Acta Scientific AGRICULTURE (ISSN: 2581-365X)

Volume 7 Issue 8 August 2023

Clinical Review

Use of Sitaphal or Sharifa in Human Life in Modern Times

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DOI: 10.31080/ASAG.2023.07.1289

Received: September 01, 2022

Published: July 26, 2023

Sharifa is one of the delicious fruits of nature. Vitamin C is found in abundance in custard apple which boosts the body's immune system as well as helps in combating various diseases. In custard apple, potassium, magnesium, vitamin A, calcium, copper, fiber and phosphorus are found in abundance.

- Vitamin C: antioxidant is found in custard apple, which is used in the prevention of free radicals and protects against many diseases.
- Vitamin A: Vitamin A is found in this which is helpful in keeping your skin and hair healthy. This vitamin is also helpful in increasing eyesight.
- Potassium: The potassium in this sweet fruit energizes you, removes lethargy and strengthens the muscles.
- Magnesium: Magnesium helps in maintaining the water balance in the body and is good for arthritis pain.
- Copper: It helps in reducing constipation.
- Fiber: It is found in abundance which improves digestion and removes constipation.

  Sharifa is full of nutritional elements. To keep you healthy, it contains a variety of organic substances such as protein, fat, carbohydrate, fiber, carotene, thiamin, riboflavin, niacin, ascorbic acid and nicotinic acid.

Medicinal properties of Sharifa has many medicinal benefits and helps in protecting against many diseases and disorders.

- The upper part of custard apple is beneficial for the treatment of boils and ulcers.
- The dry powder of this fruit is used to cure diarrhea and dysentery.
- By eating it, it provides relief from cough and cold.
- Tannin is found in its bark which is used for herbal medicine.
- The bark of the tree is also helpful in the treatment of toothache.
- This sweet fruit is very good for diseases like heart, skin, and bone and keeps your blood pressure normal.
- The fruit is helpful in curing ulcers, problems related to gum.
- The leaves of custard apple are especially useful in diabetes and Cancer.

Land and Climate

The plant of custard apple is more tolerant (hardy), so there is no special climate requirement for the plant. Dry and hot climate is considered good for good production because the amount of sweetness increases in fruits due to hot and dry climate at the time of ripening of fruits. Due to excessive cold and frost, its fruits become hard, and they are not able to ripen. Flowers begin to appear in the rainy season (June-July) and fruits begin to ripen from September to November. At the time of flowering, the time temperature should not be more than 40 degrees, because when the temperature is more than 40 degrees Celsius, the flowers start drying and falling. An average annual rainfall of 50-75 cm is considered appropriate for the cultivation of Sitaphal. It has often been seen that when the temperature remains 11 celsius or less for more than 15 days then the sitphal plant is badly affected, so the cold and low temperature is not considered suitable for the cultivation of Sitaphal.

Land and land preparation

In general, because the plant of Sitaphal is very tolerant, it can be cultivated in all types of soil like sandy, loamy, smooth, red and stony rocky land. But loamy soil is considered best for taking full production of molasses from Sitaphal. The pH of the soil should be between 5.5-7.5. Often the cultivation of Sitaphal can be done successfully in normal to alkaline soil. The Sitaphal plant is very sensitive to stagnation of water, so before cultivating it, it should be ensured that the drainage facility is adequate in the field. It has often been seen that Cherimoya plant gives better fruit at low temperature. While excess heat is harmful to the reticulata, shade is not considered good for the custard plant. For land preparation, the field should be plowed 1-2 times with an earth-turning plow to make the soil friable and weed free.

Figure 1: Red Sitaphal.

Custard Apple

Varieties of custard apple are classified on the basis of location, fruit size, colour, seed quantity. There is still a lack of authentic varieties of custard apple, mainly due to seed propagation. But some varieties have been selected on the basis of fruit and quality.

AKP-CA-1

This variety has been developed by clonal selection from TNAU, Tirunelveli center. It gives good yield in dry areas. Its yield can be obtained 14 -16 kg / tree. Its fruit weight is 180-207 grams and T.S.S. 24.50-27.38 up to obrix. This variety is generally suitable for dry areas as well as black and clay soils.

Figure 2: AKP-CA-1.

Arka Sahan

Figure 3

This is developed from IIHR of Bangalore. It is a hybrid variety Arka Sahan is not completely Sitaphal. Rather, a new fruit prepared by mixing two species is made up of 75 percent Sitaphal and 25 percent cherimoya. With good yield, it gives very sweet, fragrant, fruits. Storage capacity (>7 days) of this hybrid variety is also better than other varieties has been found It has very few seeds that do not stick to the anus of the fruit. Its more durable and slow ripening nature makes it suitable for long distance transport and export. 250 percent larger than the traditional custard. It is highly suitable for cultivation in hot dry areas. In Central Arid Horticulture Centre, Vejalpur, the average fruit weight is 210.7 g, pulp is white in color and smooth green surface. In this variety, 9 seeds / 100 grams of fruit are found in weight. Large sized flakes are found in this variety, which are mostly seedless. It has TSS 30.8 degree brix and acidity up to 0.6% with this production up to 16.8 kg per tree has been found. It requires hand pollination. Fruit set can be increased by hand pollination with Annona squamosa pollen. Hand pollination with Squamosa showed an 83% increase in fruit set.

