

DRAGON FRUIT: A FRUIT FOR HEALTH BENEFITS AND NUTRITIONAL SECURITY

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ABSTRACT

*Dragon fruit (*Hylocerus undatus* (Haw.) is a perennial, climbing vine belongs to cactaceae family. Its flower is most beautiful in the cactaceae family with bright red skin stubbed with green scales and white or red flesh with tiny black seeds distributed across the flesh of the dragon fruit are edible and nutritious. It is a Fast Growing vine, a crop that once planted, it will grow for about 20 years, and 1 hectare could accommodate about 800 dragon fruit plants. Moreover, it fetches high and fast return to production in the second year after planting, and full production when it attains the age of five. Time to time periodical climate change causes serious stress on the total available resources underneath earth especially water. As a result rate of rainfall become very irratic leads to dryness of soil and weather. Therefore, become a favorable growing conditiosn for its cultivation. It adores that region, which has a dry spell of weather with supplementary irrigation for cultivation. So, there is a wide prospect of its cultivation in India due to the favorable climate and to overcome nutritional security. Dragon fruit is a potential food source for the present and future, besides having great potential for medicine and industrial production. Therefore, the farmer can gain benefits immensely if its cultivation practice is initiated on a large scale apart from the existing farming system and it can explore a wide spread of fruit industry.*

Keywords :Dragon Fruit, Nutrient Value, Health Benefit & Nutritional Security

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INTRODUCTION

Dragon fruit (*Hylocerus undatus* (Haw.) is a perennial, climbing vine attained its popularity for due to its ornamental purpose then as fruit crops across worldwide. Dragon fruit belongs to cactaceae family. Its flower is most beautiful in the cactaceae family with bright red skin stubbed with green scales and white or red flesh with tiny black seeds distributed across the flesh of the dragon fruit are edible and nutritious(Mizrahi *et al.*,1997). Owing to its beautiful flower, it is nicknamed as “Queen of the night” or “Noblewoman”. Fruit contains juicy flesh which is very delicious in taste. Due to its importance, distribution, and popularity, this fruit are known by a variety of vernacular names among different country like Pithaya, Strawberry pear etc. Its center of origin is Central Americas from there it is widely spread to all over the world especially in the tropical countries. It is a Fast Growing vine, vigorous in nature so requires support for well established. It is a well established new crop in China, Malaysia, Taiwan, Australia, Vietnam due to its least care requirement for its cultivation and minimal attack of pest and diseases. The biggest achievement of this crop is that once planted, it will grow for about 20 years, and 1 hectare could accommodate about 800 dragon fruit plants. Moreover, it fetches high and fast return to production in the second year after planting, and full production when it attains the age of five. Numbers of farmers are very scarce in the States of Bihar, West Bengal, Maharashtra, Gujarat, Andhra Pradesh, Karnataka and Tamil Nadu who have taken a forward step for its cultivation. The total area of Dragon fruit cultivation is less than 100 acres across the country. The awareness and demand for this fruit are huge in

India mainly for its taste, nutritional and medicinal properties. India imports 95% of its requirement from Thailand, Malaysia, Vietnam and Sri Lanka. Time to time periodical climate change causes serious stress on the total available resources underneath earth especially water. As a result rate of rainfall become very erratic leads to dryness of soil and weather. Therefore, become a favorable growing conditions for its cultivation. It adores that region, which having a dry spell of weather with supplementary irrigation for cultivation. So, there is a wide prospect of its cultivation in India due to the favorable climate and to overcome nutritional security.

Nutritional Value and Health Benefits

Dragon fruit offers the very least amount of calories but full of several health benefits when consumed in moderate amount. It has been estimated that 100-gram of white-fleshed dragon fruit gives an average 21 milligrams of vitamin C, which is equivalent to 34% of the daily value (DV) (Yen,2002). A vision from comparative studies explains that this is less than half the amount of vitamin C found in an equal amount of oranges, but more than three times the amount of vitamin C found in carrots. It is best known that Vitamin C is helpful in strengthening the immune system, besides offering other several health benefits. Vitamin C, raise the body's natural ability to get away from toxins and other heavy metals and instead of it helps in building the healing capacity of a body's cells, and enhances the capability to an adverse condition. Vitamin C is a potent antioxidant, which keeps rid away aging process in body cell and provides good health and beautiful skin. Moreover, dragon fruit might be used as a natural remedy for constipation. A seed of this fruit having strong laxative properties and so, facilitates proper bowel movement. Information about a nutritional value of red-skinned and white-fleshed dragon fruit (*Hylocereus undatus*) has been provided per 100 grams in table 1 below. Nutritional value for red-skinned, red-fleshed pitahaya (*Hylocereus polyrhizus* or pitahaya roja) or yellow-skinned dragon fruit variety (*Selenicereus megalanthus* or pitahaya amarilla) is somewhat different from below one but all are very nutritious. 1



