

Scientific Tracks & Sessions

April 08, 2019

Food Technology 2019



4th International Conference on

Food Science and Technology

April 08-09, 2019 | Zurich, Switzerland

4th International Conference on

Food Science and Technology

April 08-09, 2019 | Zurich, Switzerland

Effect of cereal cell wall on Rheological characteristics of wheat flour

Farhan Saeed

Government College University Faisalabad, Pakistan

In the current study, the effect of cereal cell wall addition on farinographic and mixographic characteristics of wheat flour dough was observed. For the purpose, two varieties of each cereals i.e. wheat (Ujala-16 and FSD-08), barley (Jau-87 and Haider-93) and sorghum (Sorghum-11 and JS-02) were procured from Ayub Agriculture Research Institute (AARI), Faisalabad. In phase I, cell wall was isolated from cereals according to respective method. In phase II, cereal cell walls were added in wheat flour with concentrations of 1 and 2 % and rheological properties were determined through farinograph and mixograph. Results revealed that the addition of cereal cell walls significantly improved rheological properties of wheat flour. Higher increase in water absorption capacity, dough stability, peak height and mixing tolerance index of dough was observed with the addition of barley cell wall followed by wheat

and sorghum cell walls at 2 %. Moreover, dough development time, mixing time and softness of dough were decreased more significantly through barley cell wall than wheat and sorghum cell walls. Conclusively, utilization of cereal cell wall in cereal based products improve product quality.

Speaker Biography

Farhan Saeed is working as assistant professor in Government College University Faisalabad-Pakistan since 2012. He did postdoctoral studies from University of Queensland, Brisbane Australia in 2016 and completed PhD from University of Agriculture, Faisalabad-Pakistan in 2012. He visited University of Massachusetts, Amherst, USA under Pakistan program for collaborative research, HEC in 2015. He has published more than 70 papers in reputed journals with impact factor more than 110. He has 08 book chapters in international books. He presented his research works in international level at Huazhong University Wuhan, China and Conference on food properties in Sharjah. He also got two research projects funds from Higher Education Commission Islamabad, Pakistan.

e: f.saeed@gcuf.edu.pk

 Notes:

4th International Conference on

Food Science and Technology

April 08-09, 2019 | Zurich, Switzerland

Food safety, current scenario and public health in Bangladesh

Luthfunnesa Bari, Md. Abu Zubair, Shahinul Haque Khan, Ariful Islam, M R Hoque, Beauty Akter and M K Sadia
Mawlana Bhashani Science and Technology University, Bangladesh

Unsafe food is a major public health concern from farm to table in Bangladesh. This study was taken to measure synthetic colors, preservative, formaldehyde and adulterants from various food samples by high performance liquid chromatography and other laboratory methods. We conducted a random survey using a structured questionnaire on the use of chemicals for the quick ripening of banana, papaya, lychee and in rice and puffed rice processing. The toxic effects of synthetic food color tartrazine on hematobiochemical parameters in mice was studied. The result showed that sunset yellow in 5.5% orange jelly, carmosine in 15.6% candies, sodium benzoate in 22% fruit drinks were above the permissible limit and 5.15% orange jelly used unknown color in total 180 samples. From 240 samples of fruits, noodles and fish, we found that 17% mango, 15% apple & 23% grape contained formalin above the permissible limit. From a random survey, it was found that dye, urea, alum, wax, even detergents were used during processing of rice and 11.5% non-permitted chemicals were used in lychee during growth, ripening and storage period. Among 30 samples of milk, starch, skim milk, sodium bicarbonate and borax were identified in 23%, 15%, 13.33% and 11.66% milk sample. Platelet, white blood

cell, and monocyte counts of tartrazine treated group were significantly higher where Hb and red blood cell counts were drastically lower than the control group. The biochemical parameters such as serum alanine aminotransferase, aspartate aminotransferase, alkaline phosphatase, total protein, globulin, urea, and creatinine level were significantly increased, while serum cholesterol level was decreased after treatment as compared to the control. So it was considered that consumption of high doses tartrazine have adverse effects on blood serum activity and organ functions in mice.

