COMPARISON OF MICROBIAL CONTAMINATION ON LIPS COSMETICS TESTER AT DRUG STORE, SEREMBAN

NUR QAMARIAH WIRAIE BINTI MOHAMAD AZHAR

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This Final Year Project Report entitled "**Comparison of Microbial Contamination on Lips Cosmetics Tester at Drug Store, Seremban"** was submitted by Nur Qamariah Wiraie Binti Mohamad Azhar, in partial fulfilment of the requirement for the Degree of Bachelor of Science (Hons.) Biology, in the Faculty of Applied Sciences, and was approved by

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Nurul Hidayah Binti Adenan
Supervisor
B.Sc. (Hons.) Biology
Faculty of Applied Sciences
Universiti Teknologi MARA
72000 Kuala Pilah Negeri
Sembilan

_____

Madam Lily Syahani binti Rusli
Project Coordinator
B. Sc. (Hons.) Biology
Faculty of Applied Sciences
Universiti Teknologi MARA
72000 Kuala Pilah
Negeri Sembilan

_____

Dr. Nor'aishah binti Abu shah
Head of Programme
B. Sc. (Hons.) Biology
Faculty of Applied Sciences
Universiti Teknologi MARA
72000 Kuala Pilah
Negeri Sembilan

Date: _____

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ABSTRACT

COMPARISON OF MICROBIAL CONTAMINATION ON LIPS COSMETICS TESTER AT DRUG STORE, SEREMBAN

Cosmetic tester is the sample of the product provided by the company for consumer to try it before buying the product. Cosmetic can provide a suitable medium for pathogenic microbial growth. Cosmetic products do not necessarily sterile but it must not be contaminated with pathogenic microorganism. Hence, the objectives of this study is to isolate and identify *Pseudomonas aeruginosa* and *Escherichia coli* in lips cosmetic testers and to compare the contamination level among the lip cosmetic testers available in drug store at Seremban. A new unused sample, two weeks old and 4 weeks old sample testers were obtained from Drug store at Seremban. 0.1g of each sample was homogenized in 2ml of tween 80 before added 8ml of sterile nutrient broth to the sample emulsion. 0.1ml of sample emulsion was spread on Pseudomonas isolation agar and Eosin Methylene blue agar before incubated at 37^0C for 24 hours. The colonies growth was identified and the contamination level is determined using total colony forming unit. Regarding the result, there was no growth on the unused tester while the used tester contained *Pseudomonas aeruginosa* and *Citrobacter freundii*. The total colony count in 2 weeks sample is 1004 CFU/g while in the 4 weeks sample is 2833 CFU/g. In comparison, the contamination level of 4 weeks old sample is higher than 2 weeks old sample. In conclusion, the lips cosmetic testers were contaminated as it exceeded microbiological limit for finished lip care product with the requirement absence of gram negative bacteria.