Journal of Physical Chemistry & Biophysics
ISSN: 2161-0398
2020
Vol.10 No.3

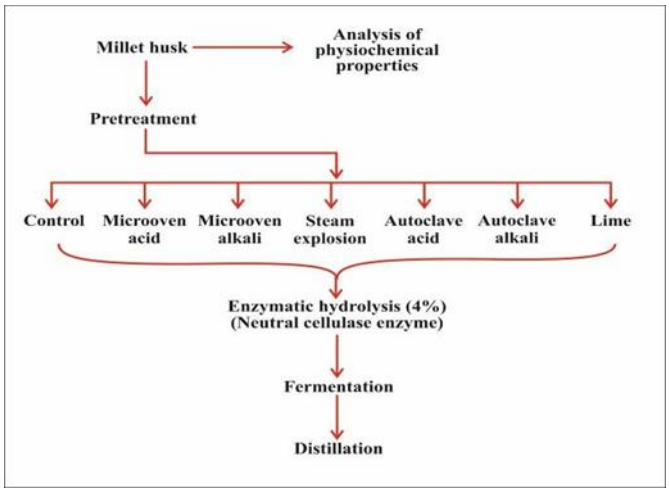
BIOETHANOL PRODUCTION FROM HUSKS OF DIFFERENT SMALL MILLETS

Ashwini R N

University of Agricultural Sciences GKVK, Bengaluru, India

Abstract

An experiment entitled "Bioethanol production from husks of different small millets" was conducted in the laboratory of forestry and environmental sciences. In this experiment the millet husks (foxtail millet, barnyard millet and little millet) were subjected to Six pre-treatments (Acid, Alikali, Microwave Acid, Microwave Akali, Steam Exploson, Lime, Control) enzymatic hydrolysis and fermentation. The microorganisms isolated from the spoiled fruits and millet husks were used in fermentation of millet husk. The results revealed that among six bacterial isolates, IS2 bacterial isolate(apple) has recorded highest mean population (3.6 × 104 CFU/ml). In enzymatic hydrolysis the total sugars were higher at 12 hours in autoclaved alkali barnyard millet husk (20905.36 mg/50g of feed stock) and total soluble solids was higher at 72 hours in autoclaved alkali pretreatment. Higher ethanol content during fermentation was recorded in autoclaved alkali barnyard millet husk (T17) pre-treatment at 120 hours (4018.26mg/50g feedstock). The study revealed that autoclaved alkaline pre-treatment was the best among all the other pre- treatments. However, all the three millet husks produced bioethanol, but the concentration of bioethanol observed was higher in barn yard millet husk.



Biography:

Ashwini R N ,1st yr. Ph.D., University of Agricultural Sciences GKVK, Bengaluru, India

Speaker Publications:

1. OYELEKE, S. B. AND JIBRIN, N. M., 2009, Production of bioethanol from guinea cornhusk and millet husk. African J. Microbiology Res., 3 (4): 147-152.
2. RABAH, A. B., OYELEKE, S. B., MANGA, S. B., AND HASSAN, L. G., 2011, Utilization of millet and guinea corn husks for bioethanol production. African J. Microbiology Res., 5(31): 5721-5724.
3. ZHU, S., WU, Y., YU, Z., LIAO, J. AND ZHANG, Y., 2005, Pretreatment by microwave/alkali of rice straw and its enzymatic hydrolysis. Process Biochem., 40(9): 3082-3086.
4. ZHU, S., WU, Y., YU, Z., ZHANG, X., WANG, C., YU, F. AND JIN, S., 2006, Production of ethanol from microwave-assisted alkali pretreated wheat straw. Process Biochem., 41(4): 869-873.
5. IBRAHIM. M. M., EL-ZAWAWY, W. K., ABDEL-FATTAH, Y., RSOLIMAN. N. A. AND AGBLEVOR, F. A., 2011, Comparison of alkaline pulping with steam explosion for glucose production from rice straw. Carbohydrate Polymers., 83(2): 720–726.

11th Edition of International conference on Biofuels and Bioenergy, London, UK, March 23-24, 2020

Abstract Citation:

Ashwini R N, BIOETHANOL PRODUCTION FROM HUSKS OF DIFFERENT SMALL MILLETS, Biofuels 2020, 11th Edition of International conference on Biofuels and Bioenergy, London, UK, March 23-24, 2020