ISOLATION OF INDIGENOUS YEAST STRAINS AND SCREENING FOR ECONOMICALLY IMPORTANT PROPERTIES

A dissertation submitted to the
Faculty of Animal Science and Export Agriculture
Uva Wellassa University
In partial fulfillment of the requirements for the award of the
Degree of Bachelor of Science in Export Agriculture

By

SAMARAKOON MUDIYANSELAGE THISARANI ALOKA MARALANDA

Faculty of Animal Science and Export Agriculture
Uva Wellassa University

2012

ABSTRACT

A study was conducted to isolate yeast strains from natural environments and screening for ethanol production from sugarcane molasses. Uses of inferior yeast cultures represent one of the reasons for low alcohol recoveries in Sri Lankan molasses distilleries. The most employed microorganisms used for fermentation is *Saccharomyces cerevisiae* yeasts due to their ability to hydrolyze sucrose from cane molasses into glucose, fructose and to fermenting ethyl alcohol. The present study describes the ethanol fermentation from sugarcane molasses by locally isolated yeast strains. Twenty-six indigenous yeast isolates were isolated from sugar containing materials and evaluated their performance under laboratory conditions. All isolated yeast strains produce alcohol in molasses media during 72hr laboratory fermentation. Out of the twenty-six strains evaluated, six strains were found to be superior to baker's yeast in terms of sucrose fermentation. UWUM -111 yeast strain produced the highest ethanol concentration (6.9%) when compared with the bakers' yeast strain.

Key Words: Alcohol concentration, Yeast strain, Sugarcane molasses, Fermentation Alcohol distillery