

>>> NEWSLETTER <<<

SUKSHMA JIVA VIDYA

WORLD OF MICROBES-FOOD MICROBIOLOGY



Dear Readers,

As we transition into the vibrant hues of Academic year 2023-2024, we are delighted to present to you the latest edition of our newsletter of Academic year 2022-2023. This Year, we have curated couple of Articles on Probiotics, Department Activities that delve into a diverse array of topics, from Interesting scientific studies to insightful commentary on current events with few Brain Teasers. As always, we value your feedback and encourage you to share your thoughts and ideas with us.

-EDITOR'S DESK

MARKETABLE MICROBIAL PRODUCTS

Probiotic chocolates are a delicious and convenient way to incorporate beneficial bacteria into your diet while enjoying a sweet treat. These chocolates typically contain live strains of probiotics, such as Lactobacillus or Bifidobacterium, which are known for their ability to support digestive health and boost the immune system.

The combination of probiotics with chocolate offers a unique and enjoyable way to deliver these beneficial microorganisms to consumers. Chocolate provides a rich and creamy base that complements the tangy flavor of probiotics, making it appealing to a wide range of palates.

>>> READ MORE

Marketable microbial products are those derived from microorganisms like bacteria, fungi, or algae that have commercial value due to their various applications in industries such as agriculture, healthcare, environmental remediation, and biotechnology. These products encompass a wide range of items, including enzymes, antibiotics, probiotics, biofertilizers, biopesticides, bioplastics, and biopolymers.



"INDULGE IN GUT-HEALTHY BLISS: PROBIOTIC CHOCOLATE, WHERE DELICIOUS MEETS NUTRITIOUS!"

By Yeshwandhini. E II MSC



HEALTH BENEFITS OF LACTOBACILLI

5 AWESOME TIPS TO INCLUDE LACTOBACILLI IN YOUR DIET By Kamatchi I Msc

- By incorporating these lactobacilli-rich foods into your diet regularly, you can support your digestive health, boost your immune system, and enjoy the delicious flavors and textures they offer.
- Opt for plain, unsweetened yogurt that contains live and active cultures of lactobacilli. Enjoy it as a snack, mix it with fresh fruit for breakfast, or use it as a creamy base for smoothies or salad dressings.
- Include fermented foods like curd, pickles in your meals. These traditional foods are rich in lactobacilli and add flavor and crunch to sandwiches, salads, and rice bowls.
- Enjoy buttermilk as a refreshing beverage or use it in baking recipes to add moisture and tanginess to baked goods like muffins, pancakes, and biscuits.
- Incorporate cheeses into sandwiches, omelets, or cheese boards for a dose of beneficial bacteria.
- Experiment with making your own fermented foods at home, such as yogurt, kefir, or sauerkraut. This allows you to control the ingredients and fermentation process to ensure maximum probiotic benefits.

ACADEMIC EPISODES OF 2022-2023

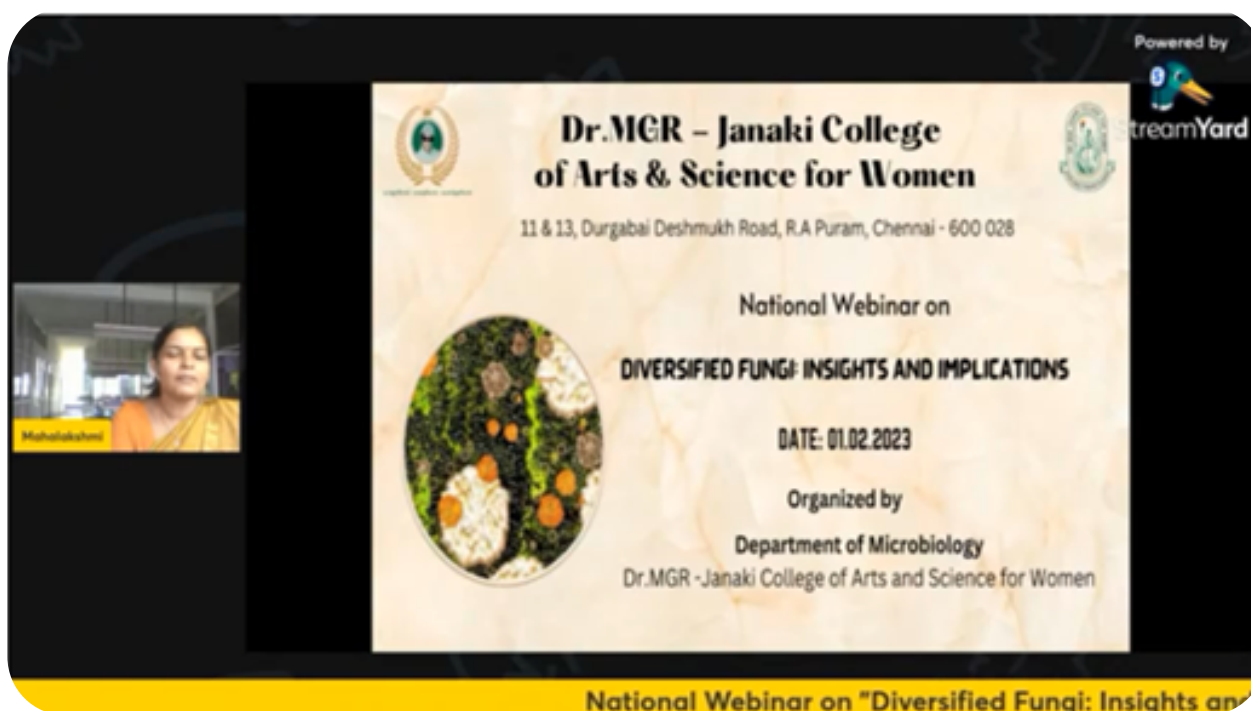
National Webinar- Diversified Fungi- Insights
 Workshop CCP in the production of condiments
 6 Club Activities
 4 Guest Lectures
 30 Innovative Projects

CLUB ACTIVITIES

- WORLD HEPATITIS DAY: JULY 28
- WORLD MOSQUITO DAY: AUGUST 20
- WORLD RABIES DAY: SEPTEMBER 28
- WORLD AIDS DAY: DECEMBER 1
- ANTONY VAN LEEUWENHOEK BIRTH ANNIVERSARY: OCTOBER 24
- WORLD LEPROSY DAY: THE LAST SUNDAY OF JANUARY



These days serve as important reminders to raise awareness, commemorate achievements, and take action towards addressing global health challenges.



REVISIT THE EVENT @ [HTTPS://WWW.YOUTUBE.COM/LIVE/MUEIKQRSFCQ?SI=GPWM9HB4UMBST37B](https://www.youtube.com/live/mueikqrsfcq?si=gpwm9hb4umbst37b)



WORKSHOP CCP IN THE PRODUCTION OF CONDIMENTS

The workshop served as an intensive training session on transforming participants into Condiment Control Superheroes, instructing them on identifying, monitoring, and overcoming Critical Control Points within the realm of Fruit Jam. Mastery of these CCPs enables manufacturers to ensure food safety, mitigate risks, and deliver exceptional condiments to eager consumers.

By Mr.K.S.Sivashankar
Proprietor
Surya Food Products

TIPS TO INCREASE SHELF LIFE OF JAMS

- Ensure all equipment, including jars and lids, are thoroughly sterilized before filling them with jam.
- After filling the jars with jam, immerse them in a hot water bath for the recommended time. This process creates a vacuum seal, preventing air and bacteria from entering the jars, thus extending shelf life.
- Use high-quality fruits and ingredients without additives or preservatives. Fresh, ripe fruits with natural pectin content aid in setting and preserving the jam.
- Sugar acts as a preservative by drawing out moisture from microorganisms, thereby inhibiting their growth. Follow a tested recipe that specifies the correct sugar ratio for the type of fruit being used.
- Ensure jars are tightly sealed after processing. A proper seal prevents air from entering the jar, reducing the risk of spoilage.
- Store jam jars in a cool, dark place away from direct sunlight and heat sources. Proper storage conditions help maintain the jam's quality and extend its shelf life.

GUESS WHO

1.I am a microscopic single-celled organism. Some of my species can cause diseases like cholera and food poisoning. I can also be beneficial, aiding in the fermentation of foods like yogurt and cheese.

2.I am a type of fungi.I am used in the production of bread, beer, and wine.Some species of mine can cause infections in humans, such as athlete's foot and thrush.

3.I am a virus. My name comes from the Latin word for "smallpox."I consist of a protein coat surrounding genetic material, either DNA or RNA.

4.I am a group of parasitic protists.I am transmitted through the bite of infected mosquitoes. I am responsible for a disease that causes symptoms such as fever chills, and joint pain.

5.I am a type of bacteria. I am commonly found in soil and water.Some strains of mine are pathogenic and can cause respiratory infections, urinary tract infections, and pneumonia.

UNSCRAMBLE ME

- 1.DENTITIOFICA
- 2.RCEOIMROBA
- 3.VWLOLQJV SURYLGH
FRQVHTXHQFH IRU PDWUL
- 4.OALOFMCYR
- 5.RELOPNICAT

ANSWERS
BACTERIA
SACCHAROMYCES CEREVISIAE
VARIOLA VIRUS
PLASMODIUM
PSEUDOMONAS AERGINOSA
IDENTIFICATION
MICROBES
VACCINES PROVIDE PROTECTION FOR PEOPLE.
MYCODIPLAR
REPLICATION



WORLD CONSUMERS RIGHTS DAY

The Microbiology Department, in collaboration with the Consumer Club of our College, hosted an awareness event on "Intuitive Eating" on March 2, 2023, in honor of World Consumer Rights Day. The event featured student-led displays showcasing topics such as food spoilage, nutritious organic foods, food safety, probiotics, and prebiotics.



PILOT PROJECTS OF 2022-2023 IN FOOD MICROBIOLOGY

- Wine production from banana using yeast isolated from coconut water
- Production of butterfly pea wine using Extraction of anthocyanin to observe its potential application as food bio preservative
- Isolation of *Lactobacillus* from curd and application in probiotic chocolate
- Production of vinegar from pineapple peel juice using *Acetobacter sps.*
- Production of cheese by incorporation of *Bifido bacteria*
- Antioxidant activity of exopolysaccharide produced by lactic acid bacteria from commercial yogurt sample
- Cholesterol degradation by *Lactobacillus*
- Production of single cell protein from pineapple waste using yeast
- Detection of bacterial contaminants that bring spoilage of yogurt and its identification
- Comparative study of *Solanum trilobactum* and *Coleus ambionicus* against *Streptococcus sps* and candy formulation

Exciting Microbe Magic Brewing in the Department!

Cultivation of algal biomass from fish water effluent and production of bioplastic, algal ink, and lipid for biodiesel production

Antimalarial property analysis of shee butter and formulation of antimalarial repellent cream

Antimicrobial activity of citrus lime and *Ocimum basilicum* and herbal sanitizer formulation

Isolation and characterization of *Streptomyces sps* from soil for biodiesel production

Isolation and characterization of *Azotobacter* producing bioplastic from different sources

Biocolour production by *Pseudomonas sps* isolated from soil and used as a textile colorant

SEE YOU IN THE NEXT EDITION!