

## ABSTRAK

**RAMADAN, Y.A., 2021, PENGARUH PENAMBAHAN MADU TERHADAP PENURUNAN JUMLAH KOLONI BAKTERI PADA SUSU PASTEURISASI. KARYA TULIS ILMIAH, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA. Dibimbing oleh Dr. apt. Ismi Rahmawati., M. Si.**

Susu segar merupakan media sangat baik untuk pertumbuhan mikroorganisme. Masyarakat sering mengkonsumsi susu segar tidak sekaligus habis dengan jangka waktu tertentu. Madu merupakan salah satu bahan alami yang memiliki rasa manis dan kandungan sebagai antibakteri. Penelitian ini bertujuan mengetahui penurunan jumlah koloni bakteri pada susu pasteurisasi dengan penambahan madu.

Sampel susu pada penelitian ini diambil dari pedagang di Cemani Sukoharjo. Sampel susu segar dipasteurisasi dengan menggunakan metode High Temperature Short Time (HTST) dengan suhu 72<sup>0</sup>C selama 15 detik. Susu ditambahkan madu 0, 2, 4, dan 6 % lalu didiamkan dalam suhu kamar selama 2 jam. Jumlah koloni diuji dengan metode Angka Lempeng Total (ALT) menggunakan media Plate Count Agar (PCA). Hasil koloni dihitung menggunakan SNI 2897: 2008. Data dianalisis menggunakan Statistical Product And Service Solution (SPSS) dengan nilai  $p= 0,00 (<0,05)$ .

Hasil rata – rata jumlah koloni dengan penambahan madu 0, 2, 4, dan 6% berurutan adalah  $1,6 \times 10^3$ ,  $9,4 \times 10^2$ ,  $3,1 \times 10^2$  dan  $2,8 \times 10^2$  CFU/mL. Jumlah koloni dianalisis menggunakan statistik dengan nilai  $p= 0,00 (<0,05)$ . Hasil menyatakan semua penambahan madu menunjukkan penurunan jumlah koloni bakteri secara signifikan. Penambahan madu konsentrasi 4% merupakan konsentrasi terefektif dapat menurunkan jumlah koloni pada susu pasteurisasi disimpan 2 jam.

**Katakunci:** Susu Pasteurisasi, Madu, dan ALT.

## ABSTRACT

**RAMADAN, Y.A., 2021, HOW INCREASED HONEY IS AFFECTED BY DECREASING COLONIES OF BACTERIA IN PASTEURIZED MILK. SCIENCE PAPERS, PHARMACEUTICAL FACULTY, DEVOTED UNIVERSITY, SURAKARTA. Supervised by Dr. apt. Ismi Rahmawati., M. Si.**

Fresh milk is an excellent medium for the growth of microorganisms. People often consume fresh milk in moderation. Honey is one of the few natural ingredients that have a sweetness and an antibacterial properties. The study aims to see a decrease in the number of bacterial colonies in pasteurized milk by the addition of honey.

Milk samples in this study were taken from traders in Cemani Sukoharjo. Fresh milk samples were pasteurized using the High Temperature Short Time (HTST) method at 72°C for 15 seconds. Milk was added with honey 0, 2, 4, and 6% and then allowed to stand at room temperature for 2 hours. The number of colonies was tested by the method of total plate number (ALT) using a media plate count to (PCA). The results of the colony are calculated using SNI 2897: 2008. Statistical product and service solutions (SPSS) with a value of  $p = 0.00 (< 0.05)$ .

The average results of the number of colonies with the addition of honey 0, 2, 4, and 6% respectively were  $1,6 \times 10^3$ ,  $9,6 \times 10^2$ ,  $3,1 \times 10^2$  dan  $2,8 \times 10^2$  CFU/mL. The number of colonies was analyzed using statistics with  $p$  value = 0.00 (<0.05). The results stated that all the addition of honey showed a significant decrease in the number of bacterial colonies. The addition of honey with a concentration of 4% is the most effective concentration to reduce the number of bacterial colonies in pasteurized milk stored for 2 hours.

**Keywords:** Pasteurized Milk, Honey, and ALT