Figure

Table 1

Nutrient	Amount Per 100 g	% Daily Value	Comment
Water	87 g	NA	Very high water content
Protein	1.1 g	2.1 %	
Fat	0.4 g	NA	Contains practically no fat
Carbohydrates	11.0 g	3.4 %	
Fiber	3 g	12 %	Very good source of dietary fiber
Vitamin B1 (Thiamine)	0.04 mg	2.7 %	
Vitamin B2 (Riboflavin)	0.05 mg	2.9 %	
Vitamin B3 (Niacin)	0.16 mg	0.8 %	
Vitamin C (Ascorbic Acid)	20.5 mg	34.2 %	Contains more than 3 times the amount of vitamin C found in carrots
Calcium (Ca)	8.5 mg	0.9 %	
Iron (Fe)	1.9 mg	10.6 %	A good source of iron
Phosphorus (P)	22.5 mg	2.3 %	
Zinc (Zn)	NA	NA	



Figure

Health Benefits of Dragon Fruit

Lowers Cholesterol

Dragon fruit is constituted with very low amount of cholesterol, saturated and trans fats (Latif *et al.*,2012). Therefore, procurement of this fruit refreshes and maintains the health of heart for the long period. It also reduces body weight. Apart from this, its seeds contain omega 3, omega 6 fatty acids and polyunsaturated fats which are beneficial for healthy life. Moreover, it is saturated with antioxidant, which has its own benefits and reducing cholesterol. So, it provides a good choice for preventing a bad effect of LDL cholesterol.

Boost Immunity

Dragon fruit provides a good amount of Vitamin C, flavonoids and higher content of antioxidants, which eliminates free radicals and leads to developing the strong immune system. According Hor *et al.*,2012. It contains several vitamins like B, C, and minerals like phosphorus, calcium, iron which strengthen the immune system. The content from previous studies noticed that an extract of the flesh and peel of red and white dragon fruit offers protein and polyphenol which have anticancer properties and makes it as a valuable ingredient in cosmetics, pharmaceutical, foods and nutraceutical properties due to its immune boosting properties. Moreover, It regenerates and increases the number of white blood cells in the body that defends the body from toxins and also inhibits a growth of harmful bacterial and fungal infections in organ systems. Therefore, consumption of this fruit raises wound healing process and enhances immunity power.

Digestion and Diabetes

It is well knowing that fiber acts as probiotics that promotes digestion and gut health and so the most important component of our good digestion which consequently leads to as a whole good health. It assists with the movement of bowels and prevents constipation. Dragon fruit contains fibers and oligosaccharides which support digestion and additionally help to prevent obesity, hypersensitivity, vascular disease and degenerative ailments. Moreover, fibers help in normalizing blood sugar level. It has been found from various studies that the consumption of this high glycemic index fruit lowers the chances of diabetes and diabetes symptoms because it prevents the formation of spikes of sugar.

Healthy Heart

The study shows that dragon fruit contains a great source of monounsaturated fats and its tiny seeds as a source of omega-6 and omega-3 fatty acids lowers down the triglycerides level and also transform bad cholesterol by promoting good cholesterol and hence, lowering the risk of cardiovascular problems..

Prevents Cancer

Dragon fruit is enriched with its red color which is a good source of pigment lycopene as in tomato and

watermelon. Results obtained from studies show that it might contain chemopreventive effects for liver, lung, breast, prostate and skin cancer. Another study shows that lycopene significantly reduces cancerous cells in the body. Moreover, it has been collected from various studies that vitamin c, phytoalbumin and minerals act as a catalyst for the functioning of antioxidant activities and so, it prevents from cancer. (Stintzing *et al.*,2003)

Boost Metabolism

It is well knowing that proteins act as a building block of the body cell so, maintains the healthy functioning of the body. Protein is abundantly found in dragon fruit. Firstly, protein is degraded and metabolized by enzymes and converted into simple proteins that speeds up repairing of body cells, enhances metabolism, strength and accelerate to lose weight and encourages body muscle.

Cosmetic Use

Dragon fruit is integrated with several skin youthful elements like vitamins ,c and minerals like phosphorus, which has several beneficial functions in our body. As it is found in every cell, it potentially repairs the tissue and cells which are indispensable for the youthfulness of skin, slow down a premature aging process and prevents from aging. Moreover, it is also helpful in treating age- related acne problems. Therefore, it is emerging raw material in a cosmetic industry.

CONCLUSIONS AND FUTURE RESEARCH

Dragon fruit is a potential food source for the present and future, besides having great potential for medicine and industrial production. It is suitable for cultivation in the region having a dry spell of weather with supplementary irrigation. Therefore, the farmer can gain benefits immensely if its cultivation practice is initiated on a large scale apart from the existing farming system and it can explore a wide spread of fruit industry.

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