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البحث الثاني

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مشترك مع آخرين من خارج وداخل التخصص– منشور في مجلة دولية	2

Title	**Fungal Cellulase Production Optimization and its Utilization in Goat's Rations Degradation.**
Participants	**G.E. Aboul-Fotouh[1], G.M. El-Garhy[1], H.H. Azzaz[2], A.M. Abd El-Mola[1] and G.A. Mousa[1]** **[1]Animal Production Department, Faculty of Agriculture, Fayoum University, Fayoum 63514, Egypt.** [2]Dairy Sciences Department, National Research Centre, 33 Buhouth St., Dokki, Giza, 12311, Egypt.
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Abstract

Objective: Fungal cellulase production under the optimum conditions and investigates the impact of the produced cellulase on degradation of goat's rations compared with commercial cellulase source. **Materials and Methods**: Asperigillus niger, Asperigillus flavus, Asperigillus fugimatus, Trichoderma viride and Penicillium chrysogenum were separately grown as stand cultures in 250 mL conical flasks containing 50 mL of cellulose powder medium for screening their ability for cellulase production. In the in vitro trial, degradation of dry matter and organic matter were determined for goat's ration. The ration was supplemented separately with locally produced cellulase (Asperozym) and commercial cellulase source (Phytabex plus®) at 4 levels (500, 1000, 1500 and 2000 U kgG1 DM) compared with the control. **Results**: Asperigillus niger had the highest cellulase activity reached 0.44 U mLG1. The maximum production of cellulase by A. niger was achieved at 10% rice straw, inoculum size of 4%, initial pH of growth medium 6.0 and peptone as a nitrogen sources at a concentration of 0.33 g N LG1. Increasing the Asperozym and Phytabex plus® addition levels up to 1000 U kgG1 DM gave the maximum. **Conclusion**: The locally cellulase production for feeding animals may reduce the cost of importation and encourages self-reliance.