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## KNOW THE FRUITS BEFORE YOU EAT - A NUTRITIVE REVIEW ON PHALA VARGA

Dr. Mahesh Raju B.\*1 and Sneha P.2

\*<sup>1</sup>Assistant Professor, Department of Swasthavritta & Yoga, Sharada Ayurvedic Medical College, Yadgir, Karnataka, India.

<sup>2</sup>UG Scholar, Sharada Ayurvedic Medical College, Yadgir, Karnataka, India.

\*Corresponding Author: Dr. Mahesh Raju B.

Assistant Professor, Department of Swasthavritta & Yoga, Sharada Ayurvedic Medical College, Yadgir, Karnataka, India.

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#### **ABSTRACT**

Fruits are the integral part of healthy diet since the *Vedic* era. *Ayurveda* mentions fruits under the classification of *Phala Varga*. Explanation regarding *Rasa Panchaka*, *Pathya*, *Apathya* of the fruits has been mentioned in classics. This article gives the correlation of the *Ayurvedic* and modern aspects of the fruits. Every fruit differs from each other because of its different *Rasa Panchaka*, nutritional values etc. It is necessary to know which fruit is indicated in which condition, when to eat which type of fruit. As most of the time non communicable diseases like sthoulya, prameha, cancers are increasing every year, so as a part of improvement in public health it's very important to concentrate on some of the factors like Poor diet, physical inactivity, tobacco and alcohol intake which are the major responsible epidemiological factors in causing some non communicable diseases. In this article it is focused on aspect of supplementary nutrition with fruits along with the regular diet which may be beneficial in fulfilling the lack of vitamins, minerals, fibres etc, if such type of fruits consumed regularly in sufficient quantities also helpful in maintaining their diet in a healthy way as well as helping in preventing various nutritional disorders and also non communicable, life style disorders.

KEYWORDS: Rasa Panchaka, Pathya, Apathya.

### INTRODUCTION

Fruit is a part of a flowering plant that derives from specific tissues of the flower, one or more ovaries, and in some cases accessory tissues. Fruits are the means by which these plants disseminate seeds. Many of them that bear edible fruits, in particular, have propagated with the movements of humans and animals in a symbiotic relationship as a means for seed dispersal and nutrition, respectively. Fruits are nature's wonderful medicines packed with vitamins, minerals, anti-oxidants and many phyto-nutrients (Plant derived micronutrients). They are an absolute feast to our sight, not just because of their color and flavor but their unique nutrition-profile that help the body stay fit and healthy. [2]

Poor diet quality is a leading risk factor associated with death and disability in the United States. [3,4] Eating a diet

rich in fruits and vegetables as part of an overall healthy diet can help protect against a number of serious and costly chronic diseases, including heart disease, type 2 diabetes, some cancers, and obesity. Fruits and vegetables also provide important vitamins and minerals that help the human body work as it should and fight off illness and disease. [5]

As part of a healthy food environment, fruits and vegetables need to be accessible and affordable in the places where children and families spend time. [5,8]

The 2015–2020 Dietary Guidelines for Americans recommends that adults consume 1.5–2 cups of fruits and 2–3 cups of vegetables per day. [5] Despite these recommendations, recent data show low consumption. [6,7]

Table no 1: Shows the fruit and its Rasa Panchakaadi Guna, Dosha Karma, Pathya Apathya.

Fruit and its Synonyms	Rasa	Guna	Virya	Vipaka	Dosha karma	Pathya	Apathya
1. Amalaka <sup>[,9,10,11]</sup> Amla, indian gooseberry, Embilica officinalis	Madura, Amla, Katu, Tikta, Kashaya	Laghu, Ruksha	Sheeta	Madura	Tridosa Shamaka	Raktapitta, Prameh, Daha, Vrshya, Pandu, Timira, Kalithya, Palithya.	-

