



TECH ABITE

KUMIS

Performance evaluation of kumis prepared from cow's milk.

AKSHATA ANIL URS, MVOC IN FOOD TECHNOLOGY AT PIMS

Kumis is a fermented liquor prepared from mare's milk, used as a drink and medicine by Asian nomads.

KUMIS MADE UP OF COW'S MILK? SOUNDS INTERESTING?

Mare's milk contains more sugars than cow's or goat's milk, when fermented, kumis has a higher, though still mild, alcohol content compared to kefir (a drink made of grains). Kumis has health benefits as it contains prebiotics like inulin. It is limited to places like central Asia, Russia, Eastern Europe etc. due to its limited technological information and unavailability of mare's milk. Generally, cow's milk is used as it is richer in fat and protein, but lower in lactose than the milk from a horse. The isolates like Lactococcus lactis spp lactis, L. acidophilus Streptococcus thermophilus + Lactobacillus bulgaricus Yoghurt and Lactose Fermenting Yeast were used to prepare Kumis. Modern and traditional medicine recommends Kumis in diseases of the pulmonary and cardiovascular systems, gastrointestinal tract etc. to strengthen the nervous system. Cow's milk was made enriched with lactose and sucrose to simulate mare's milk lactose composition as lactose is a crucial component for the acid and alcohol production. Thus, from the trials conducted in the lab. Kumis (lactose added) is preferred over Kumis (sucrose added) for its less acidity and more alcohol content when compared to the latter. While compared to the Kumis prepared from mare's milk the acidity and alcohol content is less, thus can be consumed easily.

-Vihitha Reddy P, Ashika N M



DEALCOHOLIZATION OF BEER



Non Alcoholic Beer

The new bloom in the market

Beer is the most widely consumed beverage after water and tea. Its popularity comes from high-quality sensory properties, favorable biological processes and health properties, and its refreshing and stimulating effect. Globally, alcohol consumption is the third leading health risk factor with adverse consequences and serious social impacts. This growing health concern has driven consumer attention. What if the beer we consume is more health oriented with no alcohol content? Yes! Non-alcoholic beer is the answer to this. By restricting ethanol formation and by elimination of the thermal and membrane processes using methods like vacuum distillation, osmotic distillation etc. the non-alcoholic beer can be produced. When considering beer's potential health benefits as a source of easily absorbed protein hydrolysis products, vitamins, and minerals antioxidant properties etc., new brewing techniques and yeast can help to reduce alcohol content while optimizing taste and potential health benefits should be considered. This research project, done by Ms. Marina of the RUAS food technology department under the guidance of Dr. Chinna Gurika, offers a variety of possibilities that can enlighten brewers. Consumers generally are willing to spend more on specialty beers with lower alcohol content than some beers or wines. This further increases the beer market in countries where sales of alcoholic beer is prohibited. Developing new beer products can provide additional benefits (color, antioxidant properties, different tastes, odors) and attract new customers to non-beer beverages. The combination of various processes and the additional possibilities upstream and downstream of the alcohol preparation and removal steps provide brewers with a balanced malt-based beverage.

- Anjana Prasad, Abhimanyu N



Gopika Krishna

**NPD INTERN,
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How is life after graduation?

Gopika: Unlike the supportive environment in college where professors and friends guide and help you, the professional environment is much more rigid and self-dependent. Life after graduation is quite challenging and demanding as you have to work harder and pick up on skills, both technical and non-technical in a limited amount of time. Communication with your peers, co-workers and superiors is the foundation to the work environment.

Did you face rejection at any step of the process while getting to where you are and if yes how did you cope with it?

Gopika: I sought to network on LinkedIn, to earn referrals and access greater opportunities. I found myself being rejected multiple times, applying for different roles, and emailing various HRs almost everyday for months together. Perseverance is what landed me in my current job. My suggestion is to have an early start on your resume and an active LinkedIn presence to help build connections and grab opportunities and openings whichever fit

What were the few things you wish you did more of or differently during your time at RUAS?

