



3rd International Virtual Conference on Food and Nutrition

"Recent trends and challenges in Food & Beverage industry"

Virtual Conference
20th & 21st November, 2020

Organized by:
BioLEAGUES Worldwide

Preface

This book reports the Proceedings of the “**3rd International Virtual Conference on Food and Nutrition**” held **on 20th & 21st November 2020**, organized by **BioLEAGUES Worldwide**.

The publishing department has accepted more than 120 abstracts. After an initial review of the submitted abstracts, 16 papers were presented at the conference and were accepted for publication in the Conference Proceedings. The topics that are covered in the conference include clinical Nutrition, Beverage industry, Food Safety, Food security, Flavor Chemistry Technology etc. We would like to thank all the participants for their contributions to the conference and the proceedings.

Reviewing papers of the **3rd ICFN 2020** was a challenging process that relies on the good will of those people involved in the field. We invited more than 15 researchers from related fields to review papers for the presentation and the publication in the **3rd ICFN** Proceeding. We would like to thank all the reviewers for their time and effort in reviewing the documents.

Finally, we would like to thank all the proceeding team members who with much dedication have given their constant support and priceless time to bring out the proceedings in a grand and successful manner. I am sure this **3rd ICFN 2020** will be a credit to a large group of people, and each one of us should be proud of its successful outcome...

3rd ICFN 2020

Welcome Message...

Food and Nutrition are integral part of human life. Instead of differentiating food which provides energy to the body from nutrition, nowadays we club together as nutritious food. Since the present day consumers are more health conscious, they know the importance of nutrition in human body. Intake of only calorie rich food is insufficient to keep someone healthy unless proper nutrition is also added to the food. Changing life style due to present day hectic work schedule has necessitate the importance of nutritious food.



In this backdrop, **3rd International Virtual Conference on Food and Nutrition** is going to be held on **20th -21st November, 2020**. This conference will create a platform to understand various aspects of Food and Nutrition and the related topics in a better way.

Interaction with the Food and Nutrition industries, Academicians and Regulators will clarify lot of issues associated with the Food and Nutrition industries. This conference will also provide a good platform to understand the global scenario.

Through a series of interactive panel discussion, keynote address, the conference will deliberate on various issues and challenges in Food and Nutrition industries, innovation, new technologies and global trend.

I would request the participants to make the best use of the platform by sharing knowledge and information. Key management personnel and decision makers will enrich the conference with their vast expertise and crucial insights.

With best wishes,

Dr. Pradip Chakraborty

Former Director

Food Safety and Standards Authority of India

Ministry of Health and Family Welfare,

Government of India

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From BioLEAGUES Director's Desk...

On behalf of **BioLEAGUES Worldwide**, I am delighted to welcome all the delegates and participants around the globe to the “**3rd International Virtual Conference on Food and Nutrition**” which is going to be held **on 20th&21st November 2020**.

This conference will revolve around the theme “**Recent trends and challenges in Food & Beverage industry**”.



It will be a great pleasure to join with Doctorates, Research Scholars and Academicians all around the globe. You are invited to be stimulated and enriched by the latest innovations in all the aspects of Food and Beverage industry, while delving into presentations surrounding transformative advances provided by a variety of disciplines.

I congratulate the Chair person, Organizing Secretary, Committee Members, coordinator BioLEAGUES and all the people involved for their efforts in organizing the 3rd ICFN 2020 and successfully conducting the International Conference and wish all the delegates and participants a very pleasant conference

A handwritten signature in blue ink, appearing to read 'A. Siddh Kumar Chhajer'.

A. Siddh Kumar Chhajer
Managing Director
BioLEAGUESWorldwide

From BioLEAGUES Founder's Desk...

It is indeed a privilege to acknowledge and thank all the supporters and organizers of the “**3rd International Virtual Conference on Food and Nutrition**”, who contributed greatly to organize the conference successfully.

I would like to acknowledge and thank the Chief Guest for his/her valuable contribution in the **3rd International Virtual Conference on Food and Nutrition**.



My special thanks to all of our Special Guests who so graciously accepted our invitation to participate in the conference. I also wish to acknowledge and thank the sponsors of the conference whose financial support was extremely grateful.

I would like to specially thank our Advisory Committee Members from various Organization whose continuous support have helped us plan and execute the conference successfully.

I am highly indebted to the contribution given by all the Scientists, Doctorates, Research Scholars, Academicians and students to the conference.

A handwritten signature in black ink, appearing to read 'R. B. Satapathy'.

