

Treatments of chicken feather waste

ABSTRACT

Feather waste is a potential renewable source to recover valuable products because it is being a rich source of keratin proteins and amino acids. It can be used to make feather meal, fertilizer and yarn sizing agent. Various treatments have been used to recover the protein from chicken feathers as the keratinous feathers cannot be easily degraded due to its tough structure. This paper reviews the existing treatment methods used to hydrolyze chicken feathers. The treatment methods for feather hydrolysis such as physical, chemical, biological and combined treatments as well as their advantages and challenges are highlighted. The effects of these treatments on feather hydrolysis are complex and vary in regards to the performance of feather hydrolysis and product yielded. Hence, it is important to choose an appropriate treatment method since the type of treatment applied affects the product yielded qualitatively and quantitatively. In addition, the economic assessment and environmental impact of the choice of treatment should be considered also.

Keyword: Chicken feather; Hydrolysis; Keratin; Soluble protein; Treatments