



Utilization of banana peel as a substrate for ethanol production by isolated yeast strains

• Menka Mrinal • Sonal Sinha

• Sonal Suman

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Corresponding Author : Sonal Suman

Abstract : *In the present study production of bioethanol was investigated using yeast strains isolated from ripe bananas and comparative assessment of their potential for bioethanol production was studied. Out of the seven isolates, five showed enhanced ability and were subsequently identified and assessed for ethanol production in which Strain I showed no ethanol production, Strain II and III showed less ethanol production and Strain IV and V showed more ethanol production. The obtained results shows production of ethanol from ripe banana peels was quite significant when compared with its sugar content. This is a cost effective method which may helps in waste management and help in overcoming the energy crisis in the world.*

Key Words: *Banana peels, Yeast, Fermentation, Bioethanol*

Menka Mrinal

B.Sc. III year, Industrial Microbiology (Hons.),
Session : 2011-2014, Patna Women's College,
Patna University, Patna, Bihar, India

Sonal Sinha

B.Sc. III year, Industrial Microbiology (Hons.),
Session : 2011-2014, Patna Women's College,
Patna University, Patna, Bihar, India

Sonal Suman

Assistant Professor, Deptt. of Industrial Microbiology,
Patna Women's College, Bailey Road,
Patna – 800 001, Bihar, India.
E-mail : sonal.micro89@gmail.com

ntroduction :

Ethanol is a relatively low cost alternative fuel. Ethanol is the only clean burning liquid fuel available that can replace oil. Ethanol production is usually accomplished by chemical synthesis of petrochemical substrate and microbial conversion of carbohydrates present in agricultural products (Goettemoeller and Goettemoeller, 2007).

The preferred strain for industrial production of ethanol has been *Saccharomyces cerevisiae* (Ameh et al. 1989). Certain fermentation parameters such as inoculum, enzyme, and substrate concentration besides optimum pH, temperature and time play an important role in obtaining good ethanol yield. Bioethanol, unlike petroleum, is a form of renewable source of energy that can be produced from various sources, like household waste, agricultural waste, fruit juices, fruit wastes etc.

Banana is one of the major food resources in the world. These cultures occupy the 4th world rank of the most significant food stuffs after rice, corn and milk (FAO 1999; INI BAP 2002) As per FAO statistics, India is the largest producer of banana