Keratin Waste: An Effective Management

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Tonnes of chicken feather and goat hair wastes are being produced by the slaughter houses and leather industry. These cause a huge problem in the present scenario and the management of the same is a major concern. According to the statistics, in an agriculture based country like India, common nitrogen based chemical fertilizer like Urea is being used at an alarming rate annually. The environmental pollution caused by the use of chemical fertilizers in agriculture is a major cause of concern. Therefore, there is an urgent need for an effective management as well as of organic and eco-friendly fertilizer. In the present research work, the keratinase action of Bacillus licheniformis has been studied over chicken feather and goat hair keratin substrates and enzyme produced was quantified. Various concentrations and combinations of B.licheniformis and keratin substrates were tested on plants to observe their growth parameters with standard control as Urea. Soil quality parameters were also checked. Effective increase in parameters indicated the efficacy of the product. Keratinase action of B.licheniformis over the hair and feather samples produces an eco-friendly and organic bio-fertilizer and opens a way to enhance the crop productivity and soil quality without any damage to environment, flora and fauna.

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