

## ABSTRACT

### ***STUDY OF TEMPEH JUICE DRINK WITH *Saccharomyces cerevisiae* AS A PROBIOTIC FUNCTIONAL FOOD***

By

**FATI AUZAKY RIDWAN**

The production of probiotic beverages from tempe juice with an addition of *Saccharomyces cerevisiae*, apart from diversifying processed tempeh, is also considered a functional Foods that with added value. The study aims to determine the total yeast, protein content, viscosity, and sensory analysis covering taste, aroma, color, and overall acceptance. The research was conducted complete group random design (RAKL) with single factor (Formulation, P) which was P1, P2, P3, P4 levels and six replications. The data obtained was analyzed using a BNT test at a level of 5%. The best formulation based on Analysis Hierarchy Process was then analysed for protein, ash dan consulted with SNI 7552:2009. The results showed that fermentation using *S. cerevisiae* significantly affected the total number of *S. cerevisiae* and the difference in the inulin or CMC thickening agents affected to the number of *S. cerevisiae* in fermented juice tempeh. The P3: 9.39 log CFCU/mL; and P4: 9.32 log CFA/mL was considered having probiotic potential due to containing a high number of probiotic *S. cerevisiae* of 109 CFU/mL. Based on the characteristic evaluation and SNI, fermented tempe juice with inulin addition (P3) was considered the best with having total *S. cerevisiae* probiotic, viscosity, protein, ash, pH, and acceptability was 9,39 Log CFU/mL, 0,37CpS, 1,58% bk, 0,63%, 3,54, and liked by the panelists. Conclusion that fermentation of juice tempe with *S. cerevisiae* has the potential as probiotic drink.

**Key words:** CMC, Inulin, *Saccharomyces cerevisiae*, Tempeh

## ABSTRAK

### KAJIAN MINUMAN SARI TEMPE *Saccharomyces cerevisiae* SEBAGAI PANGAN FUNGSIONAL PROBIOTIK

Oleh

FATI AUZAKY RIDWAN

Pembuatan minuman probiotik dari sari tempe selain sebagai diversifikasi produk olahan tempe, juga termasuk sebagai salah satu pangan fungsional yang memiliki nilai tambah. Penelitian ini bertujuan untuk mengetahui total khamir, kandungan protein, viskositas, sensori berupa rasa, aroma, warna dan penerimaan keseluruhan serta mengetahui perlakuan terbaik minuman sari tempe *Saccharomyces cerevisiae* sesuai SNI 7552:2009. Penelitian utama dilakukan dengan menggunakan Rancangan Acak Kelompok Lengkap (RAKL) dengan faktor tunggal 4 taraf perlakuan dan enam kali pengulangan. Data yang diperoleh dianalisis menggunakan uji BNT pada taraf 5%. Hasil penelitian ini menunjukkan bahwa Fermentasi menggunakan khamir *Saccharomyces cerevisiae* berpengaruh signifikan terhadap jumlah total khamir dan bahan pengental Inulin atau CMC juga berpengaruh terhadap jumlah khamir minuman sari tempe. Jumlah total khamir P1 7,62 Log CFU/mL, P2 7,78 Log CFU/mL, P3 9,39 Log CFU/mL, dan P4 9,32 Log CFU/mL. Minuman perlakuan P3 dan P4 dapat dikatakan sebagai minuman probiotik karena mengandung  $\geq 10^8$  CFU/mL mikroba probiotik. Perlakuan minuman probiotik sari tempe *Saccharomyces cerevisiae* terbaik adalah P3 (Minuman sari tempe inulin fermentasi) dengan nilai kandungan total khamir *Saccharomyces cerevisiae* sebesar 9,39 Log CFU/mL, nilai viskositas 0,37 CpS, kadar protein 1,58%, skor rasa 3,71 (suka), skor aroma 3,55 (suka), skor warna 3,65 (suka), skor penerimaan keseluruhan 3,57 (suka), kadar abu 0,63%, dan pH 3,54

**Kata kunci:** CMC, Inulin, *Saccharomyces cerevisiae*, Tempe