Mr. R. B Satapathy
Founder, CEO & CSO
BioLEAGUES Worldwide

Conference Chair



Ts Dr Maryana Bt Mohamad Nor

Director

*Institute of Food Security and Sustainable Agriculture Research,
Universiti Malaysia Kelantan, Jeli Campus, Malaysia*

Conference Co-Chair



Dr. Mohammed Arifullah

Senior Lecturer

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Keynote Speakers

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Industry Trends in Nutrition and FSSAI Regulations



Pradip Chakraborty

Sr. Advisor, Centre for Public Health & Food Safety (CPHFS); Former Director, FSSAI, India

Abstract

Food Safety and Standards Act has been implemented in India on 5th August, 2011. Before that, there were eight different acts under different ministries of the Government of India to regulate domestic and imported food products in India. There were no regulations on Proprietary and Novel foods. Health Supplements and Nutraceutical products were considered as Proprietary or Novel foods. FSSAI finally notified Health Supplements, Nutraceuticals, Food for Special Dietary Use, Food for Special Medical Purpose, Functional Food and Novel Food Regulations, 2016 which was effective from December, 2016. The regulations specify essential composition of the product, additives, compliance of specific labelling requirements, in addition to the provisions of the Packaging and Labelling Regulations, Contaminants, Toxins and Residue Regulations, and Health Claims, if any. The regulations also clarified meanings of the eight categories of the food products. The regulations contain eight schedules of list of permitted ingredients and additives. Food Business Operators need not to obtain pre approval if their product comply with the regulations. For Health Claims, pre-approval is required from the FSSAI.

Biography:

Shri Pradip Chakraborty, a Food Technologist from Jadavpur University, have rich experience of more than 35 years in Food Processing, Quality Control, Project Management and Export of Processed Food Products, besides setting up of a Food Park.

Shri Chakraborty was Director, Food Safety and Standards Authority of India (FSSAI). He has written a number of technical articles on food safety and related topics for various national and international journals. He has translated Food Safety and Standards Act into Bengali.

All India Food Processors Association conferred him AIFPA Presidents Special Award for the year 2013.

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How Hospitable Is Hospital Food Service?



Dr. Bhuvaneshwari Shankar, Ph D., RD.,

Senior Consultant Dietitian, Apollo Hospitals, India

Abstract

The hospital food service does not work in isolation, but in order to have the optimal patient experience, it requires the collaboration and integration of many disciplines. Patient meals are an important aspect of hospital care and the ingestion of a healthy diet, essential to support recovery. However, it is well known that up to 40% of patients may be undernourished upon hospital admission; a scenario that is not always resolved during their stay. (McWhirter and Pennington, 1994). The meaning of food service in hospitals and the use of food as treatment is not recent and can be traced back to one of the earliest medical works, the 'Hwang TiNei-chang Su Wen' (The Classic of Internal Medicine of the Yellow Emperor, 722-721 B.C.) (Cardello, 1982). Florence Nightingale, who wrote in her 'Notes on Nursing' in 1859 that 'The most important office of the nurse, after she has taken care of the patients' air, is to take care to observe the effects of his food' (Nightingale, 1859).

In contrast with many clinical activities, the significance and value of patient meal services is not often understood and is often seen as an environment where budgetary cuts would have the least effect. Therefore, it is seen as important to provide a food service system that optimises patient food and nutrient intake in the most cost-effective manner.

Hospital food services may have particularly complex characteristics and are often considered the most difficult process in the hospitality industry, with many interrelated factors influencing the entire process. (Wilson et al., 1997)..

Sometimes at large distances from the kitchen, the location of hospital wards creates an unnecessary logistics burden and, as a result, a long stream of potential delays between production of food, delivery and consumption (Kipps and Middleton, 1990). This extended, continuous and phased food cycle has

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possible adverse effects on food safety and quality (Barrie, 1996) and poses a challenge to any food service manager in hospitals.

A basic human right is access to a safe and nutritious variety of food. In hospitals, proper food service and dietary treatment have positive effects on patients' recovery and their quality of life (Kondrup, 2004). The number of hospital patients who are undernourished is unsustainable and contributes to extended hospital stays, prolonged recovery and excessive health care costs. (Kyle et al, 2005).

Customer satisfaction is an important component of effective catering management; but in a hospital setting, this is a dynamic phenomenon and affected by several factors. Hospitals are commonly viewed by the public as institutions and institutional catering has a reputation for being bad. Hospital food's negative reputation is common and is thus not directly related to the food itself. The main variables contributing to consumption were food presentation, food variety and physical environment.

In comparison to merely getting a meal 'dropped off' (Lavecchia, 1998), hospitalisation can be stressful and thus personal contact is necessary. Positive attitudes expressed by employees can affect intake and add or subtract significantly from the mealtime experience of a patient (Engell, 1996).

Malnutrition is a factor that raises morbidity, duration of stay and cost (Jeejeebhoy, 2003), so it is possible to quantify some concrete changes in food service practices. Regardless of the method of serving used, close collaboration between relatives; nursing, dietetic and foodservice staff is essential.