						Shopha, Shosha, Paktishoola, Mutraaghata	
	Ripe fruit	Ripe fruit	Sheeta	Ripe fruit	Ripe fruit	Ripe fruit	Ripe fruit
2. Amra <sup>[12,13,14,15]</sup> Aam, mango, Mangifera	Madura, Kashaya	Snigdha, Guru		Madura	Vata pitta Shamaka	Vataroga, Vibanda, Krusha, Shukradosha, Trushna, Shrama	Excess intake causes indigestion,
indica	Unripe fruit	Unripe fruit		Unripe fruit	Unripe fruit	Unripe fruit	Unripe fruit
	Amla, kashaya	Ruksha, Laghu		Amla	Vata Kapha Shamaka	Aruchi, Hrdroga, Kantadosha	Bleeding disorders like nasal bleeding, heavy periods, Pitta Vyad
3.Panasa <sup>[16,17,18]</sup> Katahal, jackfruit, Artocarpus Integrifolia	Madura, Kashaya	Guru, Snigdha,	Sheeta	Madura	Vata Pitta Shamaka	Shrama, Daha, Shosha, Ulcers, it is Aphrodisiac.	Gulma, Ajeerna, Mandagni
4. <i>Kadali</i> <sup>[19]</sup> Kela, banana, <i>Musa</i> <i>Paradisica</i>	Madura, Kashaya	Guru, Mridu	Naati sheeta	Madura	Vata Pitta Shamaka	Trushna, Raktapitta, Prameha, Hrdroga, Akshiroga, Jwara	Mandagni, Kasa, Tamaka Swasa
5.Taarboja <sup>[20]</sup> Tarbuja, Watermelon, citrullus lanatus	Madura	Guru	Ushna	Madura	Kapha Vata Shamaka	Daha, Shrmapaha, sexual disfuntion, Mutra Daha,	Prameha, gestational diabetics, low blood pressure
6. <i>Kharbuja</i> <sup>[21,22]</sup> <i>Kharbuj</i> , muskmelon, <i>Cucumis melo</i>	Amla, Madura	Guru, Snigdha	Sheeta	Madura	Pitta Vata Shamaka	Sexual disfuntion, mitigates Pitta Dosha Vyadi, Amadohsa Hara	Amla Madura Raktapitta and Mutra krechra
7.Tala <sup>[23]</sup> Thada, toddy plam, Borassus flabellifer	Madura	Guru, snigdha	Sheeta	Madura	Vata Pitta Shamaka	Raktapitta, Shwasa, Kshaya, Daha, Kshata, Vrana	-
8. Jambu <sup>[24]</sup> Jamun, black plum, Syzygium cumini	Kashaya, Madura, amla	Laghu, ruksha	Sheeta	Katu	Pitta Shamaka	Prameha, Chardi, Atisara, Vrana Ropana, Muka Paka,	-
9.Dadima <sup>[25]</sup> Anaar, pomegranate Punica granatum A-Madura dadima	Madura, Kashaya, amla	Laghu, Snigha	Anushna	Madura	Tridosa shamaka	Daha, Trit, Hridroga, Shukradosha	Vibanda
B-Amla dadima	Amla	Laghu, Ruksha	Ushna	Amla	Vata Kapha Shamaka	Amavata, Aruchi	Vibanda
10. Narikela Nariyal, coconut Cocos nucifera <sup>[26-31]</sup>	Madura	Guru, snigdha	Sheeta	Madura	Vata Pitta Shamaka	Daha, Raktapitta, Mutraroga, Shukra dosha, Jwara, Amlapitta,	Swasa, Kasa

						Daurbalya	
11.Bilva Bael, golden apple Aegle marmalos	Katu, Tikta, Kashaya	Ushna, Laghu	Sheeta	Madura	Kapha Vata Shamaka	Shotha, Shula, Agnimandya, Chardi, Mutrakrichhra, Amavta	Udavarta <sup>[32]</sup> , Arsha, Grahani <sup>[33]</sup> , Rajayakshma
12.Draksha Angoor, grapes Vitis vinifera (sweet grapes)	Madura, Kashaya,	Snigdha, Guru, Mridu	Sheeta	Madura	Vata Pitta Shamaka	Raktapitta, Tiktasya, Kshata, Kshaya, Jwara, Daha, Moha, Vibanda <sup>[32]</sup>	Atisara
Dry Grapes(raisin) <sup>[35]</sup>	Madura	Snigdha	Sheeta			Udavarta, Swarabeda, Daha,, Jwara, Swasa, Mutradosha	Atisara
13.Karjura <sup>[36,37]</sup> Khajur, dates Phoenix dactylifera	Madura, Kashaya	Guru, Snigdha	Sheeta	Madura	Vata Pitta Shamaka	Kshaya, Shwasa, Kasa, Trusna, Jwara, Chardi, Vata Vyadi	Prameha
14.Nimbuka Nimdu, lemon Citrus medica [da.ni] [bha.pra.ni]	Amla	Laghu, Teekshna	Ushna	Amla	Vata Kapha Shamaka[ur] Pitta and Kapha Shamaka[r]	Mandagni, Trushna, Shula, Kasa, Asya Vairasya,	

