International Journal of Agricultural Sciences
Volume **10** | Issue 1| January, 2014 | 29-35

RESEARCH PAPER

Studies on methionine secreting micro-organisms from sago industrial wastes and standardization of growth parameters for maximum methionine secretion

N. ARUNKUMAR*, S.P. SUNDARAM, R. ANANDHAM, N.O. GOPAL AND S. BALAKRISHNAN[1]
Department of Agricultural Microbiology, Agricultural College and Research Institute, MADURAI (T.N.) INDIA
(Email : bullseye84@gmail.com)

Abstract : Methionine is a dietary essential amino acid secreted by various microorganisms and can be supplemented in food and feed for enhancing the growth and body functions of the mammals. From a total of 141 microorganisms isolated from various sources such as curd, yogurt, cheese, and sago industrial waste 2 yeast culture and 2 bactreial cultures were confirmed to be elite methionine secreting organisms. The microorganisms through molecular characterization were identified as *Candida tropicalis* ITEM10456, *Kluyveromyces marxianus* CHY1612, *Acetobacter tropicalis* NRIC 0312, and *Lactobacillus paracasei* subsp. *tolerans* JCM 1171. Various parameters such as carbon and nitrogen requirement, optimum pH and temperature for maximum methionine secretion were also investigated. The organisms were found to secrete maximum methionine, *Candida tropicalis* ITEM10456 (1134 µg/ml), *Kluyveromyces marxianus* CHY1612 (1320 µg/ml), *Acetobacter tropicalis* NRIC 0312 (1412 µg/ml), *Lactobacillus paracasei* subsp. *Tolerans* JCM 1171 (1078 µg/ml) after standardization of the growth parameters.

Key Words : Methionine, Micro-organisms, Growth parameters, Standardization

View Point Article : Arunkumar, N., Sundaram, S.P., Anandham, R., Gopal, N.O. and Balakrishnan, S. (2014). Studies on methionine secreting micro-organisms from sago industrial wastes and standardization of growth parameters for maximum methionine secretion. *Internat. J. agric. Sci.*, **10** (1): 29-35.

Article History : Received : 11.06.2013**; Revised :** 06.09.2013**; Accepted :** 05.10.2013

*** Author for correspondence**
[1]Department of Seed Technology, Agricultural College and Research Institute, MADURAI (T.N.) INDIA