

## ABSTRACT

### FORMULATION OF *CLEANSING BALM* COMBINATION OF YOGURT WHEY AND LEMONGRASS ESSENTIAL OIL (*Cymbopogon nardus* L.) AND TESTING ANTI-BACTERIAL ACTIVITY *Staphylococcus epidermidis*

**Salsa Bhakti Widya Astuti**  
**NIM 422021718066**

The use of waterproof cosmetics is becoming increasingly common among modern society, making it necessary to have an effective facial cleanser to remove waterproof makeup without causing irritating to the skin. Natural facial cleansing products are increasingly preferred to synthetic facial cleansing products that are harmful to the skin. Therefore, there is a need to develop a natural ingredient cleansing balm, one of which is yogurt whey and lemongrass essential oil. Whey yogurt contains lactoferrin and bacteriocin as natural probiotics, and lemongrass essential oil contains geraniol and citronellol as antibacterials. The formulation of the cleansing balm uses a combination of yogurt whey and varying concentrations of lemongrass essential oil at 5%, 10%, 15%, and 20%. The research conducted is experimental in nature, including tests on the physical quality of the formulation such as visual tests, pH tests, spreadability tests, cleansing power tests, melting point tests, and antibacterial activity tests against *Staphylococcus epidermidis*. The physical quality results of the cleansing balm preparation have a semi-solid texture, pale yellow color, and the characteristic aroma of lemongrass essential oil. The pH value of the cleansing balm preparation is 5.64-7.31, the spreadability value is 2.72-3.53 cm, the cleansing power value with a duration of 26-17 seconds, and the melting point value with a temperature of 53-32. The antibacterial test results with an inhibition zone diameter of 6.10 mm-7.58 mm prove that the cleansing balm can inhibit the growth of *Staphylococcus epidermidis* bacteria. The formulation of the cleansing balm, which combines yogurt whey and lemongrass essential oil, has the potential to be a cosmetic product for removing waterproof makeup and has antibacterial properties for acne-prone skin.

**Keywords:** *cleansing balm*, acne, lemongrass essential oil, *Staphylococcus epidermidis*, yogurt whey.

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