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## KERATIN EXTRACTION AND ANTI HAIR-FRIZZ SERUM FORMULATION FROM CHICKEN FEATHERS

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### ABSTRACT

Chicken feather waste is a suitable raw material for this study due to its abundant availability in the poultry industry and the harmful environmental effects of its disposal. Improper disposal of chicken feathers contributes to waste pollution but utilizing them for keratin extraction presents a sustainable and beneficial alternative. Since chicken feathers contain 91% pure keratin, they serve as a promising material for formulating a new Anti-hair-frizz serum. The study extracted keratin through alkaline hydrolysis and incorporated it into a hair serum, which was tested through hair shrinking and alignment experiments. Results showed that higher keratin concentrations significantly reduced frizz and improved hair alignment, demonstrating the serum's effectiveness. The 9g keratin hydrolysate concentration exhibited the most significant impact, lessening the fizziness of the hair over a 3-day trial period. These findings indicate that keratin extracted from chicken feather waste presents a promising, natural, and environmentally sustainable option for an anti-hair-frizz serum, especially in humid climates such as that of the Philippines.

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