# Nutritional Composition and Health Benefits Of Various *Phala*

- 1. Amalaki (Indian gooseberry): It is also called as Amla, Indian gooseberry, Embilica Officinalis, with Lavana Varjitha Pancha Rasa, Laghu, Ruksha Guna, Sheeta Virya, Madura Vipaka, Tridosha Shamaka. The key feature of this fruit is, its richness of vitamin C and vitamin A as well. Minerals such as phosphorus, iron and calcium are abundantly found in it. Uses: prevents free radical damages, aids in weight loss, lowers the blood pressure, promotes good vision, enhances skin tone, delays aging process and prevents hair loss and graying of hair.
- **Amra** (Mango)<sup>[38]</sup>: It is also known as Aam, mango, Mangifera Indica. The ripe mango is having Madura Kashaya Rasa, Guru Snigdha Guna, Sheeta Virya, Madura Vipaka and it is Vata Pita Shamaka. The unripe mango is having Amla kashaya Rasa, Ruksha Laghu Guna, Sheeta Virya, Amla Vipaka and it is Vata Kapha Shamaka. Mango is low in calories but high in nutrients specifically Vitamin c (helps boosting immunity, iron absorption). It has a Polyphenol (function as antioxidant) called Magniferin. It's a good source of Folate, Vitamin B, A, C, and E- all of these helps in boosting immunity. It also contains Potassium Magnesium. The nutraceutical significance of mango with special reference to antioxidants and polyphenols is highly considered. Mango is a rich source of antioxidants, which includes mangiferin,
- quercetin, kaempferol, gallic acid, and rhamnetin. Mangiferin is a potential antioxidant found in mango. It possesses iron-chelating property. The functional properties of mango help in curing of degenerative diseases. Uses: improves digestion, maintains health of eyes and skin and hair as well, boots immunity, anti-aging property, aids weight loss, fights oxidative stress, which is linked with colon, lungs, prostate and breast.
- 3. Panasa (jackfruit): It is also known as Katahal, jackfruit, Artocarpus Integrifolia. It has Madura, Kashaya Rasa, Guru, Snigdha Guna, Sheeta Virya, Madura Vipaka and its Vata Pitta Shamaka. It has moderate amount of calories, and rich in fiber, vitamins, minerals and antioxidants. Vitamin C, carotenoids, flavanoids are abundantly found in it. Uses: It promotes better blood sugar control, protect cell from oxidative stress and inflammation. Used in chronic heart diseases, cancer, type 2 diabetes, high blood pressure. Prevents viral infections, delays aging.
- 4. Kadali (banana)<sup>[40-42]</sup>: It is also called as Kela, banana, Musa Paradisiac. It has Madura Kashaya Rasa, Guru Snigdha Guna, Naatisheeta Virya, Madura Vipaka and its Vata Pitta Shamaka. Banana is the good source of Pyridoxine (B6), Pantothenic acid (B5), Choline, Fiber Potassium Magnesium Vitamin C Manganese, rich in potassium and fiber and low in sodium. Banana fruits are rich in iron, hence it can be recommended to women who