Speaker Biography

Luthfunnesa Bari is an associate professor in the department of Food Technology and Nutritional Science at Mawlana Bhashani Science and Technology University in Tangail, Bangladesh where she has been since 2007. From 2012 to 2015 she served as Department Chair. She received her Ph.D. in Biochemistry from the University of Rajshahi, Bangladesh in 2006. During 2001-2003, she worked as lab coordinator in swiss agency for development and cooperation, Embassy of Switzerland, Bangladesh. She is doing research with food safety and adulteration in Bangladesh. She has several research papers in this area. Her recent publication on study of a common azo food dye in mice model: Toxicity reports and its relation to Carcinogenicity (2019) in WILEY e-journal of Food Science and Nutrition. She is a member of Asian Food Safety and Security Association (AFSA).

e: luthfunnesa.ftns@gmail.com
e: mslbari@hotmail.com

 Notes:

4th International Conference on

Food Science and Technology

April 08-09, 2019 | Zurich, Switzerland

Exploring the inhibitory effect of camel milk on Bacterial activity of *E.coli*, *S.Aureus* and *Salmonella*

Bushra Niaz

Government College University Faisalabad, Pakistan

Globally, the use of dairy and meat commodities growing to its rich nutritional profile and palatability is obvious. Milk and meat are considered as a complete nutritional product that satisfies the basic requirement of masses around the globe. Its demand and consumption vary on the basis of traditional values and lifestyle habits. According to the production potential, Camel milk is ranked lower as compared to other milking animals. Nevertheless, camel milk is preferably used due to its significant contribution towards human nutrition and socioeconomic uplift. There was a dire need to shift the consumer trend towards camel milk containing an array of functional ingredients that promotes health. The study was designed to investigate the inhibitory effect of camel milk on bacterial activity of *E.coli*, *S.aureus*, and *salmonella*. For that, proximate

compositional analysis was done of the camel milk from local market. Afterwards, isolation of different meat bacteria i.e., *E.coli*, *S.aureus*, and *salmonella* was carried out which then grew separately and they were treated with camel milk at different temperature ranges i.e., 25, 65, 75, 90 and 120°C to check its activity on bacterial growth and final research data was subjected to statistical analysis. Conclusively, this research findings of present research is very helpful for utilization of camel milk as a alternative and totally safe preservative for storage of different food commodities especially meat and its products.

Speaker Biography

Bushra Niaz currently working in Government College University Faisalabad.

e: b.niaz@gcuf.edu.pk

 Notes:

4th International Conference on

Food Science and Technology

April 08-09, 2019 | Zurich, Switzerland

***In-vitro* Gastrointestinal viability and stability of free (un-encapsulated) and encapsulated Probiotic Bacteria**

Muhammad Afzaal

Government College University Faisalabad, Pakistan

The viability of probiotic is the major concern for getting numerous claimed therapeutic benefits. The viability of probiotic is affected when they are encountered to hostile conditions of gastrointestinal tract. In present study, probiotic bacteria (*Lactobacillus acidophilus*) were encapsulated with two biopolymer (Sodium alginate and Carrageenan) using encapsulator (B-390). The formed beads were characterized by optical, Scanning electron microscopy (SEM), FTIR & XRD. The invitro gastrointestinal assay was carried out by subjecting non-encapsulated and encapsulated probiotics to simulated gastrointestinal juices. Encapsulated probiotics showed more resistance to simulated gastrointestinal condition than un encapsulated. The initial cell count of probiotics encapsulated with sodium alginate and carrageenan was 10.4 log CFU and 10.6 log CFU respectively and decreased to 6.8 log CFU and 6.3 log CFU during incubation to simulated gastric conditions over 120 minutes. While for unencapsulated cells the number decreased from initial 10.3 log CFU to 2.1 log CFU. In case of encapsulated only 3 log while for free cells 8 log reduction in cells was observed Similarly, during exposure to simulated

intestinal conditions the initial cell count of probiotics encapsulated with sodium alginate and carrageenan was 11.5 log CFU and 11.4 log CFU respectively and decreased to 8.4 log CFU and 7.9 log CFU. While for unencapsulated cells the number decreased from initial 11.3 log CFU to 3.8 log CFU. Conclusively, the results of the study indicated that microencapsulation played significant ($P < 0.05$) role in maintaining the recommended viability (106–107 CFU/mL) of probiotics in simulated conditions for their effective therapeutic benefits.