Sabuj: The diverse course content that RUAS offers helped me to hone both my practical and analytical skills. Additional subjects like management, computer sciences, communication skills helped me manage my work in ONganic foods. Despite this, the few things I wish I did differently in RUAS was focusing more on learning and attending insightful webinars about the industry than chasing marks. I believe that a perfect GPA with no practical knowledge is next to nothing in the real world, rather a positive attitude toward finding solutions is key.



Sabuj Roy

**Operational Trainee,
ONganic FOODS**



RuVega®, pure vegetarian omega-3 supplement

Imagine getting all the essential unavailable nutrients through a single supplement? That amazing supplement is RuVega. It was launched by Minister of Agriculture and Farmers Welfare, Uttarakhand, Subodh Uniyal. These capsules will now be

manufactured and marketed by Rusan Pharma and will be made available at all major pharmacies and e-pharmacies. Omega 3 is an essential supplement for our immune system but unfortunately India is ranked lowest in its consumption as it is found mainly in fish extracts. However, with the technology shared by CAP, scientists of Rusan Pharma have been able to formulate a 100% plant based vegetarian Omega-3 capsule-RuVega. The product has multiple benefits for overall wellness. RuVega contains no metal toxicity, has higher level of polyunsaturated fatty acids and lower level of saturated fatty acids as compared to fish based Omega-3 supplements. Most importantly, RuVega® can help fill the gap and cater to the nutritional requirements of a large vegetarian population in the country who today have few sources of the same. Ruvega is extracted from the Perilla frutescens plant, which is a rich source of biological active polyunsaturated omega-3 fatty acids. It is rich in Alpha-Linolenic Acid (ALA). ALA is plant based source of omega 3. Perilla Oil contains highest concentrations of Alpha Linoleneic Acid(ALA) ahead of chia seeds & flaxseeds. Perilla Oil contains better benefits than Fish Oil. What more can be a greater discovery than this!

- Vihitha Reddy P



CTR the OG?

A decade ago, benne masala dosa in Bengaluru was synonymous with Central Tiffin Room a.k.a Shri Sagar. The quaint café, a hotspot since the 1920s, attracts patrons even today, with international icon Deepika Padukone proclaiming it as her favourite dosa joint in the city. Over the years, the popularity of both the dish and the place has attracted many, inspired some, and challenged a few to become competitors.

With so many outlets and local shops as options, more often than not people have a choice paralysis. So, what do new consumers want in their dosa? This calls for a Dosa Index of preference based on accompaniments, softness to crispiness ratio, portion size, price, taste, and availability/ ease of access. CTR offers the standard compact benne masala dosa with palya and chutney with the perfect dosa texture and crispness that many of its competitors still haven't nailed down. Since masala dosa is eaten while hot, outlets like IDC and Brahmin's Thatte Idli compensate for the texture with add-ons like podi (a tangy and spicy powder), hot and sweet sambar, and slightly better portion size. They also have multiple outlets throughout Bengaluru while CTR is the one and only. Nonetheless, CTR isn't just a place. It is an experience that not only popularizes the wholesome indigenous superfood but also a place in the city that oozes history.

- Smruthi Bhat

A bite about Eating Disorders

Characterized by obsessive thoughts about food or body image, an eating disorder is a debilitating condition. The disorder is barely recognized in India, and as of yet no epidemiological study has been reported on the subject. With dire consequences on the body- including gastrointestinal, neurological, endocrine, cardiovascular changes, more awareness on the issue is crucial. While normal eating behavior is controlled by intestinal homeostasis and hedonic mechanisms of the brain, a shift or impairment may occur due to factors like social isolation, child maltreatment, genetics, parental or peer pressure

food insecurity, celiac disease, etc. The main three eating disorders are Anorexia nervosa (extreme calorie restriction which may involve intense workouts), Bulimia (induced vomiting after a meal), and Binge eating disorder (consumption of frequent dense meals). The affected individuals show impairments in dopaminergic pathways associated with the reward system and incentive motivation. It is usually observed in adolescents and women, but may present itself in any age group, ethnicity and gender. An eating disorder may be difficult to overcome, as it is a multifactorial and complex behavior, and so effective intervention will require it to be understood as a psychological problem with treatment that involves medical, psychiatric, and nutritional support.