The hospital food service does not work in isolation, but in order to have the optimal patient experience, it requires the collaboration and integration of many disciplines. In order to identify factors leading to patient satisfaction and clarity, stakeholders such as medical personnel, food service staff, dietitians, hospital administrators, pharmacy staff, patients and visitors were therefore surveyed.

Unfortunately, hospital food service has an image problem, patients normally expect low quality before even tasting it (Beck et al., 2001); previously defined as 'institutionalized stereotyping' (Cardello et al., 1996).

The prevalence of malnutrition could be minimized with more improved hospital food service, patient experience would increase and hospital stays could be reduced subsequently. A well-managed patient will be discharged 'medically fit', leading to a cost reduction.

Food service in hospitals is complementary to medical care and should be produced under sufficient sanitary and hygienic conditions. It is a well-known reality that food-transmitted illnesses affect hospitalized and immune suppressed patients with greater severity.

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Novel Food Processing Technologies for Ensuring Sustainable Food Production Systems



Brijesh K Tiwari

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Abstract

Emerging food processing technologies are offering sophisticated solutions to some of these challenges and meeting the consumer preferences. In contrast to traditional technologies, these novel technologies are not well accepted by industry or consumers. These innovative technologies not only present an opportunity for the development of new foods but by way of milder processing these can also improve the safety and quality of conventional foods. Additionally the different physical phenomena that these technologies utilize can potentially reduce energy and water consumption, which in turn can aid in decreasing the carbon and water footprint of food processing, thereby working towards toward environmental sustainability and global food security. A range of novel food processing technologies have been investigated and developed to modify or replace traditional food processing techniques so that better quality and more consumer preference oriented foods can be manufactured. Ensuring sustainability across agri-food chain, consumer demand for fresh, safe, nutritious and healthy food products, while maintaining process efficiency has instigated the demand for novel processing technologies. Novel thermal and non-thermal food processing and preservation technologies plasma technologies, high-pressure processing, light based technologies and power ultrasound have gained much attention in recent years. These technologies can offer several benefits, including increased process efficiency, improved product safety, enhanced quality attributes and extended shelf-life stability of products. This presentation outlines emerging thermal and non-thermal food processing technologies with regard to their mechanisms, applications and commercial aspects. The level of adoption of novel food processing technologies by the food industry is outlined and the factors that impact their industrial adoptions will be discussed. This presentation will discuss a range of technologies, which has proven credentials for agri-food applications.

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Biography:

Professor B K Tiwari is a Principal Research Officer at TEAGASC and adjunct professor at the UCD School of Biosystems and Food Engineering, obtained his Masters degree at the Central Food Technological Research Institute (India), and his PhD at the University College of Dublin (Ireland). A particular focus of Prof Tiwari's current research relates to the investigation of green and sustainable technological solutions for food industry extraction and preservation applications. He is currently a Fellow of Royal Society of Chemistry (FRSC) and Fellow Institute of Food Science and Technology (FIFST). He was appointed Editor – in – chief of Journal of Food Processing and Preservation, Guest Managing Editor (Food Research International; Innovative Food Science and Emerging Technologies). He is also a member of the Editorial Board of Food Engineering Reviews and Ultrasonics Sonochemistry.

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ABSTRACTS

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Application of Malaysian Yeast Starter Culture for Improved Antioxidant Content and Volatile Organic Compounds Analysis of Cocoa Beans



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Abstract

Cacao fermentation is the process in which chocolate flavors are formed in cocoa beans. Studies have shown that yeast species initiate the cacao fermentation and influence the flavor profile of cocoa beans [1]. However, the influence of these yeast species on the antioxidant profile of the resultant cocoa beans remained unknown. The present study provides insights on the antioxidant activities and volatile organic compounds (VOC) of cocoa beans produced after the addition of Malaysian yeast starter cultures (*Hanseniaspora thailandica* (MH979675), *Pichia kudriavzevii* (MH979681) and mixture of these two yeasts) in fermentation. The antioxidant activities were determined by total polyphenol content (TPC) and total flavonoid content (TFC) while VOC was determined by Head-Space Solid Phase Microextraction (HS-SPME) followed by Gas Chromatography Mass Spectrophotometry (GCMS). Results showed that the TPC of dried cocoa beans produced using *H. thailandica* alone was the highest (174.23 mg GAE/g) as compared to control (107.42 mg GAE/g) at $p \leq 0.05$. Control cocoa

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beans had the highest TFC (5.16 mg Catechin/g) while beans treated with *H. thailandica* had the lowest TFC (2.77 mg Catechin/g) at $p \leq 0.05$. Principle Component Analysis (PCA) indicated hydrocarbon and alkane groups showed great correlation with natural fermentation, whereas alcohol, esters, phenols, sulfur and pyrazine groups were correlated towards *H. thailandica*. Acetic acid, aldehydes, oxygenated and nitrogen groups were correlated towards *P. kudriazevii*, whilst ketones and monoterpene group were correlated towards the mixed culture. Overall, use of Malaysian yeast starter culture produced cocoa beans with distinct VOC profile and improved antioxidant content.

