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Poondi– 613 503, Thanjavur-Dt, Tamilnadu
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3.7.1 Number of Collaborative activities per year for research/ faculty exchange/ student exchange/ internship/ on –the-job training/ project work

Collaborating Agency:

Dr. C. MaragathamAlagesan Associate Professor,
Dept. of Biotechnology, Rajah Serfoji Govt. College, Thanjavur

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Associate Professor
Department of Biotechnology,
Rajah Serfoji Government College (Autonomous),
Thanjavur, TamilNadu, India.

Date: 10.10.2015.

LINKAGE

For the year 2015-2016

Between

1. Dr.A.Panneerselvam,
   Associate Professor and Head (Rtd.,)
   PG & Research Department of Botany and Microbiology
   A.V.V.M Sri Pushpam College
   (Autonomous), Poondi – 613 503.

&

2. Dr. C. Maragatham Alagesan
   Associate Professor
   Department of Biotechnology
   Rajah Serfoji Government College
   (Autonomous)
   Thanjavur, TamilNadu, India.

Considering the significance of the noble cause for the student community, we have come forward to collaborate with each other to exchange research knowledge, expertise, laboratory and library facilities to the process of scientific research and education in the field of Biological science. The parties (mentioned above as 1. & 2.) have had preliminary discussion in this matter and have ascertained areas of broad consensus. The parties now therefore agreed to enter in writing these avenues of consensus, under a flexible linkage, and this project aims to fill the gap between knowledge demand and subject expertise related to the mentioned field.

Joint Responsibilities

- Sharing of laboratory facilities, library resources, database etc.,
- Joint Publication of research articles, books, magazines, bulletins etc.,
- Jointly organizing conferences, seminars, symposia and workshops.
- Submitting joint proposals for research funding from agencies like UGC, CSIR, DST and TNSCST.
- Patenting Microbes, Plants patents Procedure, Product development and Novel equipments in Biological sciences (Indian and Foreign Patenting).

Dr. A. Panneerselvam

Dr. C. Maragatham Alagesan

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Original Research Article

Production, Optimization and Characterization of wine from Papaya using *Saccharomyces cerevisiae*

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ABSTRACT

Carica papaya (pawpaw) is one of the fruits commonly used as food and medicine. It is eaten as fresh fruit or processed into deserts. It is a sugar crop with soluble saccharide in the form of glucose, fructose and sucrose. The fermentation of this juice to wine can be attractive alternative to explore its potential in alcohol beverage industry. The present investigation was carried to find out the optimal conditions for the efficient conversion of papaya juice into wine using *Saccharomyces cerevisiae*. The optimum process conditions for this fermentation process were 24°Brix Total Soluble Solids, 26°C temperature, 5ml of pectinase enzyme, 10% inoculum, and pH 4.5. Corresponding to these optimum conditions, the predicted value of ethanol production was found to be 11-12%, which was experimentally verified.

Keywords

Papaya fruits, *Saccharomyces Cerevisiae*, Fermentation, wine

Introduction

Wine, an alcoholic beverage is prepared by different fruit juices with appropriate processing and additions (Amerine and Singleton, 1968). The conventional process of wine making involves the fermentation of grape juice. However, there are numerous reports available on wine preparation from other fruits such as apple, plum, apricot, pomegranate, strawberry, kinnow, guava, jamun, sapota, litchi, etc (Sandhu and Joshi, 1995; Joshi *et al.*, 1991; Joshi and Sharma, 1994; Adsule and Kadam, 1995; Joshi *et al.*, 2005; Joshi *et al.*, 1997; Bardiya *et al.*, 1974; Shukla *et al.*, 1991; Gautam and Chundawat, 1998; Zeng *et al.*, 2008).

A large quantity of wines are produced and consumed all over the world (Amerine *et al.*, 1980). Traditionally, the fruit juice was fermented by wild yeast. However, with the developments in the field of fermentation, different strains of *Saccharomyces cerevisiae* and various fruits juices have been explored for wine production. The utilization of papaya juice for the preparation of wine can solve the problems of market surplus and related spoilage, apart from the development of a new variety of wine. Keeping this in view the present investigation was carried out for the optimization of process parameters for