- are suffering from anemia. [43] Banana (pulp) contains a large amount of **dopamine** and **norepinephrine** Uses: shown to exhibit antimutagenic and antitumoral activities, This would prevent the spread of bacterial or tumour metastases, used in depression, lowers the blood cholesterol levels
- *Taarboja* (watermelon)<sup>[44-46]</sup>: It is also called as Tarbuja, watermelon, Citrullus Lanatus. It has Madura Rasa, Guru Guna, Ushna Virya, Madura Vipaka. It is Kapha Vata Shamaka, watermelon is a good source of minerals and vitamins. It contains vitamins such as thiamine, riboflavin, niacin, and folate. It contains minerals like potassium, magnesium, calcium, phosphorus, and iron. Watermelon is cholesterol-free, low in sodium, rich in minerals and phytochemicals such as lycopene and  $\beta$ -carotene are also present. Uses: They prevent oxidative changes in the plasma lipoprotein structure, prevent macular degeneration and the development of cataracts, prevent oxidized LDL formation, reduced risk of heart disease. Cardio protective reduced risk of cervical, breast, bladder, and prostrate cancers.
- **6.** *Kharbuja* (Muskmelon)<sup>[47-49]</sup>: It is also known as Kharbuj, muskmelon, Cucumis melo. It consists of Madura, Amla Rasa, Guru, Snigdha Guna, Sheeta Virya, Madura Vipaka. It is Pitta Vata Shamaka. Muskmelon consists of vitamins such as vitamin C, Thiamine, riboflavin, niacin, pantothenate, floate and vitamin A. It has minerals such as Calcium, Iron, Magnesium, Phosphorous, Potassium, Sodium, Zinc, Copper, Manganese, Selenium, Uses: Analgesic & anti-inflammatory action, Antioxidant activity, Free radical scavenging activity, Anti-ulcer activity, Anti-cancer activity. Hepatoprotective activity, Diuretic activity, Antidiabetic activity, Immuno modulator, Anti-microbial activity and anti-fertility activity.
- 7. Tala (Toddy plam): It is also called as Thada, toddy plam, Borassus flabellifer. It has Madura Rasa, Guru Snigdha Guna, Sheeta Virya, Madura Vipaka, and its Vata Pitta Shamaka, Toddy palm has many minerals and vitamins. It consists of vitamin B and vitamin C abundantly; it also consists of iron, zinc, potassium, calcium, phosphorus, thiamine and riboflavin. Uses: Constipation, hyperacidity, stomach ulcers, skin related problems like rashes, itching etc, dehydration, hair loss, dry skin, kidney failure, aids weight loss, migraine, prevents the onset of diabetes, nausea amd lowers the rick of heart disease and cancer.
- 8. Jaambu<sup>[50]</sup>: It is also known as Jamun, black plum, Syzygium cumini. It has Kashaya, Madura, Amla Rasa, Laghu Ruksha Guna, Sheetha Virya, Katu Vipaka and it is Pitta Shamaka, Black plums contain

- a significant amount of vitamins and small amounts of proteins as well. They contain a moderate amount of calories, but there is a minimal amount of fat and negligible amount of cholesterol. The Fruit Contain calcium, magnesium, phosphorus, iron, sodium, potassium, copper, sulfur, vitamin A, thiamine riboflavin niacin, ascorbic acid, chlorine, Uses: Digestive disorders such as diarrhea, dysentery and dyspepsia, piles and hemorrhoid, cough and asthma, enhances immune system, spleenomegaly and female sterility.
- 9. Dadima<sup>[51-53]</sup>: It is also known as anaar, pomegranate, Punica granatum. Madura Dadima is having Madura Kashaya Amla Rasa, Laghu Snigdha Guna, Anushna Virya, Madura Vipaka and it is Tridosha Shamaka, Amla Dadima is having Amla Rasa, Laghu Ruksha Guna, Ushna Virya, Amla Vipaka and its Vata Kapha Shamaka. Pomegranate is rich in source like calcium, iron, magnesium, phosphorus, potassium, sodium, zinc and it contains vitamins like Vitamin C, Thiamin, Riboflavin, Niacin, Vitamin B-6, Folate. Uses: Cancer, cardiovascular disorders, diabetes, male infertility, Alzheimer's diseas, aging, and AIDS. It also exhibits few properties like antioxidant, anticarcinogenic, and anti-inflammatory properties.
- **10.** Narikela (Coconut)<sup>[54-56]</sup>: It is also called as Nariyal, coconut, Cocos nucifera. It has Madura Rasa, Guru Snigdha Guna, Sheeta Virya, Madura Vipaka, it is Vata Pitta Shamaka, Coconut water contains vitamin B, nicotinic acid B, pantothenic acid B5,riboflavin B2 folic acid, trace amount of thiamine B1 and pyridoxine B6. It also contains sugars, sugar alcohols, vitamin C, folic acid, free amino acids, phytohormones (auxin, 1, 3diphenylurea, cytokinin), and growth promoting meat(kernel) Manganese, factors. Coconut Selenium, Copper, Phosphorus, Potassium, Iron, Zinc Coconut meat is rich in several important minerals, especially **Manganese** and **Copper**. It is especially having high fat content Uses: Coconut water helps balance sodium levels in the body and regulate blood pressure. It a rich drink with lot of nutrient in it. It regulates blood pressure, cholesterol levels. It's a very good enery booster and it increases the metabolism. Other conditions that it has been found to be effective at treating include stomach flu, dysentery, indigestion, constipation, intestinal worms, cholera, urinary abnormalities, urethral stone, malfunctioning kidneys, dry and itchy skin, age spots, and wrinkles. The coconut meat is Rich in healthy fats, which help to balance blood sugar levels, reduce inflammation, fuel the nervous system and provide us with energy. Its medium-chain fats are easy for us to digest and use.
- **11.** *Bilva* (**golden apple**)<sup>[56]</sup>: It is also known as *Bael*, golden apple, *Aegle Marmalos*.it has *Katu Tikta*