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Overview of Organoleptic and Acceptability Characteristics of Liquid Food Formula Made From Snails, Tempeh, and Moringa Leaves



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Abstract

One of the causes of hypoalbuminemia in hemodialysis patients is the lack of protein intake. Protein energy intake can be increased by providing supplemental food. Research has never been conducted on nutritional support using a modified formula made from snails, tempeh, and moringa leaves. This study aimed to describe the organoleptic and acceptability characteristics of the liquid food formula made from rice field snails, tempeh, and moringa leaves in healthy people. This was a pre-

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experimental study, carried out at Universitas Respati Yogyakarta, Indonesia. There were 25 respondents involved in the organoleptic and acceptability test. The liquid food formula was given two servings a day, contains a total energy of 259.78 kcal, 16.36 grams of protein, 6.22 grams of fat, 40.76 grams of total carbohydrates, and 6.08 grams of fiber. Organoleptic test results showed 76% of respondents liked liquid food formulas based on portion sizes, 84% of respondents liked based on color, 72% of respondents liked based on texture, 68% of respondents liked based on taste, 60% of respondents liked based on aroma. 68% of respondents have a good acceptance of liquid food formulas. In conclusion, most respondents like liquid food formulas and have a good acceptance of the product.

Keywords :

Acceptability; Liquid food formula; Moringa leaves; Organoleptic characteristic; Snails; Tempeh.

Biography

Corresponding author is Fery Lusviana Widiany, MPH, RD., a doctorate candidate from Doctorate Program of Medical and Health Science, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Indonesia and also a senior lecturer in health nutrition, Department of Nutrition Universitas Respati Yogyakarta, Indonesia.

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Production of Starfruit (Kamaranga) Alcoholic Fermented Beverage



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Abstract

Star fruit (Kamaranga) is a nutritious underutilized tropical fruit which is widely available in Sri Lanka. The aim of study was to evaluate the production of a star fruit alcoholic fermented fruit wine and giving commercial awareness to this underutilized fruit. The study was conducted by utilizing a commercial yeast (Instant Yeast) *Saccharomyces cerevisiae* and well ripen star fruits. Star fruit is high in oxalic acid which can be affected for the kidney disease. Precautionary measures were taken to minimize the oxalic acid content. Initially the blend contains 23°Brix and pH is around 4.5 and 2g/L-1 was the yeast concentration. From this fermented wine with an alcoholic content 12% and pH 4.2 was produced.

Key words:

Starfruit, Wine, *Saccharomyces cerevisiae*

Biography:

K.N.K. Senarathne is a final year undergraduate (4th year) student of department of Food Science and Technology, faculty of Agriculture, University of Peradeniya. She is currently following BSc. Food Science and Technology. Her recent product developments are Jack seed incorporated nutria bar, Star fruit wine, Kohila chip cookie, Rose apple jam and Meat stock jelly. Her current research interests include Food Chemistry, Beverage Technology, Bio technology and Food Microbiology.

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Traditional Edible Macrophytes of Ikop Lake, Manipur



Dr. Ch. Nivanonee

C. I. College, Bishnupur, India

Abstract

Traditional use of wild edible, aquatic plants (macrophytes) as food has been in practice since time immemorial. But it has been increasingly neglected due to the socio-economic changes and modernisation of life styles. Hence, the present study has been taken up to bring forth the idea of indigenous usage of various aquatic edible plants. Macrophytes are being consumed by a larger section of the global population and ensures both affordable food and nutritional security. The present study has been done in context to Manipur, where an enormous diversity of such aquatic plants constitute a significant part of rural diet of the inhabitants of Ikop Lake. The Ikop Lake is a freshwater, saucer shaped, natural lake. It is situated in the South-eastern part of Imphal at a distance of about 40 km with an area of 13.5 sq. km. in the Thoubal District, Manipur. It lies at an intersection of 93° 52' to 94° 05' E longitude and 24° 31' to 24° 40' N latitude and it is situated at an altitude of 772 m above the mean sea level. Adhering to the topic of the present study, eleven (11) macrophytic species were shortlisted describing the mode of consumption.

Biography:

Dr. Ch. Nivanonee is an Assistant Professor in the Department of Botany, C. I. College, Bishnupur, Manipur. She achieved the degree of Doctor of Philosophy (Ph.D) in Botany – Ecology from the Manipur University in the year 2003, entitled “Vegetational structure and primary production of the macrophytes of Ikop Lake, Manipur”. She has published the following research papers: (1) Ecological study of the macrophytes of Ikop Lake, Manipur: Morphometry and Qualitative analysis in the Indian journal of Environment and Ecoplanning 7(2) : 243-250(2003), (2) Biomass dynamics of the Macrophytes of Ikop lake, Manipur in Ecology, Environmental conservation 10(4) : 2004pp(411-415), (3) Productive status of the Macrophytes in Ikop lake, Manipur in Advancing frontiers of ecological researches, India pp259-270, 2006, (4) Phytosociology of the Macrophytes of Ikop lake, Manipur in Ecology, environment and conservation 14(4) : 2008;pp.621-626.

