liked Promite better than Vegemite (6%), while nearly  $\frac{1}{5}$  of Australians indicated that UK Marmite tasted better than Vegemite. The remainder was relatively indifferent to their appreciation of either Marmite or Promite based on their past-experience with those brands (**Table 3**).

**Table 3.** Awareness and consumption of other (national) yeast spreads brands in Australia ( $n = 249$ ).

Other Brands	Marmite (UK)	Marmite (NZ)	Promite	Cenovis
Aware of *	26.5%	40.2%	61.0%	3.2%
Have previously consumed *	14.4%	21.3%	24.9%	0%
Nicer	19%	8%	6%	0%
Same	0%	15%	8%	0%
Sensory recall **				
Different, but OK	47%	45%	24%	0%
Horrible	34%	32%	62%	0%

\* as a proportion of the total sampled population ( $n = 249$ ), \*\* as a proportion of the population who indicated that they consumed the other spreads.

In New Zealand, the vast majority passers-by were aware of Vegemite (91%) and both the British Marmite and Promite at 38% and 20%, respectively (**Table 4**). A large proportion of New Zealanders (85%) indicated that they had previously consumed Vegemite, while approximately 30% of New Zealanders indicated that they had consumed the UK Marmite at 14.4%, followed by 11% who indicated that they had consumed Promite. None of the passers-by in Australia had ever consumed Cenovis. Between  $\frac{1}{3}$  and a quarter of New Zealanders indicated that they liked the other brands better compared to the New Zealand Marmite (**Table 4**), while between 40 and 50% of New Zealanders were indifferent about what they could recall about the taste of Vegemite, UK Marmite and Promite.

**Table 4.** Awareness and consumption of other (national) yeast spreads brands in New Zealand ( $n = 222$ ).

Other Brands	Vegemite	Marmite (UK)	Promite	Cenovis
Aware of *	90.5%	37.8%	20.3%	0%
Have previously consumed *	84.7%	29.3%	10.8%	0%

Other Brands		Vegemite	Marmite (UK)	Promite	Cenovis
Sensory recall **	Nicer	32%	30%	25%	0%
	Same	18%	36%	13%	0%
	Different, but OK	20%	17%	29%	0%
	Horrible	30%	17%	33%	0%

\* as a proportion of the total sampled population ( $n = 222$ ), \*\* as a proportion of the population who indicated that they consumed the other spreads.

## 4. Impromptu Sensory Evaluation of Yeast Spreads in the UK, New Zealand and Australia, Aka “the Yeast Spread Identity Parade”

Further to being asked whether the passers-by were aware of other national yeast spreads and their past recognition of consuming those yeast spreads, researchers asked the same passers-by whether they thought they could tell the difference between their national yeast spread brand and any of the other yeast spreads. Researchers challenged the passers-by with either a triangle test or a ranking test. In both instances, triangle tests and the ranking tests, researchers provided a quiet place to sit down for the sensory participants.

### References

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