Kashaya Rassa, Ushna Laghu Guna, Sheeta virya, Madura Vipaka. It is Kapha vata shamaka. The Bael fruit is highly nutritious. It contains water, protein, fat, minerals, carbohydrates, carotene, thiamine, riboflavin, niacin, and vitamin C. Also high content of riboflavin is seen in ripe fruit. Marmelosin (C13H12O3) a resinous substance is also seen in it. Uses: The different parts of Bael are used for various therapeutic purposes, such as for Asthma, Anaemia, Fractures, Healing of Wounds, Swollen Joints, High Blood Pressure, Jaundice, Diarrhoea Healthy Mind and Brain Typhoid Troubles during Pregnancy.

- 12. Draksha (Grapes)<sup>[57]</sup>: It is also called as Angoor, grapes, Vitis Vinifera. It has Madura Kashaya Rasa, Snigdha Guru Guna, Sheeta Virya, Madura Vipaka. It is Vata Pitta Shamaka. Grapes is a excellent source of flavonoids and carotenoids. It is also rich source of vitamin K, copper, and vitamin B2, vitamin C, manganese. Uses: Prevents inflammation, lowers the risk of atherosclerosis and heart disease, regulates blood pressure, it has anti aging property hence promotes longevity, prevents food-borne illness and it also has anti cancerous activity.
- 13. Karjura (Dates)<sup>[58-60]</sup>: It is also called as Khajur, dates, Phoenix dactylifera. It is having Madura Kashaya Rasa, Guru Snigdha Guna, Sheeta Virya, Madura Vipaka and it is Vata Pita Shamaka. Karjura is a rich source of Phenolic antioxidants. The fruits which are soft are consisting of invert sugars ie; fructose and glucose and there is negligible amount of sucrose, but the dry ones is consisting of high amount of sucrose. The ripe fruits mostly contain sugar and little amounts of protein, fiber, and trace elements including boron, cobalt, copper, fluorine, magnesium, manganese, selenium, and zinc. Uses: intestinal disorders, fever,

- bronchitis, and wound healing. antibacterial and anti-inflammatory activity, helps to build muscle and proteins in the body.
- 14. Nimbuka<sup>[61]</sup>: It is also known as Nimbu, lemon, Citrus medica. It has Amla Rasa, Laghu Teekshna Guna, Ushna Virya, Amla Vipaka and unripe fruit is Vata Kapha Shamaka but ripen fruit is Pitta Kapha Shamaka. Lemons are rich in vitamin C, folate, potassium, folic acid, flavonoids, and a special compound called limonins. Also contains citric acid in it, Uses: Helps protect leukocytes, stimulates the production of white blood cells and boots immunity, protects cardiovascular health, benefical in kidney stones, used to treat breast cancer, decrease the risk of cancer. Indicated during pregnancy
- 15. *Kiwi*<sup>[62-63]</sup>: It is a fruit with dense nutrients. It is a very rich source of **vitamin C**, and evn rich in nutrients like **potassium**, **vitamin E**, **folate**. It has a wide range of antioxidants and enzymes that provide functional and metabolic benefits. It has a unique proteolytic enzyme called **actinidine**. **Uses:** Prevent systemic infection, increase iron absorption, reduces the severity and duration of upper respiratory infection symptoms. It is used in gastrointestinal problems like gastric reflux, stomach ache, delayed gastric emptying, nausea and vomiting, constipation, indigestion, bloating and diarrhea.
- **16.** *Papaya*<sup>[64]</sup> (Carica papaya) is well known for its nutraceutical values and it is used in traditional medicine system. All the parts of the tree are used in treating one or more diseases. Latex papaya tree is used to relieve dyspepsia, ripe fruits are used in treating chronic diarrhea, unripen fruits are diuretic in nature. Papaya seed juices are used in treatment of bleeding piles and enlarged liver, and young leaf paste is used to treat jaundice.