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Effect of Omega - 3 Fatty Acid Enrichment on Fatty Acid Profile of Protein Enriched Goat Meat Nuggets



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Abstract

This study was conducted to evaluate fatty acid composition of three different vegetable oils (sunflower oil, canola oil and flaxseed oil) and to prepare goat meat nuggets by replacing refined sunflower oil from product formulation with healthy canola and flaxseed oil. Omega -3 fatty acid was added to optimize the ratio of omega -6/3 fatty acid and PUFA/SFA ratio in the product previously standardized with freeze dried liver and kidney having enriched protein content (14.71 to 18.29%). Total of four treatment at different levels of combination of canola and flaxseed oil (CFSO) at 25, 50, 75 and 100% were replaced with refined sunflower oil in the formulation of goat meat nuggets. The physicochemical, sensory properties and fatty acid composition of these treatment groups were evaluated against control 1 (10% refined sunflower oil of total product formulation) and 2 (10% refined sunflower oil of total product formulation along with standardized level of freeze dried liver and kidney). Goat meat nuggets prepared with different levels of CFSO had no significant ($P > 0.05$) effect on the pH of the emulsion, product emulsion stability and cooking yield of goat meat nuggets and were comparable with control 1 and 2 nuggets. The moisture, protein, ash content and moisture protein ratio were non significant ($P > 0.05$) and similar to control 2 nuggets but had significantly ($P < 0.01$) reduced the fat content (13.80 to 11.78 %) when compared with control 1 and 2 nuggets. The carbohydrate content was significantly ($P < 0.05$) increased (2.71 to 3.69%) without affecting the energy value as compared to control 2 nuggets. Sensory evaluation revealed that 100% CFSO treated nuggets had received significantly ($P < 0.05$) high score for colour and appearance and overall acceptability than control. The saturated fatty acid composition (SFA) (28.36 to 17.41%), monounsaturated fatty acid (MUFA) (42.07 to 37.41%) ($P < 0.05$) and omega -6 fatty acid (17.89 to 10.87%) was significantly reduced but increased the omega-3 fatty acid (10.58 to 34.29%) as the level of CFSO increases. However, fatty acid composition of 100% CFSO treated nuggets as an optimized level had ideal omega- 6/3 fatty acid ratio but PUFA/SFA ratio was slightly higher. Canola and flaxseed oil incorporation can be a better approach to enrich omega-3 fatty acid in goat meat nuggets and also adds health benefits by reducing the incidence of diabetes and cardiovascular diseases.

Keywords:

Goat meat nuggets, enrichment, omega – 3 fatty acid and fatty acid profile.

Biography:

I am Dr.A.Vanathi, M.V.Sc., Assistant Professor, Department of Livestock Products Technology (Meat Science), Madras Veterinary College, Chennai – 600 007. The research entitled '**Effect of omega - 3 fatty acid enrichment on fatty acid profile of protein enriched goat meat nuggets**' was part of my Ph.D work conducted in ICAR – Central Institute of Research on Goats, Makhdoom, Farah, U.P. - 281 122, India Under the Guidance of Dr.V. Rajkumar, Ph.D., Senior Scientist, National Referral Laboratory for Testing of Animal Products, Goat Products Technology Laboratory ANMPT Division, ICAR- Central Institute for Research on Goats, Makhdoom, Farah, U.P. - 281 122, India during the year 2019 - 2020.

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Shelf-Life Improvement in Pineapples by Using Plant Extracts to Control *Ceratocystis Paradoxa*.



Dr. Khumukcham Susheela Devi

Department of Botany, DM College of Science, Dhanamanjuri University, Imphal, India

Dr. M. Damayanti Devi

Department of Life Sciences, Manipur University, Imphal, India

Abstract

Ceratocystis paradoxa, a fungus causes soft-rot of pineapples. The high temperature and humid condition prevailing during the peak fruiting season (June-July) promote infection by pathogenic microorganisms. In the recent past, angiospermic plants have proved to be useful sources of fungitoxic substances that are rather harmless compared to synthetic chemical fungicides which often impose undesirable side effects. The present investigation also reveals that plant extracts can be used in controlling *C. paradoxa*. *Xanthium strumarium* was the most effective in inhibiting mycelial growth *in vitro*. The effectiveness of various extracts against *C. paradoxa* was in the decreasing order of *Phlogacanthus thyrsoiflorus*, *Toona ciliata*, *Vitex negundo*, *Azadirachta indica*, *Eupatorium birmanicum*, *Ocimum sanctum* and *Leucas aspera*. Extracts of *Gynura cusimba* and *Ocimum canum* showed poor fungitoxicity. Millipore filter-sterilized extracts had a more inhibitory effect on the fungus than the autoclaved sample. If pineapple juice was added to the medium, the growth of *C. paradoxa* with increasing concentration of the juice. *Xanthium* extracts also inhibited the growth of the fungus in this case. Treatment of pineapple fruits with *X. strumarium* extract reduced the severity of the disease. Since the extract has significant preventive activity against soft-rot disease in pineapples, there is possibility of using such an extract as a fungitoxic agent in post-harvest fruit technology development.

Keywords:

Pineapple, *Ceratocystis paradoxa*, *Xanthium strumarium* extract, antifungal activity

ISBN: 978-93-90214-00-6

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Biography

Dr. Khumukcham Susheela Devi obtained her Ph.D. Degree from Manipur University in the year 2003 for her thesis “Shelf-life Improvement in Ananascomosus (L.) Merr by “gamma irradiation”. Presently, she is working as Assistant Professor in Botany Department, D.M. College of Science (D.M. University). She has published two papers in International Journals.

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Impact of Employment on Nutritional Status of Working Mothers



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Abstract

Multiple roles performed by women can lead to serious health problems and is of a global concern. Employed women can increase the household income with consequent benefit to improve their status and power [1]. Globally, the share of women in the labour force is 39 per cent and the labour force participation rate for working mothers with children under the age of 18 is 71.5 per cent [2]. A sample of 100 mothers from government and private firms in Thiruvananthapuram city was selected for the study. A well-structured questionnaire was used to collect necessary information related to details of work, eating habits and food choices of mothers. Anthropometric measurements, 24-hour recall method and food use frequency table were used to collect information on the nutritional status of the respondents. It was clear from the study that 82 per cent of the respondents from the private firm work in urban area. About 70 per cent of respondents in government firm perform manual work. The study showed that all the respondents selected were non vegetarians. Majority (90%) of the mothers skipped the meal due to lack of time. Only a few respondents took packed food to office, others preferred to eat from canteen. All the respondents ate outside food more than two times in a month. None of the mothers selected for the study were underweight (Fig.1). High waist hip ratio was found in mothers working in private firm (Fig.2). From the food frequency table, it was clear that fried foods were consumed on a daily basis. The study concluded that the double burden of doing both household and office works had a negative impact on the health of respondents.

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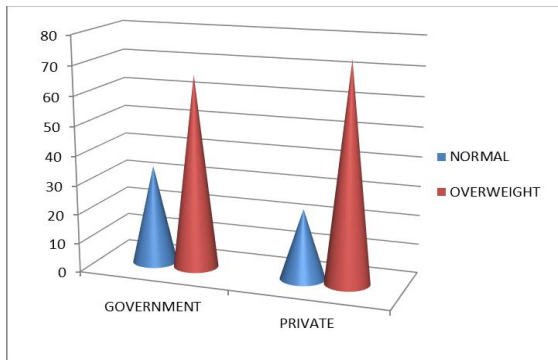


Fig.1- Body Mass Index of mothers

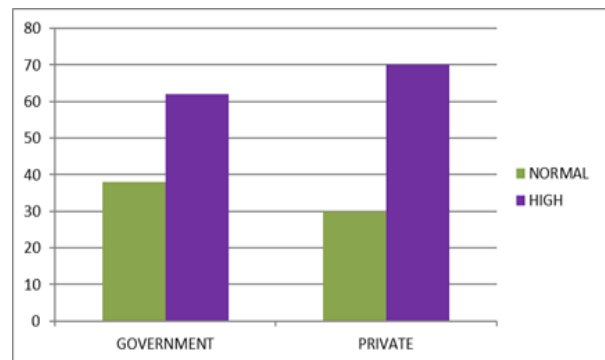


Fig.2- Waist Hip Ratio of mothers

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Development of PH Based Test Strips from Natural Plant Extracts for Determining Quality of Juices



Vimala Beera

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Abstract

Methods of food adulteration have become very sophisticated in these days from a small street vendor to large scale processor. Considerable interest has emerged in developing rapid methods for food-adulteration detection. Strip based method is very easy, less time requirement, no requirement of skilled persons and cost effective hence the preparation of strips for quality analysis is very useful. There are many strip based analysis developed by different scientists but of chemical grade. The use of chemicals causes toxic effects to humans and environmental pollution. So, the natural indicators were used for developing the test strips which contains natural pH indicators works same as that of the synthetic ones. These natural indicators contains anthocyanins which are responsible for change in color at different pH environments. Different combinations of strips were prepared using red cabbage, pomegranate and beetroot extracts and their efficacy was tested using fruit juices. Out of those only five combinations i.e., C, P, C+P (1:1), C+P (1:2), C+P (2:1) shows best results and C+P+B (4:1:1) to some extent by changing the colors for stored samples but beetroot and its combinations does not shows the result because of betalain pigment. The prepared strips were used for quality analysis of various juices, and they were found to show better results and could be used in place of the standard pH paper strips. The results are interpreted based on the colour change for which the particular pH was standardized. Hence, these can be used for quality analysis of fruit juices.