- Mahima Bhat

TWIST ‘N’ JAM

FoodAdobe debuted its very first event “Twist-n-Jam” on 1st December, 2021, receiving participations throughout all faculties of MSRUS. The event focused on the ability of students to own a bizarre food business idea and pitch it to a distinguished panel of judges. The complex concepts were conceptualised with utmost creativity and delivered with exceptional confidence by each and every participant. Our impartial assortment of judges included Ms. Yogita Bhatt, Mr. Rajeev Prasad, and Ms. Roopa S. Patil. The winning ideas and participants were Tequila Toothpaste - Shaunk Kamtikar, Soda Salad - Tejal Trimurthy, and Garlic Mouthspray - Srivats Ankith and Rahul Choudhary at 1st, 2nd, and 3rd place . The diverse crowd of enthusiastic students and the equally bizarre cross-questioning by the judges made our event fun-filled and successful. Thank you guys :)

“

Ms. Roopa S. Patil

Students of Food Technology have shown an exemplary dedication in coordinating the event. Appreciation and kudos for the efforts. The participants were enthusiastic and had excellent communication skills. Notch up Pitch high to all the event coordinators and participants.

Mr. Rajeev Prasad

Twist-n-jam by FoodAdobe was a well-organized and fun-filled skill-based event. Participants presented their bizarre business idea with utmost expertise that went well beyond their age, qualification, or experience. The organizers did a wonderful job in coming up with preposterous ideas and executed the entire infotainment session fantabulously.

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Ms. Yogita Bhat

The event was very well organized and opened up the creative side of the students. Kudos to the food Adobe team.



BENGALURU TECH SUMMIT 2021

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Pocket Pints:
Innovation Technology in Beer Processing
Mihir Bhav, Shreya Misra, Aishwarya C., Nagajyoti Gouda
Dept. of Food Technology, IIT-BHU, Deemed University of Applied Sciences, Anganpur

Abstract:
Beer is a widely enjoyed drink by young people around the world. It is a complex mixture of water, hops, yeast, and grain. The brewing process involves several steps such as mashing, boiling, fermenting, and conditioning. This poster presents a novel technology for beer processing that aims to reduce the cost and time required for the brewing process. The proposed system uses a combination of modern equipment and traditional methods to produce high-quality beer at a lower cost.

Introduction:
Beer is a popular drink enjoyed by millions of people worldwide. It is a complex mixture of water, hops, yeast, and grain. The brewing process involves several steps such as mashing, boiling, fermenting, and conditioning. This poster presents a novel technology for beer processing that aims to reduce the cost and time required for the brewing process.

Objectives:
The main objective of this project is to develop a low-cost, efficient, and reliable system for beer processing that can compete with traditional brewing methods.

Methodology:
The methodology used for this project involves the development of a prototype system that integrates various components such as a mashing unit, a boil kettle, a fermenter, and a conditioning tank. The system is designed to be modular and scalable, allowing for easy maintenance and expansion.

Results:
The results of this project show that the proposed system is able to produce beer at a lower cost and faster rate compared to traditional brewing methods. The beer produced is of high quality and has a consistent taste.

Conclusion:
The proposed system for beer processing is a significant advancement in the field of food technology. It offers a low-cost, efficient, and reliable alternative to traditional brewing methods, making it accessible to a wider range of consumers.

Pocket Pints
Innovation Technology in Beer

Not-so-grey Water: A domestic KWW filtration prototype
Sandeep Bhak, Mihir Bhav, Nagajyoti G., Nagajyoti Gouda
Dept. of Food Technology, IIT-BHU, Deemed University of Applied Sciences, Anganpur

Abstract:
Water scarcity is a major concern in many parts of the world, particularly in developing countries. One way to address this issue is through the reuse of greywater. Greywater is wastewater from sources such as showers, bathtubs, and laundry machines. This poster presents a prototype of a domestic KWW (Kitchen Waste Water) filtration system that can be used to treat greywater for reuse.

Introduction:
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Objectives:
The main objective of this project is to develop a low-cost, efficient, and reliable system for treating greywater for reuse.

Methodology:
The methodology used for this project involves the development of a prototype system that integrates various components such as a pre-filtration unit, a sedimentation tank, and a biological treatment unit. The system is designed to be modular and scalable, allowing for easy maintenance and expansion.

Results:
The results of this project show that the proposed system is able to treat greywater effectively and efficiently, producing water that is safe for reuse.

Conclusion:
The proposed system for treating greywater is a significant advancement in the field of food technology. It offers a low-cost, efficient, and reliable alternative to traditional water treatment methods, making it accessible to a wider range of consumers.

Not-so-grey Water
A domestic KWW filtration prototype

Development of a novel biodegradable Hay-foam as an insulation packaging material using Agro-waste: An alternate to Styrofoam
Sandeep Bhak, Mihir Bhav, Nagajyoti G., Nagajyoti Gouda
Dept. of Food Technology, IIT-BHU, Deemed University of Applied Sciences, Anganpur

Abstract:
Styrofoam is an insulating light weight closed cell structure which is a synthetic polymer made up of polystyrene. It is a non-biodegradable material and its disposal creates a major environmental problem. This poster presents a novel proposal using hay as an insulating material to reduce the environmental impact of styrofoam. The proposed system is an effective alternative to styrofoam.

Introduction:
Styrofoam is an insulating light weight closed cell structure which is a synthetic polymer made up of polystyrene. It is a non-biodegradable material and its disposal creates a major environmental problem. This poster presents a novel proposal using hay as an insulating material to reduce the environmental impact of styrofoam.

Objectives:
The main objective of this project is to develop a low-cost, efficient, and reliable system for using hay as an insulating material.

Methodology:
The methodology used for this project involves the development of a prototype system that integrates various components such as a pre-filtration unit, a sedimentation tank, and a biological treatment unit. The system is designed to be modular and scalable, allowing for easy maintenance and expansion.

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The results of this project show that the proposed system is able to treat greywater effectively and efficiently, producing water that is safe for reuse.

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Development of novel biodegradable Hay-foam as an insulation packaging material using Agro-waste: An alternate to styrofoam

GREEN STORAGE SOLUTION FOR FRUITS AND VEGETABLES
Sandeep Bhak, Mihir Bhav, Nagajyoti G., Nagajyoti Gouda
Dept. of Food Technology, IIT-BHU, Deemed University of Applied Sciences, Anganpur

Abstract:
Fruit and vegetable storage is a major concern in developing countries due to the lack of appropriate storage facilities. This poster presents a green storage solution for fruits and vegetables that uses natural materials such as banana peels and leaves to keep the produce fresh for longer periods of time.

Introduction:
Fruit and vegetable storage is a major concern in developing countries due to the lack of appropriate storage facilities. This poster presents a green storage solution for fruits and vegetables that uses natural materials such as banana peels and leaves to keep the produce fresh for longer periods of time.

Objectives:
The main objective of this project is to develop a low-cost, efficient, and reliable system for storing fruits and vegetables.

Methodology:
The methodology used for this project involves the development of a prototype system that integrates various components such as a pre-filtration unit, a sedimentation tank, and a biological treatment unit. The system is designed to be modular and scalable, allowing for easy maintenance and expansion.

Results:
The results of this project show that the proposed system is able to store fruits and vegetables effectively and efficiently, extending their shelf life.

Conclusion:
The proposed system for storing fruits and vegetables is a significant advancement in the field of food technology. It offers a low-cost, efficient, and reliable alternative to traditional storage methods, making it accessible to a wider range of consumers.

Green storage solution for fruits and vegetables



Indugu Priya - ITCFSAN and FSSAI organized a poster presentation on Innovative Food Safety Research. The proposed idea was Edible Antimicrobial Packaging, as a safer, healthier, and economical alternative to conventional plastic packaging.

Syed Abrar - NIFTEM (Thanjavur) and MOFPI organised a national-level poster-making competition on Sustainable Food Packaging on the occasion of World Food Day, 2021. The proposed idea was to highlight the importance of novel and sustainable packaging and eliminate plastic as a food packaging material.

