

# NUTRILICIOUS

*The first wealth is Health*

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Dept. of PG Studies in Food Science &  
Nutrition.  
Alva's college, Moodbidre.

Dear Students,

The food systems have been pivotal in the evolution of the civilization and then bio sociological formations of the human community. Scientific study of the food systems is a budding branch of knowledge. The natural food chain and the components of it are been superimposed by the market cantered systems .Which in turn has posed a serious issue of the sustainability of the supply systems and the ecological factors. The correlative proof of the health, life expectancy and community harmony along with the food supply and production systems has been accuse of concern. Modernity and the de-link of the traditional food systems has lead to series of mall formation and concentration of the food rights in the hands of the market forces. The scientific approach to liberate and search for alternatives has to be the guiding principle of the scientific method and methodology of food science. The students of food science and nutrition have ventured to propose the ideas thy imbibe during the discourse on the food systems through this news letter ,which in turn serve as the reflective indicator for the functional ability of the student community for the sustainable food systems

Dr. Kurian  
Principal Alva's College

## From the Editorial Desk..

Dear Readers,

We are glad to bring out the first edition of our Departmental Newsletter '**NUTRILICIOUS**'. This is just another step in reinventing ourselves to keep abreast with times and carrying forward. The main objective is to improve the knowledge base and skills focusing mainly on the networking aspect of this booming arena. As an editor of Nutrilicious, I anticipate that this issue would be an immense value and will be definitely useful in our regimented life. This collection will also offer a window for new perspectives and directions in the area of readers mind for long. Nutrilicious is thankful to all the students who chose to explore contributing to this edition, compiled articles on nutrition facts and epidemiological studies to suit the life the way its supposed to be lived.

HAPPY READING !!!!!

Co-Editors :

Ms.Prajna Rao

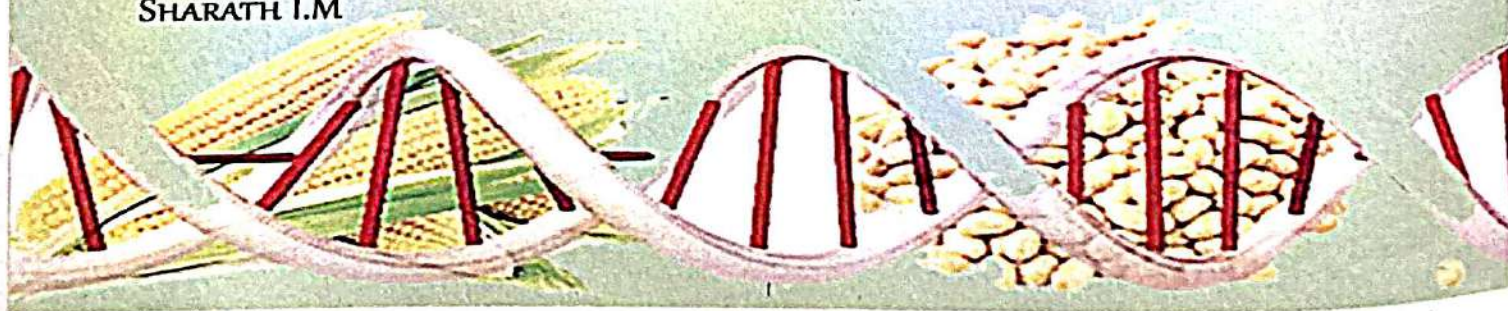
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Chief Editor  
Dr.Archana Prabhat

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SHARATH I.M



# FRUIT OF THE MONTH

## Jackfruit

- Prevents Ageing
- Enhances Vision
- Prevents Cancer
- Improves Digestion
- Replenishes Energy
- Improves Immunity
- Strengthens Bones



### Nutritional assessment of jackfruit

Parameters	Jackfruit flesh	Jackfruit seeds
	(g/100g)	
Carbohydrate	10.0	21.9
Total dietary fiber	2.6	11.1
Protein	0.9	4.7
Fat	0.8	1.3
Resistant starch	0.3	8.0

The moisture content of boiled jackfruit flesh and seeds were 82% and 53% respectively. The available digestible carbohydrate contents of the flesh and the seeds were 10% and 22% (FW) respectively. The protein and total dietary fiber content of seeds were higher compared to flesh.

Jackfruit seeds also contained 8% (FW) resistant starch (undigestible starch).

*Ref: Department of Biochemistry, University of Sri Jayewardenepura, and Department of Biochemistry and Molecular Biology University of Colombo, Sri Lanka*

### Jackfruit seed starch and its application as a thickener & stabilizer in chili sauce

Jackfruit is composed of multiple fruit and composed rind, edible bulbs of yellow color and seeds. The study was conducted to investigate possible utilization of jackfruit seed starch extracted by seed waste. The comparative study was done between jackfruit seed starch (JSS), Corn starch (CS) and Potato starch (PS). The results depicted that JSS had high starch content and granules were much more smaller than PS and CS. JSS was also found to be a potent thickening agent in chili sauce and received highest score in sensory in terms of color, mouthfeel, homogeneity and overall acceptance.

*Ref: Department of Food Science and Technology, Kasertart University Bangkok*

### Antidiabetic and Antioxidant Activity of Jackfruit Extract

The *Artocarpus heterophyllus* (Jackfruit) is a species of tree of the mulberry family *Moraceae*. A study which was done to evaluate anti-diabetic, and anti-oxidant property in aqueous jackfruit extract revealed that the extract of jackfruit has a phytochemical constituent with ascorbic acid as the highest, and followed by Beta-carotene and lycopene and it can inhibit the hemoglobin glycation. Hence it has a potential anti-diabetic and antioxidant property.

*Ref: Medical Pharmacology Department, School of Medicine, Lambung Mangkurat University, Banjarmasin, Indonesia,*

Eat to fill your stomach not your heart

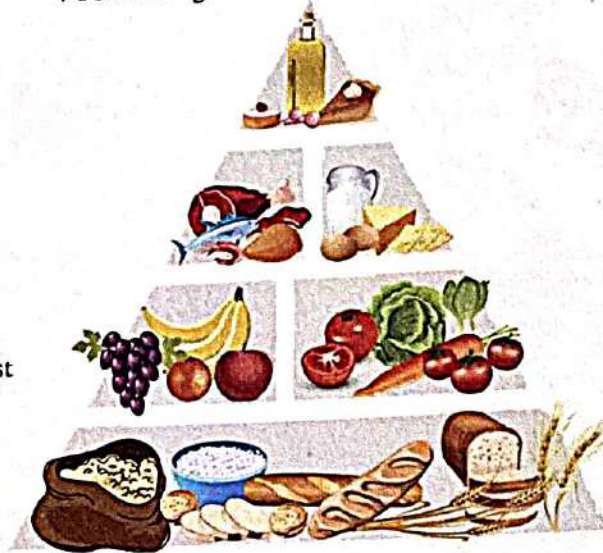
# THE ZONE DIET

Optimized to control inflammation from your diet.

- › Losing extra body fat as fast as possible.
- › Maintaining wellness into older age.
- › Slowing down the rate of aging.
- › Performing better and thinking faster.

## PROTEIN:

- Leanbeef
- Pork
- Lamb
- Skinless chicken & Turkey breast
- Egg whites
- Low-fat cheeses
- Low-fat milk & yogurt



## FAT:

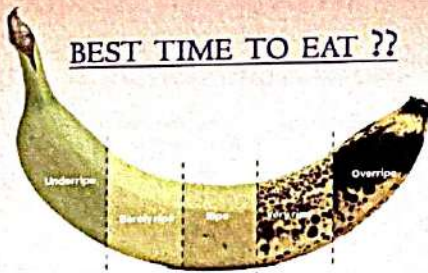
- Avocados
- Cashews
- Almond
- Sesame oil
- Peanut oil
- Olive oil.

## CARBS:

Berries, Apples, Oranges, Plums and Vegetables such as Cucumbers, Peppers, Spinach, Tomatoes, Mushrooms, Chickpeas and more Grains.

› Sanmathi  
II MSc

## BEST TIME TO EAT ??



STAGE 1: HIGHEST RESISTANT STARCH.

A GREAT SOURCE OF PREBIOTICS FOR GOOD HEALTH AND IMPROVED DIGESTION.

STAGE 2: HIGHEST FIBRE AND LOWER IN SUGAR. AID IN BETTER BOWEL MOVEMENT AND HEALTHIEST STAGE.

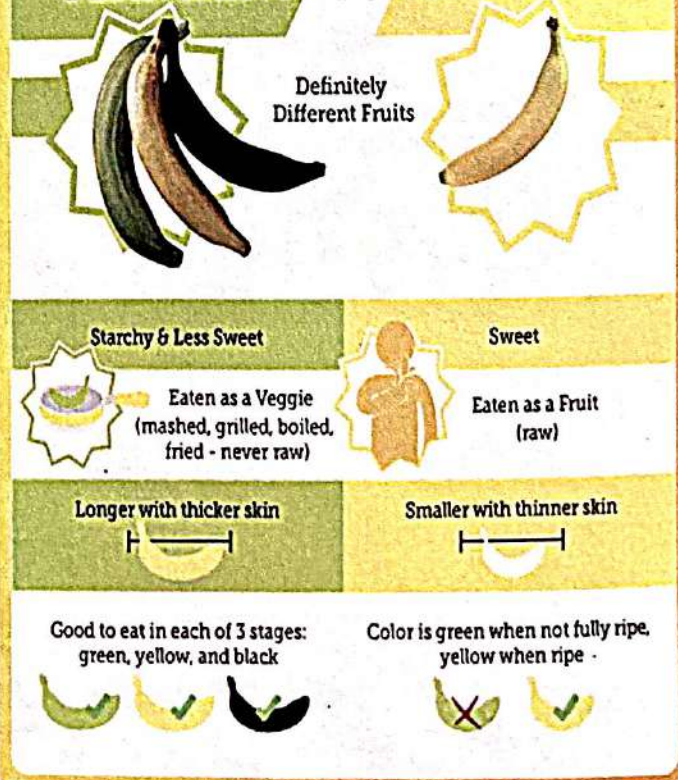
STAGE 3: HIGHEST ANTIOXIDANT LEVELS AND GOOD FIBRE CONTENT. GOOD VITAMIN AND MINERAL CONTENT. HELPS TO GET RID OF TOXINS AND HELPS IN DIGESTION PROCESS.

STAGE 4: LOWEST VITAMIN AND MINERAL CONTENT. QUICK ENERGY BOOSTER.

STAGE 5: HIGHEST GOOD SUGAR AND LOWEST FIBRE CONTENT, VITAMINS AND MINERALS.

› Syed Mutassif  
II MSc

## PLANTAINS VS BANANAS



The early morning rays of sun are gentle and will provide you the valuable vit-D for healthy hours

## Research Updates :

### DEVELOPMENT AND CHARACTERIZATION OF FUNCTIONAL CULTURED BUTTERMILK UTILIZING ALOE VERA JUICE

#### INTRODUCTION :

Aloe vera juice fortified in cultured buttermilk to make a complete nutritive beverage

#### MATERIALS AND METHODS:

- ♦ Pasteurized and standardised double toned milk
- ♦ A freeze-dried direct vat set yoghurt
- ♦ Aloe vera juice

#### PREPARATION OF CULTURED BUTTERMILK:

1. Pasteurized and standardised double toned milk of 1.5% fat and 9.0% SNF was used to prepare a control cultured buttermilk .
2. The milk was heated to 42°C followed by inoculation.
3. The samples were incubated at 42°C.
4. After curd setting, agitation was carried out followed by addition of pasteurized chilled water and homogenization .
5. Fortification-Addition of aloe vera juice to the pasteurized chilled water at 5-20% levels

#### TESTS FOR OVERALL ACCEPTABILITY WAS DONE:

- ♦ Acidity
- ♦ pH
- ♦ Sensory Evaluation

#### FINDINGS:

Aloe vera fortification did not affect the acidity and pH of cultured buttermilk samples. It was concluded that 10% aloe vera juice fortification in cultured buttermilk would produce an acceptable product with improved nutrient profile with respect to Vitamin C, Iron and Dietary fibre.

-Punith B.R, II M.Sc.

## 3D FOOD PRINTING

Three dimensional (3D) food printing is also known as additive layer manufacturing, solid free form fabrication or rapid prototyping. It is a technology which works on the additive principle through the deposition of material layer by layer. 3D printing reduces the design and fabrication time and cost, it enhances visual appearance, consistency and repeatability of foods. It has multiple advantages such as customized food designs, personalized nutrition, simplifying supply chain and broadening of the available food material.

**"3D PRINTING IS BEING APPLIED IN DEFENCE AND SPACE FOODS".**

-Anushree P.N, II M.Sc.

### FLAXSEED REDUCES TOTAL AND LDL CHOLESTEROL CONCENTRATIONS IN NATIVE AMERICAN POSTMENOPAUSAL WOMEN

Flaxseed are the richest source of lignans, omega-3- fatty acids and fiber.

The daily incorporation of approximately 30g of flaxseed for a period of 3 months into the diet of native American Post

Menopausal women had a beneficial effect in their lipid profiles.

Dietary flax seed supplementation lowered total cholesterol and low density lipoprotein cholesterol (LDL-C) by approximately 7% and 10% by maintaining high density lipoprotein cholesterol (HDL-C) and other clinical and hematological parameters unaltered.

The triglyceride level seems to be remained unaltered since the flaxseeds contain omega 3 fatty acid which is ineffective in the reduction of triglyceride level. When the activity of flax seeds is enhanced with the addition of rice bran, there find a significant reduction in triglyceride level. This is due to the presence of more omega 6 fatty acid in rice bran that effectively reduce the triglyceride level.

Therefore, native American post-menopausal woman benefit from regular consumptions of flax seeds by reducing their risk of CVD disease as seen from their lowered LDL-C and Total cholesterol level.

Never fill up your stomach. Give space to metabolize

-Jeeva Vignay, II M.Sc.

# LAUNCHED PRODUCTS OF THE MONTH

## IRON RICH FOODS



DRUMSTICK LEAF KHAKRA

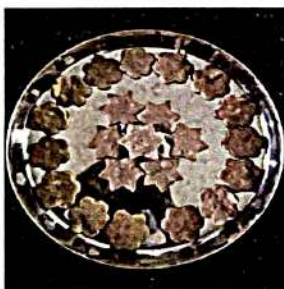
Drumstick leaf khakra (100g)	
Energy (Kcal)	329
Protein (g)	12
Fat (g)	2
Carbohydrate (g)	66



RICE FLAKES LADOO

Rice Flakes Ladoo (100g)	
Energy (Kcal)	375
Protein (g)	5
Fat (g)	0
Carbohydrate (g)	85

## CALCIUM & IRON RICH FOODS



RAGI COOKIES

Ragi cookie (100g)	
Energy (Kcal)	313
Protein (g)	5
Fat (g)	12
Carbohydrate (g)	45



RAGI CHIPS

Ragi Chips (100g)	
Energy (Kcal)	175
Protein (g)	5
Fat (g)	0
Carbohydrate (g)	35



CHANA MASALA

Chana masala (100g)	
Energy (Kcal)	165
Protein (g)	10
Fat (g)	3
Carbohydrate (g)	28

## PROTEIN RICH FOOD



OATS BAR

Oats bar (100g)	
Energy (Kcal)	438
Protein (g)	12
Fat (g)	16
Carbohydrate (g)	62

## Importance of Nutrients

- ◆ Treats Anemia
- ◆ Boosts Hemoglobin
- ◆ Reduces Fatigue
- ◆ Improves Muscle Strength
- ◆ Boosts Immunity
- ◆ Improves Concentration

- ◆ Bone health
- ◆ Muscle contraction
- ◆ Blood clotting
- ◆ Improves Muscle Strength
- ◆ Boosts Immunity
- ◆ Calcium is vital for bone health.

- ◆ Increases muscle mass and strength
- ◆ Boosts metabolism and increases fat burning
- ◆ Lowers your Blood Pressure
- ◆ Helps maintain weight loss

- ◆ Normalizes bowel movements
- ◆ Lowers cholesterol levels
- ◆ Helps control blood sugar levels
- ◆ Helps you live longer.

# DEPARTMENTAL ACTIVITIES

## WORLD BREASTFEEDING WEEK CELEBRATION AT HANDELU ANGANAVADI



### Food formulation of new products









### Diet camp



**ALVAS CENTRE FOR PG STUDIES AND RESEARCH**  
**DEPARTMENT OF FOOD SCIENCE AND NUTRITION**

*Placed in British Biologics*

		
AISHWARAYA V SHANBHAG	AMNA PRAKASH	
		
JOEL P JOSEPH	MONISHA P	
		
PINKY SEBASTIAN	PUSHPAK V	SAAKSHA M





# ALVAS COLLEGE, MOODBIDRI

Departments of Post Graduate in Food Science & Nutrition and Under Graduate in Nutrition & Dietetics



Jointly Organizing

## INTERNATIONAL CONFERENCE