Biography:

I am Assistant professor having an experience of 6.5 years in the Department of Food Safety & Quality Assurance and involved in teaching and research with Specialization in Food Processing, Post Harvest Technology & Value Addition, Food Safety & Quality Control. Published about 10 Research articles in various peer and non peered journals with h-index 3. Taken part in 17 National and international conferences and presented papers and posters. Guided 28 undergraduate, 1 M.Sc and 1 Ph.d students for research. Life member for AFST (I), India; The Andhra Agricultural Journal, Ag College, Bapatla. & Institute of Scholars (InSC), India.

ISBN: 978-93-90214-00-6

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Nutrient Content of Virgin Coconut Oil Fermentation with Turmeric as the Potential Adjuvant Therapy for Diabetes Mellitus



Agustina Rajendra Putri

Lampung University, Indonesia

Abstract

Diabetes mellitus (DM) is a group of metabolic diseases characterized by hyperglycemia resulting from defects in insulin secretion, insulin action, or both. The chronic hyperglycemia of diabetes is associated with long-term damage, dysfunction, and failure of different organs, especially the eyes, kidneys, nerves, heart, and blood vessels. The basis of the abnormalities in carbohydrate, fat, and protein metabolism in DM is deficient action of insulin on target tissues. According World Health Organization (WHO) in 2016, there is an estimated 1.6 million deaths were directly caused by diabetes. WHO estimates that DM was the seventh leading cause of death in 2016. Previous study showed that virgin coconut oil (VCO) and turmeric possesses antidiabetic effect either alone or in combination with antidiabetic medication. It improves the undesirable impact of diabetes on liver, kidney and cardiovascular. The aim of this study to determine the nutritional content of VCO fermentation with turmeric. Gas chromatography mass spectrometry showed that the fatty acid in fermentation of VCO with turmeric consist of monounsaturated fat (6.9%), polyunsaturated fat (1.9) omega 9 (6.8%), omega 6 (1,7%), lauric (47%), caprylic (6,5%), myristic (18,7%), caproic (0.5%), capric (5,7%), oleic (6.8%), linoleic (1,9%), and stearic acid (2.9%).

Biography:

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Analysis of Psychological Factors on Food Neophobia among Young Culinary Learners and Its Impact on Food Practices



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Lochan Nagar

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Abstract

The culinary profession depends on exposure, tasting, marketing, and evaluation of new food products. Young Culinarians at the starting of carriers feel psychological problems related to food choices that inhibit their ability to taste novel food. Food Neophobia is one of the personality traits, that not only limit the food choices, preferences, and knowledge of food and beverages. Food Neophobia has the reverse effect on gastronomical and culinary practices and their views to see novel food and its selection, it acts as a limiting factor in the carrier progression of the future chef. Due to this, majorly the creativity of future chefs got impacted negatively. In their career and working often food selection revolves around familiarity with food and their personal choices. Neophobic attitude towards food and making of improper and unhealthy food choices drawn the attention of psychologists, scientists, and gastronomist to read and analyse this topic.

Food neophobia among these individuals is considered an inhibiting factor and needs to be investigated thoroughly on various factors associated with the psychology of human beings. The present study will evaluate the psychological factors and its involvement in food neophobia among young culinarian and willingness to taste and cook new food.

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Biography:

1. Corresponding Author- Jitendra Sharma

My self Jitendra Sharma Professor and Head in School of Hotel Management & Tourism, LNCT University having 22 Years of teaching experience of Culinary Science and Nutrition, Successfully published research papers in journals like Indian Journal of Nutrition and IJRAR., appeared in television interviews regarding the career counselling for Hotel Management aspirants and Placement opportunities in Hospitality industry. I have been also working with the NCERT (PSSCIVE) for the development of Curriculum of various Vocational Programs and content development of various vocational courses Manual.

