J Food Process Technol 2012, 3:10
http://dx.doi.org/10.4172/2157-7110.S1.010

OMICS Group Conferences
Accelerating Scientific Discovery

International Conference and Exhibition on
Food Processing & Technology

November 22-24, 2012 Hyderabad International Convention Centre, India

Processing and utilization of sugarcane bagasse for functional food formulations

Baphiralang Wahlang[1], Kamal G. Nath[1], Usha Ravindra[1], Chandru R[2] and Vijayalaxmi K. G[3]
[1]Department of Food Science and Nutrition, [2]Department of Post Harvest Technology, [3]Staff Training Unit, University of Agricultural Sciences, India

Sugarcane bagasse is a rich source of dietary fibre but its major limitation is its low digestibility which is due to association of lignin with cellulose and hemicellulose. Lignin reduces the digestibility of cellulose and hemicellulose by physically protecting them against enzyme degradation. To overcome this difficulty a number of chemical and biological treatments have to be done for delignification. Thus the samples were subjected to the following treatments: steam, acid, alkali, steam+acid and steam+alkali and the same was dried, powdered, packed and refrigerated. Analysis of chemical, functional properties and microbial assay was carried out. The total dietary fibre, cellulose, hemicellulose, lignin and pectin content of the samples ranged from 85.00-92.12 per cent, 45-55 per cent, 4.26-7.72 per cent, 52.49-76.66 per cent, 0.63-0.80 per cent respectively. Functional properties namely: solubility index, swelling power, water absorption capacity, oil absorption capacity and emulsification capacity in the samples ranged from 8.10-8.80 per cent, 1.00-4.03 per cent, 3.95-6.15 g/g, 3.55-4.40 g/g and 0.50-2.05 ml/g respectively. The microbial assay was carried out for total bacteria, molds and yeasts count. Steamed treated bagasse was selected based on highest total dietary fibre content and lower microbial load for development of four products namely chapatti, chutney powder, vermicelli upuma and masala biscuits fortified with various levels of fibre. These were standardized in the laboratory and then organoleptic evaluation carried out by semi-trained panelists.

Biography

Miss Baphiralang Wahlang has completed her M.Sc in Food Science and Nutrition from the University of Agricultural Sciences, GKVK, Bangalore and she had worked on the topic "Utilization of Sugarcane Bagasse Fibre in Functional Food Formulations" for her research. Currently she is pursuing her Ph.D. from the same University.

wahbaphi@gmail.com

Food security and challenges

Chintan Potdar
Gujarat National Law University, India

Food security implies regular availability and access to food to humans. With human population expected at 10 Billion by 2050, food security has emerged as the biggest challenge for mankind. Currently out of a total 6 billion, 1 and 2 Billion suffer from acute and partial food scarcity respectively.There are a number of factors risking the availability of food. The reducing availability of land and water are the most elementary (basic) ones.

There are more complex aspects as well – like rapid hybridization used to boost food production which is affecting the basic gene pool and causing genetic pollution. This may in the long run quicken their extinction. This is linked to the IP as plant variety protection (PVP) is applied to genetic resources, bio-diversity components and Bio-tech processes. The increased emission of Green House Gases (GHGs) is causing rapid climate change, reducing crop yields and people' ability to access food. Climate change is also leads to water stress, decreased bio-diversity, increased pests and crop diseases, damaged ecosystems often leading to conflicts caused by scarcity.

Increased globalization is also affecting food security of many people as high cost inputs and increased fuel cost is making farm inputs expensive and unviable. Also farm credits are becoming difficult to access due to increased uncertainty in farming. Trading of farm commodities is outpricing food for common man. Sometimes high farm productivity in one geography causes deep fall in foodgrain price in other area almost crippling agriculture there.

Food security is a complex topic, standing at the intersection of many technical, scientific and economic disciplines.

In course of the final research paper the author would delve into issues related to the intertwined concepts relating/involving Intellectual Property Rights (IPR), Genetic Engineering and conservation of Bio-diversity, Climate Change and its adverse effects, Globalization and its repercussions on the availability of limited land resources, population growth (and explosion) etc.

Biography

Chintan Potdar is a Law Student currently in the 2nd Year of the five-year Integrated Law Degree Course, pursuing his B.Com. LL.B. (Hons.) degree from Gujarat National Law University (GNLU), Gandhinagar, Gujarat..

chintanp10@gnlu.ac.in