

## PENGARUH PERENDAMAN DENGAN ASAM SITRAT TERHADAP MUTU TEMPE KACANG GUDE (*Cajanus cajan* (L) Millsp.)

[Effect of Immeration With Citric Acid on The Quality of Gude Nut Tempe (*Cajanus cajan* (L) Millsp.)]

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### ABSTRACT

This study aims to determine the effect of soaking with different concentrations of citric acid on the quality of gudean bean tempe (*Cajanus cajan* (L.) Millsp.). The design used was a single factor completely randomized design (CRD) with treatment of the concentration of citric acid (P) used, namely: P1 (0%), P2 (3%), P3 (6%), P4 (9%), P6 (12%), and P6 (15%) which was repeated 3 times to obtain 18 experimental units. The parameters observed were chemical quality (moisture content, ash content, protein content and pH value), microbiological quality (total mold) and organoleptic quality (cohesiveness, aroma, and color). The results of the observations were analyzed with Anova 5% and further tests using Orthogonal Polynomial (chemical quality), Honest Real Difference test (organoleptic quality), microbiological quality were analyzed descriptively. The results showed that the citric acid concentration had a significant effect on water content, ash content, protein content, pH value, total mold, and organoleptic content. The increasing concentration of citric acid added to the soaking process of gude beans gave the effect of increasing water content but reducing ash content, protein content (0-6%), and pH value of gude bean tempeh. Soaking with a concentration of 6% citric acid is the best treatment with criteria, namely the water content value of 60.68%; ash content 0.47%; protein content 10.14%; pH value of 5.33; total mold  $2.0 \times 10^6$  CFU / g; and liked by the panelists.

**Keywords:** citric acid, gude bean tempe, soaking

### ABSTRAK

Penelitian ini bertujuan untuk mengetahui pengaruh perendaman dengan konsentrasi asam sitrat yang berbeda terhadap mutu tempe kacang gude (*Cajanus cajan* (L.) Millsp.). Rancangan yang digunakan adalah Rancangan Acak Lengkap (RAL) faktor tunggal dengan perlakuan konsentrasi asam sitrat (P) yang digunakan yaitu: P1 (0%), P2 (3%), P3 (6%), P4 (9%), P6 (12%), dan P6 (15%) yang diulang sebanyak 3 kali sehingga memperoleh 18 unit percobaan. Parameter yang diamati adalah mutu kimia (kadar air, kadar abu, kadar protein dan nilai pH), mutu mikrobiologi (total kapang) dan mutu organoleptik (kekompakan, aroma, dan warna). Hasil pengamatan dianalisa dengan Anova 5% dan uji lanjut menggunakan *Polynomial Orthogonal* (mutu kimia), uji Beda Nyata Jujur (mutu organoleptik), mutu mikrobiologis dianalisis secara deskriptif. Hasil penelitian menunjukkan konsentrasi asam sitrat memberikan pengaruh yang berbeda nyata terhadap kadar air, kadar abu, kadar protein, nilai pH, total kapang, dan organoleptik. Semakin meningkat konsentrasi asam sitrat yang ditambahkan pada proses perendaman kacang gude memberikan pengaruh berupa peningkatan kadar air tetapi menurunkan kadar abu, kadar protein (0-6%), dan nilai pH tempe kacang gude. Perendaman dengan konsentrasi asam sitrat 6% merupakan perlakuan terbaik dengan kriteria yaitu nilai kadar air 60,68%; kadar abu 0,47%; kadar protein 10,14%; nilai pH 5,33; total kapang  $2,0 \times 10^6$  CFU/g; dan disukai oleh panelis.

**Kata Kunci:** asam sitrat, perendaman, tempe kacang gude