PRODUCTION OF KERATINASE USING FEATHER MEAL AS CARBON AND NITROGEN SOURCE FROM *Aspergillus niger*

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The keratinase is an enzyme belong to the second metabolism of the fungi and is useful to degrade feathers, a by-product of the poultry processing that have a potential environmental impact and is almost keratin pure. The objective of this study was to compare the production of keratinolitic enzymes from strains of *A. niger* isolated from different substrates, in feather meal. The samples URM 2908, URM 4645, URM 5218, URM 5239 and URM 5243 of *A. niger* were obtained in the URM Micoteca (UFPE) and it were growth in submerged culture in a medium contain feather (1% w/v), as the sole source of carbon and nitrogen, and salts. The cultures were conduced during 7 days at 30ºC under orbital shaker (120 rpm). The protein and the keratinolitic activity were assayed. Tree samples of *A. niger* produced keratinase, the best producer, URM 5239, was different statistically of the others (Tukey test, $p>0,05$) and produced 107,867 mU/mg. The samples URM 2908 and URM 4645 did not produce the enzyme. Our results reveals the strain URM 5239 was the best producer of keratinase among the others analyzed and possibly can be used in the biotechnological industry to convert feather to animal feedstuff or organic fertilizer.

Key words: keratinolitic enzymes, fungi, *Aspergillus niger,* feather meal