

RINGKASAN

Penelitian ini bertujuan untuk mengetahui pengaruh lama penyimpanan pada suhu kamar terhadap perubahan jumlah total bakteri asam laktat, kadar air, aw, pH, derajat keasaman dan kadar laktosa yoghurt bubuk. Pengeringan yoghurt dengan menggunakan metode *freeze drying*.

Penelitian ini adalah penelitian true experimental laboratorik dengan menggunakan Rancangan Acak Lengkap. Perhitungan jumlah bakteri dengan metode Standard Plate Count dan diinkubasi di dalam inkubator dengan suhu 43⁰ C selama 48 jam. Penentuan derajat keasaman dan kadar laktosa secara tetrimetri. Pengukuran pH menggunakan pH meter. Pengukuran aw menggunakan aw meter dan Pengukuran kadar air yoghurt secara dry basis.

Proses tabulasi dan analisa data menggunakan prinsip prinsip analisa ragam dari the post-test control group design dan dilanjutkan Uji Least Significant Difference.

Hasil penelitian menunjukkan bahwa tidak ada perubahan jumlah total bakteri asam laktat dan kualitas yoghurt bubuk yoghurt yang ditinjau dari kadar air, aw, pH, derajat keasaman dan kadar laktosa selama penyimpanan pada suhu kamar.

Hasil uji t untuk membandingkan yoghurt cair dengan yoghurt bubuk menunjukkan bahwa tidak ada perbedaan yang nyata ($P > 0.05$) jumlah total bakteri asam laktat antara yoghurt cair dan yoghurt bubuk sebelum penyimpanan. Namun setelah penyimpanan selama 1344 jam, ada perbedaan yang nyata ($P < 0.05$). Jumlah total bakteri asam laktat yang tertinggi ditemukan pada yoghurt bubuk.

Hal ini berarti bahwa yoghurt bubuk yang diproses dengan menggunakan metode *freeze drying* lebih baik dibandingkan dengan yoghurt cair, sebab tidak mempengaruhi penurunan jumlah bakteri asam laktat.

Abstract

The purpose of this study was to detect the influence of storage duration at room temperature on changes of total sum of lactic acid bacterias, water content, aw, pH, acidity and lactose content of freeze-dried yoghurt.

True experimental laboratory method with the post-test only control group design was used. Bacteria counting determined by Standard Plate Count Method after the yoghurt was incubated at 43 °C for 48 hours.

The degree of acidity and lactose content were determined by titrimetry, pH-meter and aw-meter were used to determine the pH and the aw, while the water content was determined by dry basis.

Tabulation procedure and data analysis were analyzed by co-variance technique of total random design method and finally ended by Least Significant Difference test.

The result of this study indicated that there are no change of total sum of lactic acid bacterias and the quality of dry yoghurt, on account of water content, aw, pH, degree of acidity and lactose content by storing them at room temperature.

The result of t-test to compare the fresh to the dry yoghurt, reveals no significant change at a ($p > 0.05$) for the lactic acid change of sum. However, after 1344 hours storage there was a significant change of bacteria sum with a ($p < 0.05$).

This study concluded that freeze-dried yoghurt was superior in quality to the fresh one. The freeze-dried yoghurt was able to keep the sum of bacteria considerably unchanged by storage.