Role of Microbial Enzymes in the Biodegradation of Rice Straw via Biotechnological Techniques

Dina Helmy El-Ghonemy*

Department of Microbial Chemistry, Genetic Engineering and Biotechnology Division, National Research Centre, Dokki, Egypt

***Corresponding author:** El-Ghonemy DH, Department of Microbial Chemistry, Genetic Engineering and Biotechnology Division, National Research Centre, Dokki, Egypt, Tel: +2 01062456850; E-mail: delghonamy@yahoo.com

Received date: May 24, 2015; **Accepted date:** May 27, 2015; **Published date:** May 30, 2015

Editorial

As a main source of nourishment for over half the world's population, rice is by far one of the most important commercial food crops. Its annual yield worldwide is approximately 535 Mt. In Egypt, after the harvest of rice every autumn (October-November), Egyptian farmers generate about 30 Mt of agricultural wastes per year and start burning at least 4 t of hay in a very short time to prepare their land for the next season.

Environmentalists blame the burning of rice straw, for the pall of smoke known by "Black Cloud", a mass of polluted air, which spreads

3. El-Ghonemy DH, Ali TH, El-Bondkly AM, Moharam ME, Talkhan FN (2014b) Improvement of Aspergillus oryzae NRRL 3484 by mutagenesis and optimization of culture conditions in solid-state fermentation for the hyper production of extracellular cellulases. Antonie van Leeuwenhoek J Microbiol 106: 853-864.
4. Xiong H, von Weymarn N, Leisola M, Turunen O (2004) Influence of pH on the production of xylanases by Trichoderma reesei Rut C-30. Process Biochem 39: 731-736.
5. Sadhu S, Maiti TK (2013) Cellulase production by bacteria: a review. Br Microbiol Res J 3: 235–258.
6. Li X, Sun B, Song H, Zhu Y, Lv Y, et al. (2010) Purification and characterization of a cellulase-free thermostable xylanase from Streptomyces rameus L2001 and its biobleaching effect on wheat straw pulp. Biochem Eng J 52: 71-78.
7. Pradeep MR, Janardhan A, Kumar AP, Narasimha G (2012) Induction of chemical mutations in Aspergillus niger to enhance cellulase production. J Environ Biol 2: 129-132.
8. Vu VH, Pham TA, Kim K (2009) Fungal strain improvement for cellulase production using repeated and sequential mutagenesis. Mycobiology 37: 267-271.
9. Vu VH, Pham TA, Kim K (2011) Improvement of fungal cellulase production by mutation and optimization of solid state fermentation. Mycobiology 39: 20-25.

This article was originally published in a special issue, entitled: **"Recent**