

Dragon Fruit: Fruit for Future Nepal

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Dragon fruit is a climbing vine type of Cactus species indigenous to Americas [1]. It is commonly nicknamed as "Noble woman" and it was believed that by eating it one became empowered with same strength of a dragon. Dragon fruit belongs to Genus *Hylocereus* [2]. Dragon fruit is called as the most beautiful in cactus and others names of it are Pitahaya, strawberry pear, papi pua. Pitahaya is cultivated and well established in Southeast asia (Vietnam, Taiwan, China, Israel, Malaysia), Australia, Florida and others tropical and subtropical regions of world [3].

Nomenclature

Kingdom: Plantae
Division: <i>Magnoliophyta</i>
Class: <i>Magnoliopsida</i>
Order: <i>Caryophyllales</i>
Family: <i>Cactaceae</i>
Genus: <i>Hylocereus</i>
Species: <i>undatus</i>

Table 1

Sources: [4].

Importance

Dragon fruit rich in antioxidants [5], contain phytonutrient [6], 12 different minerals and vitamin (vit C as equivalent to 10% of daily value and several B vit). An antioxidant property prevents oxidation of cholesterol. Due to antioxidants properties people often called dragon fruit as a "super-fruit". It contains minerals like Iron, phosphorus makes healthy blood and tissue, Ca present in it makes strong bone and teeth [7]. Lycopene which is responsible for red colour has been linked with a lower prostate cancer risk [8]. Similarly, it provides Essential fatty acid. It was found that seeds of dragon fruit are best for providing omega-3 and omega-6 fatty acid [9] that reduces cardiac stress [10]. Not only in human health, it is widely used in restaurant as fruit salads [11], best eaten chilled or blended into refreshing drinks also. Jams, Ice creams, Jelly, fruit juice, wine etc are dragon fruit-eating products.

Nutrients

United states Department of Agriculture provided data in label form as manufactures are responsible and calculated values per 100 g from values per serving.

Nutritional value per 100 g	
Energy	268 kcal
Carbohydrates	82.14%
Protein	3.57%
Vitamin c	9.2 mg
Calcium	107 mg
Sodium	39 mg

Table 2

Source: [12]

History in Nepal

For the first time in Nepal Veterinary Doctor Mr. Jagannath Rai brought dragon fruit from USA through his friend in 2057 B.S. for the decade it is just in information. Gorkha Millenium multipurpose cooperatives ltd formally started cultivation of dragon fruit in commercial from 2070 B.S (2013 A.D) [13]. Nowadays, commercial cultivation of it going in jhapa and dhankuta district of Nepal but just for trial.

Scope in Nepal

Dragon fruit is famous in Vietnam, Thailand, Israel and Srilanka. In Nepal commercial cultivation is just in starting phase. Present market price of this fruit in Nepal is Rs 800 to 1000 per kg (7.16 \$ to 8.95) Which is 3-4 times price than other horticultural crop. This fruit can cultivate in region of less rainfall at altitude of 1500 from MASL. There are availability of thousand of fallow and marginal land in Terai, Bhitri madhes, valley and lower range of mountain which are suitable for cultivation. The chemical fertilizer demand of Dragon fruit is less. Nepalese farmers are unable to effort chemical fertilizer in higher altitude. So, we could grow organically using our local manures like FYM, Compost, vermicompost which results

into economical and eco-friendly production. Moreover, Organic dragon fruit can considerably raise price received for it [14]. In spite of having various benefits and advantage still as underutilized crops and considered as fruit for future [15]. Dragon fruit add value of agro-tourism. Dragon fruit has great importance in Nepal as it is beneficial for Small landholder marginal farmers and to improve livelihood of them [16]. It may become the good foreign currency earning ways in future. So, dragon fruit is fruit for future Nepal.

Challenges

For cultivation, initial investment is higher as compare to others crop. Normal Nepalese farmers are unable to invest huge money because agriculture itself a risk business. So, government must provide subsidy, training, related various extension works through NARC, INGOs, NGOs for better result.

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