2. Co-Author- Lochan Nagar

My self Lochan Nagar Assistant Professor in School of Hotel Management & Tourism, LNCT University having 7 Years of teaching experience of Hotel, Hospitality Management and Food & Nutrition, successfully published research papers in journals like Indian Journal of Nutrition and IJRAR.,. I have been associated with NCERT (PSSCIVE Bhopal) as consultant for Hospitality Book Development

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Assessing Physicochemical Properties of Wine Produced From Three Different Guava Varieties Using Different Yeast Concentrations and Strains



Dr. Yogendra Singh

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Abstract

We have utilized three different varieties of north Indian guava fruit viz Allahabad Safeda, Chittidar and Punjab Pink for the wine processing. Different inoculum concentrations (4%, 8% and 12%) of *Saccharomyces cerevisiae* IARI 1035 and native strains were used for preparation of wine. Guava fruit wines were evaluated for acidity and ascorbic acid content and it was observed that acidity followed an increasing trend with increase in the fermentation period while ascorbic acid content followed. In general, higher value of acidity was observed after 60 days irrespective of varieties, inoculum concentrations and strains. We can conclude that the most desirable characteristics including acidity and ascorbic acid contents were observed for the guava fruit wine produced using Chittidar and Punjab Pink varieties of guava fruit with *S. cerevisiae* IARI 1035 strain.

Keywords:

Wine, Guava, acidity, ascorbic acid, *Saccharomyces cerevisiae*, inoculum concentrations, IARI 1035

Biography:

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Effect of Different Inoculum Concentrations on Physicochemical Properties of Wine Produced From Three Different Guava Varieties



Dr. Yogendra Singh

Sardar Vallab Bhai Patel University of Agriculture and Technology, India

Abstract

Three different varieties of north Indian guava fruit including Allahabad Safeda, Chittidar and Punjab Pink were utilized for the wine processing using different inoculum concentrations of *Saccharomyces cerevisiae* IARI 1035 and native strains. Guava fruit wines were evaluated for TSS and pH and it was observed that both pH and TSS follow a decreasing trend with increase in the fermentation period. The total soluble solid content of the guava fruit juice was ameliorated to 20 degrees brix using sugar solution and was fermented for 30 days at 22±2°C. Lowest value of pH was found for guava wine made from Allahabad Safeda having 12% inoculum concentration of native strain while the highest pH was found for wine sample of Punjab Pink variety having 4% inoculum concentration of IARI strain at the end of fermentation period. We can conclude that the most desirable characteristics for the guava fruit wine production were seen with Punjab Pink variety of guava fruit *S. cerevisiae* IARI 1035 strain.

Keywords:

Wine, Guava, TSS, *Saccharomyces cerevisiae*, inoculum concentrations

Biography:

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ISBN: 978-93-90214-00-6

3rd ICFN, 20th- 21st November 2020

3rd International Virtual Conference on Food & Nutrition



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Nutritional, Functional, Textural and Particle Size Characteristics of Biscuits Made From Composite Flours Containing Sprouted and Malted Ingredients



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Abstract

Recent advances in processing involve using a multitude of food ingredients to make a nutritionally rich composite utilizing the richness in each food ingredient as well as making up for deficiencies in individual ingredients. In the present study efforts have been made to develop refined flour free biscuits using cereals, millets, pulses, dairy product, oilseeds and tropical fruits. The composite flour (CF) biscuits were tested for nutritional, functional, sensory, textural and particle size attributes and compared to refined flour biscuits (C). The effects of sprouting and malting on the above attributes were also analysed. The highest volume of particles for composite flour (CF) biscuits was 140 μm higher than refined flour. The spread ratio, % weight loss, hardness, stickiness and cohesiveness values of CF doughs were significantly ($p \leq 0.05$) lower than C resulting in lower cutting strength and increased hardness of CF biscuits (16.9 N) compared to 15.1 N in C. Protein content of CF biscuits was 14.5 g/100g which was significantly higher than C biscuits (7 g/100g). Sensory evaluation showed CF biscuits had higher acceptability and were superior to C in terms of overall acceptability with scores of 8.6 against 7.9 for refined flour biscuits on a 9 point Hedonic scale. Therefore biscuits made from sprouted and malted composite flours can be accepted as a healthy snack.

Biography

Dr Dipika Agrahar Murugkar joined ICAR service in August 1997 as Scientist (Food and Nutrition) at ICAR Research Complex for North Eastern Hill Region, Umiam, Meghalaya. At present she is working as ICAR National Fellow and Principal Scientist at Central Institute of Agricultural Engineering Bhopal. She obtained her PhD in 2004 from Mumbai University, Mumbai, Maharashtra, India. Her major areas of professional interests include soybean processing, Non Thermal Non Chemical Process Technologies for processing of foods, improving the Nutritional status of women and children, Functional foods, Nutraceuticals and other related areas. Her current area of work is in the area of developing food products using multi grain mixes.

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She was awarded the Young Scientists award, Norman Borlaug Fellowship, ICAR National Fellowship, Gauri Char scholarship at the Master's Degree etc. She has undergone training in the field of "Non-Thermal, Non-Chemical Processing and membrane separations of soybean products" from Iowa State University, Iowa, USA and in "Advanced techniques in Soybean Processing" from University of Missouri, Columbia, USA. She is member in many national and international scientific associations. She has published many research articles in reputed journals, book chapters and a book on "Non thermal Non chemical technologies in food systems. She has 3 patents and two commercialized technologies to her credit.