Table no 2: Shows the fruit and Doshagnatha, Ritu, Nutritive composition

Fruits	Vata	Pitta	Kapha	Rutu	Nutritive composition
1. Amalaki	Shamaka	Shamaka	Shamaka	Varsha	Vitamin C, vitamin A, phosphorus, iron, calcium.
2. Amra	Ripe fruit Shamaka	Ripe fruit Ripe fruit Shamaka Vardaka		Grishma	Ripe fruit Vitamin C, folate, vitamin B, vitamin A, vitamin E,
	Unripe fruit Shamaka	Unripe fruit vardaka	Unripe fruit shamaka		potassium, magnesium.
3. Panasa	Shamaka	Shamaka	Vardaka	Sishir, sharad varsha	Vitamin C, flavinoids, carotenoids
4. Kadali	Shamaka	Shamaka	Vardaka	Sishir/hemantha Varsha	Vitamin B6, vitamin B5, potassium, magnesium, manganese
5. Taarboja	shamaka	Vardaka	Shamaka	Vasanta	Thiamine, riboflavin, niacin, folate, magnesium, calcium, iron, phosphorus

6. Kharbuja	Shamaka	Shamaka	Vardaka	Sishir/hemantha Varsha	Thiamine, vitamin C, riboflavin, sodium, zinc, selenium, copper, manganese, phosphorus
7. Tala	Shamaka	Shamaka	Varkada	Sishir/hemantha Varsha	
8. Jambu	Vardaka	Shamaka	Vardaka	Sharad	calcium, magnesium, phosphorus, iron, sodium, potassium, copper, sulfur, vitamin A, thiamine riboflavin niacin, ascorbic acid, chlorine
9. A- Madura Dadima	Shamaka	Shamaka	Shamaka	Vasanta/ varsha	iron, calcium, magnesium, phosphorus, vitamin c, thiamine, vitamin B6, niacin, folate
Amla dadima	Shamaka	Vardaka	Shamaka	Vasanta	iron, calcium, magnesium, phosphorus, vitamin c, thiamine, vitamin B6, niacin, folate
10. Narikela	Shamaka	Shamaka	Vardaka	Sishir, sharad varsha	Coconut water vitamin B, nicotinic acid B, pantothenic acid B5,riboflavin B2 folic acid, coconut meat Manganese, Selenium, Copper,Phosphorus, Potassium, Iron, Zinc, manganese and copper
11. Bilva	Shamaka	Vardaka	Shamaka	Vasanta	carotene, thiamine, riboflavin, niacin, and vitamin C, marmelosin
12. Madura draksha	Shamaka	Shamaka	Vardaka	Varsha,Sharad	vitamin K, copper, and vitamin B2, vitamin C, manganese
13. Karjura	Shamaka	Shamaka	Vardaka	Varsha,Sharad	Boron, cobalt, copper, fluorine, magnesium, manganese, selenium, and zinc.
14. Nimbuka	Ripe fruit vardaka Unripe fruit shamaka	Ripe fruit Shamaka Unripe fruit Vardaka	Ripe fruit Shamaka Unripe fruit Shamaka	- Hemanta/ Shishira	vitamin C, folate, potassium,folic acid, flavonoids,
15. Kiwi	shamaka	Vardaka	shamaka	Vasantha,Varsha	Vitamin C, potassium, vitamin E, folate, Carotenoids

## CONCLUSION

In order to conclude that people who eat fruits as a part of an overall healthy diet generally have reduced risk of chronic diseases, the nutrients present in fruits are vital for the health and maintenance of the body, fruits also helps in maintaining the optimum health due to the presence of health promoting phyto chemicals in it, hence one should have a habit of regular consumption of fruits in an appropriate quantities after knowing its nutritive value, indications and its importance.

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