Speaker Biography

Muhammad Afzaal is working as lecturer and focal person at Institute of Home & Food Science, Government College University Faisalabad, Pakistan since 2013. His area of research and interest is food microbiology, food biotechnology, food safety and marketing of value added products. He started his teaching profession from the University of Faisalabad in 2011. He joined GC university in 2013 and is involve in teaching research relevant to food microbiology and biotechnology. He has published more than 15 research papers, one book and 02 chapters in well reputed journals. He has executed many research projects as a team member and coordinator. He is currently supervising M.Phil. students. He has been the part of organizing many national and international conferences and food product development competitions.

e: muhammadafzaal@gcuf.edu.pk

 Notes:

4th International Conference on

Food Science and Technology

April 08-09, 2019 | Zurich, Switzerland

A newly emerging trend of Chitosan-Based sensing platform for the Organophosphate pesticide detection using Acetylcholinesterase

Hitika Hemant Patel

Analytical and Environmental Services, India

Organophosphate pesticides have been extensively used to protect the agricultural produce from being damaged by the pests while growing and the subsequent degradation in its quality. However, in the process of doing so, the pesticides and their degradation products, enter the soil and water and start accumulating in the food products. Consequently, the remnants of the pesticide or its degradation products concentrate in the food products, they can be potentially damaging to the central nervous system of human beings when consumed. There is the plausibility of deteriorating health in the individual when the key enzyme, Acetylcholinesterase, which is responsible for the orderly functioning of the nervous system, is inhibited by the pesticides. This review gives an insight into the recent approaches towards the rapid sensing of the deleterious pesticides. Numerous sensing platforms, comprising of chitosan as the key element of the immobilization matrix for the subsequent binding of acetylcholinesterase have been highlighted in this study. Chitosan

plays the decisive role in helping maintain the activity of the acetylcholinesterase immobilized by various techniques. The acetylcholinesterase enzyme-inhibition based biosensors pave the way for a speedy and feasible detection of the organophosphate pesticides present in the food articles by bypassing the copious pre-treatments. They also carry the possibility to be used for the real-life sample analysis. Thus, various transducers have been used in combination with the biopolymer chitosan, to produce highly sensitive biosensors for the detection of even trace amounts of these pesticides efficiently.

Speaker Biography

Hitika Hemant Patel currently working as a Food Chemist at Analytical and Environmental Services, Vadodara. Here, She analyzing and testing the various food products and water for their purity and nutritional value. She also serve as a Microbiologist for the analysis of different food and water samples. Her plan in the future is to achieve a PhD. She interested in going for a research in the field of food technology for improving the nutritional value of food products and in the development of new commodities of food.

e: hitikapatel31394@gmail.com Notes:

4th International Conference on

Food Science and Technology

April 08-09, 2019 | Zurich, Switzerland

Comparative compositional analysis of different varieties of wheat straw with special reference to Bioactive constituents

Tabussam Tufail, Farhan Saeed

Government College University Faisalabad, Pakistan

The core objective of current study was to characterize the wheat straw for its nutritional and bioactive profile. For the purpose, four different wheat straw varieties i.e. Ujala-16, Johar-16, Gold-16 and Galaxy-13 were procured from Ayub Agriculture Research Institute, Faisalabad, Pakistan. The whole research was conducted in two different phases. In 1st phase, nutritional composition and mineral profile of wheat straw were probed through their respective methods. In 2nd phase, wheat straw was characterized for its important bioactive constituents such as lignin, cellulose and hemicelluloses, phytosterol, policosanol content. The data obtained for each parameter was subjected for appropriate statistical design to determine the level of significance. Results elucidated that nutritional profile and bioactive components varied widely in different varieties. Chemical composition and mineral profile revealed that different wheat straw varieties contained 7.75-9.24%, 3.98-5.06%, 3.43-

3.98% and 1.60-2.24% moisture, ash, protein and fat contents respectively, whereas, potassium, calcium, phosphorus and magnesium were 1.19-2.03ppm, 0.10-0.79 ppm, 0.10-0.98 ppm, 0.03-0.98 ppm, respectively. Moreover, lignocellulosic mass: cellulose 37.75-38.18%, lignin 15.67-16.07%, hemicelluloses 28.25-28.98% was present in wheat straw and varied significantly among different varieties. Conclusively, wheat straw is an excellent source of many important bioactive moieties especially lignocelluloses that make it more functional and more useful.

Speaker Biography

Tabussam Tufail has very good experience in the field of food science & particularly food processing & preservations, his area of research is cereal sciences and community nutrition. He love to work in a professional environment where he can act as an active member of a research scholars team and apply his knowledge and technical skills to play an active part in the researches & projects and at the same time learn new and emerging methodologies and enhance practical, professional and decision-making skills.

e: tabussamtufail@gcuf.edu.pk

 Notes: