

"Eat to live, not live to eat"

NUTRILICIOUS

March 2023 | Volume 07

EXCLUSIVE...

INTERNATIONAL YEAR OF MILLETS 2023

- Departmental Nutri Products- Millet special
- Food tips for PCOS
- Staff Achievements
- Departmental Activities

RESEARCH UPDATES

Fruit of the season: Grapes

*An expedition
through the department*



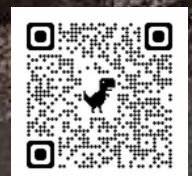
Nutrigen

DEPT OF PG STUDIES IN
FOOD SCIENCE AND NUTRITION

ALVA'S COLLEGE, MOODBIDRI

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THE EDITORIAL DESK

Healthy ways to enjoy taste.

Do your unhealthy snacks cannot compromise on taste.

Yes!!!! This issues of newsletter **Nutrilicious - Millet special** make such evidence base easily available in some ways by which they can impart health along with tastes in our day to day food. We have come up with few initiatives this time to inform people about 2023- the year of Millet. People's definition of ideal snack is one which is healthy tastes sinful and is convenient in all aspects. They can indulge this millets in food that they crave for along with keeping a check on their calories intake with functional attributes.

We are happy to unleash another maiden issue on this occasion International women's Day. This issue has a unique feature of our unused "Millets". This small wonder in today's world is throwing up its quality in diseases conditions at bay and track of health benefits for a sustainable healthy leaving.

In the pursuit, the editorial desk is thankful to all those contributed and extend the immense gratitude to a very dedicated team of student-editors for their relentless and untiring efforts in this regard.

Lastly, my heartfelt thanks to our beloved chairman Dr. Mohan Alva, our trustee Mr. Vivek Alva, Principal and Administrative Officer for their continuous guidance and motivation.

We sincerely hope that the readers will find the articles interesting, relevant and intellectually stimulating and hope going through this newsletter is as enjoyable for you as it is for us bringing it to you.

Let us shed our inhibition and apprehension and start imagining beyond with small millets.

Happy Reading...!!!!

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Fruit of the Season...

Grapes and their Bioactive Compounds: Role in Health Management Through Modulating Various Biological Activities

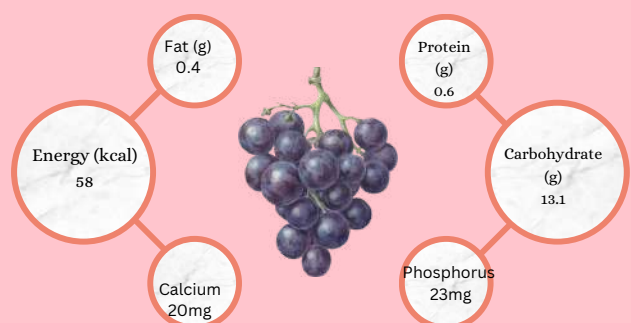
Grapes have been found to have vital bioactive ingredients and such ingredients are rich in antioxidant potentiality. Several health promoting and diseases management activity of grapes seed, fruits, seeds and leaves have been explained. Leaves, fruits and seeds of grape are rich source of bioactive compounds and such compound play role in diseases cure and management. The leaves, fruits and seeds show therapeutic implications as antioxidant, anti-inflammatory, anti-diabetic, hepatoprotective effect and antimicrobial. Grapes and its active compound have proven its role in tumour prevention based on laboratories experiment. Its bioactive compound has designated its role in tumour management through modulating genes activity.

Source: Pharmacogn Journal 2020; 12(6): 1455-1462

A Polyphenol-Rich Extract From Muscadine Grapes Inhibits Triple-Negative Breast Tumor Growth

Triple-negative breast cancer (TNBC) is an aggressive form of breast cancer that primarily affects young women and has a high tendency to spread. Triple-negative breast cancer patients currently have no therapeutic options. Studies showed that isolated polyphenols or polyphenol-rich muscadine grape extracts polyphenols inhibit the proliferation of various cancer cells including breast cancer. MGE employed in preclinical and clinical investigations appears to be safe and well-tolerated. This shows that the extract could be a beneficial nutraceutical when used in combination with standard of care to treat women with TNBC.

Source : Integrative Cancer Therapies Volume 19: 1–15



FOOD FACTS

Popsicle

An 11-year-old boy called Frank Epperson is actually credited with creating icepop in 1905. One summer day Epperson neglected to take the stick out of his soda and water, leaving it outside the chilly night. The following morning, he discovered that the drink is frozen with in the glass with a wooden stick on it.



Potato chips

Every time a person crunches into a potato chip, he or she is enjoying the delicious taste of one of the world's famous snacks that might not exist without the contribution of George Crum, a chef in New York. He created the first potato chips in response to a customers complaint that the fried potatoes were not thin enough. The customer was ecstatic over the browned, paper-thin potatoes, and other diners requested Crum's potato chips

Ice cream cones

Ernest A. Hamwi created ice cone during the World's Fair in Louis in 1904. When an ice cream vendor at the fair ran out of bowls to serve ice cream, the idea to spin waffle in to a cone form for ice cream came to him after observing the waffle vendor next to him.



Beer

The discovery of beer was an an accidental find. Mesopotamians were the first to discover the widely consumed beverage, beer. When they tried to keep grains for their bread during the time of invention, the dampness of their storage spaces led to grain fermentation. Thus beer was born.

2023

International Year of Millets

The United Nations declared the year 2023 as the International Year of Millets at the Food and Agriculture Organization (FAO) headquarters. A widely popular Indian food staple, millets, which encompasses a diverse group of cereals including pearl, proso, foxtail, kodo and others, is an important source of nourishment for millions across Sub-Saharan Africa and Asia.

International Year of Millets will raise awareness about the contribution of millets for Food Security and Nutrition, motivate stakeholders for continuous production and quality improvement of millets and attract attention to increase investment in research and development services.

Millets provide an alternative food system in times of increasing demand for vegetarian foods. Millets contribute to a balanced diet as well as a safe environment. These are the gifts of nature to mankind. Being an excellent source of essential nutrients to the millions of rural poor in India, they are also called as 'nutritious cereals'.

Health benefits

- Reduce the risk of heart disease.
- It is also rich in niacin, a B vitamin which manages more than 400 enzyme reactions
- It is healthy for the skin and organ functions
- Help control blood sugar levels.
- A prebiotic food.
- Help grow and repair body tissue.
- Rich in antioxidants like ferulic acid and catechins, which prevent the body from harmful oxidative stress.



FOOD TIPS FOR PCOS

PCOS Weight Loss

- Whole grains and Millets - Whole Wheat, Broken Wheat, Brown rice, Jowar, Bajra, Ragi.
- Pulses - Moong dal, Chana dal, Split peas, dried beans, Soyabean, chickpeas.
- Lean protein – Egg, skimmed milk, lean meat, curd.
- Green leafy vegetables
- Nuts and seeds - Almonds, Walnuts, Sesame seeds, Pumpkin seeds, Sunflower seeds, and Flaxseeds.



Lean PCOS

- A balanced diet that is nutrient rich.
- Lean protein sources.
- Limit sugary drinks and high glycemic carbs like white bread, pasta, rice and other highly processed foods.
- Anti-inflammatory foods like fatty fish, green leafy vegetables, fruits, whole grains, tea, and spices including turmeric, ginger, garlic etc,
- Fermented foods such as kefir, yogurts etc.
- Flaxseeds.
- Healthy snacks like almond butter on an apple, natural peanut butter on high fiber cracker, a handful of nuts etc.
- Eat small but frequent meals.

RESEARCH UPDATES

A novel protein extracted from foxtail millet bran displays anti-carcinogenic effects in human colon cancer cells.

Millet bran has a long history as a source of food and exhibits multiple biological activities, including antioxidant, antifungal and anti-hyperglycaemia effects. In the current study, the crude protein from foxtail millet bran (FMB) exhibited a significant anti-tumour activity. Furthermore, a novel anti-colon cancer protein was extracted and purified from foxtail millet bran. FMBP displayed anti-proliferative activities and induced apoptosis in human colon cancer cells but not in normal colon epithelial cells. These results indicated that medicinal and edible foxtail millet bran was a potential source of anti-cancer bioactive peptides.

Source: Toxicology Letters 227: June 2014 129–138

Lentil and quinoa protein-based dairy protein alternatives:

Plant-based proteins were used in a variety of dietary products for its high nutritional value and increasing consumption trends. Both lentil and quinoa proteins received a lot of attention in recent years as dairy-based protein alternatives. Mixed proteins, fermentation, and germination have been discovered to become the primary reconstructing techniques for the creation of protein complexes that have nutritional and functional properties like dairy-based protein. Fermentation and protein complexation are recognised to be suitable techniques in enhancing the functional properties, nutritional values, and protein digestibility making them potential alternatives for dairy-based protein.

Source: Food Chemistry 383 (2022)

Relationship between Diet and the Most Common Cancers from the European Prospective Investigation into Cancer and Nutrition (EPIC)

The EPIC study findings are in line with the World Cancer Research Fund/American Institute of Cancer Research (WCRF/AICR) latest report that concluded that there is strong evidence to support that consuming foods containing dairy products, dietary fibre, and dietary calcium decreases the risk of colorectal cancer while consuming alcohol and red and processed meat increases it. According to this report, there is also limited evidence supporting that the intake of fish, carotene, vitamin C, and vitamin D might decrease colorectal cancer risk.

Source: Nutrients 2021, 13, 3582



Anticancer properties of Laxmitaru

Simarouba glauca DC (S. glauca, S.G), commonly known as Laxmitaru and paradise tree have been used extensively in traditional medicine to treat cancers. The leaves of SG have been used as potential source of anticancer agents in traditional medicine. Recently attempts have been made to isolate anticancer agents from the leaves of SG using solvent extraction, which identified quassinoids with tricaproin as the molecules with tumoricidal activity.

Source: Front Pharmacol. 2018; 9: 127.

LAB-ON- A CHIP

Lab-on-Chip technology implies those techniques that perform various laboratory operations with a minimal time on a miniaturized scale such as chemical synthesis and analysis on a single chip leading to a handheld and portable device. The biomedical applications of LC in different fields like in diagnostics, cellomics in environmental studies control the effect of pathogens, to check the food quality such as for the detection of various bacteria in raw milk. In the low resource area such as developing countries, efforts are still required to improve the business model under which LoC devices are produced and to. This technology make people aware about their efficient use and can helps finding a novel way to treat a central nervous system disorders such as Parkinson's disease and spinal cord injury.

-Aiswarya Ravi. K, 1 st MSc. FSN

BEST OF DEPARTMENTAL SEMINARS

DIETARY APPROACH TO EPILEPSY

Epilepsy is a neurological disorder characterized by recurrent seizure symptoms. These seizures occur because of a sudden surge of electrical activity in the brain which causes a temporary disturbance in the messaging systems of the brain cells. Usually ketogenic, Atkins and low glycemic index diets are used to treat epilepsy. Among these ketosis is commonly used. Keto diet is a high fat diet with low carbohydrate and moderate protein and have been proved to reduce seizure in epileptic children. John Hopkins Medicine created a modified Atkins diet as a low-carb, high-fat alternative to the ketogenic diet for adults with epilepsy. Many people find the restrictions challenging. Still, this type of diet might complement other treatment measures to help reduce seizures.

-Apoorva M Rao, 11 nd MSc. FSN

CELLOPHANE NOODLES

Cellophane noodles were originated in China. They are also known as glass noodles due to the transparent texture and followed by the names bean thread noodles, Chinese vermicelli etc. Cellophane noodles appear to be transparent but it also depends on the ingredients which is being used based on that it will appear to be cloudy, white or brown. It is generally popular in China, Korea and Japan. Various dishes can be made from these glass noodles i.e., stir fries, soup, salads and the best thing is that it can be used both in hot dishes and also cold dishes.

-Moksha M P, 1 st MSc. FSN

ROYAL JELLY

Royal Jelly (RJ), a honeybee hypopharyngeal gland secretion of young nurse and an exclusive nourishment for bee queen, has been used since ancient times for care and human health and it is still very important in traditional medicine, especially in Asia. Royal Jelly and its protein and lipid components have antimicrobial, anti-inflammatory and anti-aging properties. Antimicrobial activities of crude Royal Jelly, Royalisin, 10-hydroxy-2-decenoic acid, Jelleines, Major Royal Jelly Proteins against different bacteria have been reported. RJ and its derived compounds help to prevent many diseases and skin problem's and boost immune system.

-Swathi R, 1 st MSc. FSN

Industrial visit

The Department of PG studies in Food Science and Nutrition of the prestigious Alva's College organized an industrial visit, on the 14th of January, to Campeco Chocolate Factory, Puttur and subsequently to Pilicula Artisan Village. The Campeco Factory that is equipped with the most modern machinery and that the plant produces cocoa mass, cocoa butter and chocolates all in one place.

In the Campeco Factory:

Eclair packing unit and 'cream' chocolate packing unit.

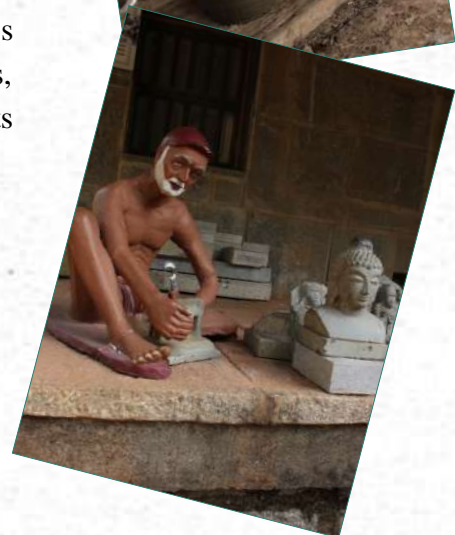
R&D and FMS department - Quality Checking and Sensory Evaluation of products.

Winner Sections - 200g drinking chocolate / chocolate powder. They are granular, bitter in taste and have less sugar.

Zest - A flavoured cocoa, developed and provided to Cafe Coffee Day.

Chocolate Mixing Section - Chocolate Moulds (Made Cocoa Powder, Cocoa butter) provided to industries like Nandini and Milma.

Then the journey headed to the Pilicula Artisan Village. The Guthu House, a traditional manor owned by coastal landlords was the first eye-catching thing sighted. Outside of The Guthu House, The Artisan village hosts various conventional methods like handloom, breaking rice using bore pump like instrument to make Poha and pottery. And also, there were bull-driven oil extraction process, where sesame seeds oil is prepared by cold press process with the help of bullocks. Rich in crafts like bamboo craft, works of blacksmiths, wood carvings and stone carvings, The village bring backs the arts and crafts faded into oblivion.





FOXTAIL MILLET TACO

ENERGY	71Kcal
CARBOHYDRATE	14.58g
PROTEIN	2.28g
FATS	0.41g

- Maintains a healthy heart.
- Good for skin and hair growth.

FOXTAIL HOLIGE

ENERGY	208.71kcal
CARBOHYDRATE	31.36g
PROTEIN	4.9g
FATS	7.09g
CRUDE FIBER	1.49g

- Improve glycemic control and reduce insulin, cholesterol and fasting glucose in Type-2 diabetes patients.

RAGI BARFI

ENERGY	46.44kcal
CARBOHYDRATE	38.47g
PROTEIN	0.47g
FAT	0.74g

- Helps for bone development and prevention of bone diseases.
- Rich in Antioxidants.

RAGI LADDOO

ENERGY	82.69kcal
CARBOHYDRATE	15.4g
PROTEIN	1.56g
FAT	1.02

- Rich source of fiber.
- Helps lower cholesterol.



DEPARTMENTAL

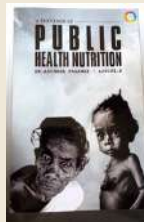
NUTRI PRODUCTS

NOV 2022 - MAR 2023

STAFF ACHIEVEMENTS



Book Launch: **The Text Book of PUBLIC HEALTH NUTRITION** by our eminent faculty members **Dr. Archana Prabhat & Ms Aswini K.**



IAPEN India Quality Award - Excellence in Nutrition academics.

DEPARTMENTAL ACTIVITIES

NUTRITION EDUCATION

PROGRAM



ASSOCIATION ACTIVITY



ORIENTATION PROGRAM



JAMBOREE ; YOUTH IN HARMONY

International cultural Jamboree is a part of the scout movement to encourage youth to live in harmony. Alva's Education institution has got the golden opportunity to host International cultural Jamboree 2022 held from 21st to 27th of December. The programme held on 100 acre of land with a series of creative activities.

Science Mela was the highlight of the whole event. As many as five -Krishi Mela, Science Mela, Pustaka Mela, Kala Mela and Swadeshi Mela added much more verse to the Jamboree. Science Mela comprised different sections, like Halli mane, ferns club, Maths club, Butterfly club and many more. Students were assigned the duty of volunteers to various clubs.

On these seventh day- studies of Food science and Nutrition had joined together and made the model presentation. The model presentation was regarding health, food and much more.

The maths club included some interesting games, which helped to get know about mathematics tricks, facts and also the application of mathematics in today's life.



"Eat healthy be nutrition wealthy"