Balanagar

Figure 4

This variety has been developed from Fruit Research Station, Sangareddy, Andhra Pradesh. It is a suitable variety for the plentiful region of India. Its fruits are light green in colour. The weight of fruits of the variety has been found at Central Arid Horticulture Centre, Vejalpur as 157-200 g/fruit and the seed/fruit can be up to 44-64g/fruit. Seed weight/fruit varies from 5.7 - 6.5g/fruit. The pulp percentage in its fruits is up to 44.9-54.56% and T.S.S. 24.8-28.45-degree brix is found.

Red Sitaphal

This is a local selection. This variety bears pink colored fruits while its pulp is white in colour. Fruit set (3.97) is less in this and up to 20-24 fruits are found in one tree. Its fruits weigh up to 119-156 grams and 40-50 seeds have been found in one fruit. Seed weight 5.2g/fruit, Pulp percentage 30.5%, T.S.S. (Sweetness) has been found up to 12.36-14.35 degrees Brix.

Thar Amrit

Figure 5

Thar Amrit, a new vareity identify originated from CHES, Vejalpur, Gujarat, is a local selection. In this, the average number of flowers/shoots has been found up to 221.13 and fruit set can be up to 16.34%. In this, an average of 38 quality fruits have been found from 3 years plant with 264-312.25 grams of one fruit weight. In this, an average of 42-48 seeds in fruit and the weight of seeds was 9.2 grams/fruit. The pulp percentage in the fruit is 49.5-52.32% and

Figure 6

T.S.S. up to 29.8. Production can be obtained from one plant up to 13.24-15.26. It is suitable for generally dry areas with black and clay soils.

Iceland gem

Figure 7: Iceland gem.

This is an exotic variety. On an average, 6.28% fruit set has been found and fruit weight is observed to be 175-205 grams. Seeds/fruits can be up to 30.38. It has a pulp percentage of 45.23-51.7% and T.S.S. 26.23 degree brix is found. 4.36-7.56 kg/plant production can be taken from this variety.

Annona-2

Developed by a farmer in the Solapur district of Maharashtra, it is known for its high weight, late maturity (5-7 months), good quality and long shelf life. In this variety, 20-25 seeds are found per fruit and the pulp percentage has been seen more than 70. This variety is more sweet (TSS 28-30%) as well as soft pulp, the pulp can be easily eaten with a spoon. The pulp can be easily separated from the seed, which reduces discomfort during eating, which is not usually the case with other varieties. The leaf size of Enno-2 is greater than that of other varieties. The average size of the leaves is 7-9 inches long which can go up to 12 to 13 inches. In this variety, even after maturity, the fruits remain in good condition on the plants for at least 20-25 days. The productivity of the existing varieties with conventional cultivation is around 10 to 12 t/ha.

Figure 8: Annona-2.

NMK 1

Figure 9: NMK 1.

It is very attractive in the color, size and production of which fruits. Similar size (75-80%) fruits can be produced from this variety, which is very suitable for export. Fruits can be kept well for 4-5 days after harvesting. The transport loss in NMK-1 is very low. Hence, the harvest time can be adjusted as per the market demand and facilities. NMK as per the convenience of the market. 1 can be harvested 2-3 times within 20-25 days. Whereas the productivity of NMK1 is around 13-17 t/ha with 70-80% grade-1 fruit. The market rate of these good quality fruits is 120-150% higher.

Planting and pit preparation

According to the fertility of the soil, pits of 50x50x50 cm are dug 2-3 months ago for loamy and loamy soils and 1x1x1 meter size pits for smooth, stony and gravelly soils in the month of April-May at a distance of 5x5m. Leave the pit and the soil out of it open for a month, after that 10-15 kg of cooked or decomposed cow dung and 200-250 grams of super phosphate and 50-80 grams of muriate of potas mixed in the extruded soil according to the soil's fertility. Fills it up well. For the protection of termites, 100 grams of linden or 400-600 neem cakes should be mixed per pit. At the time of digging the pit, the soil up to a depth of 25 cm should be put on one side and the soil of the lower 25 cm depth should be put on the other side and while filling, the top soil should be filled with the bottom and the bottom soil mixed with manure. If we want to cultivate Sitaphal in smooth and stony soil, then red soil and sand should also be mixed with cow dung manure as required in the pit, so that the porosity remains in the pit and the growth of the plants is also rapid.

Figure 10: Pit preparation.

Planting seedlings

Generally it is considered good to plant sitaphal plants at a distance of 5x5 meters. In order to get more production in Sitaphal, a distance of 2.5 x 5 meters has also proved to be very useful under intensive farming. Planting of Sitaphal is generally considered best in the rainy season. In areas where water is available in sufficient quantity in summer, it has been considered appropriate to plant its plants in spring, because the active growing time of Sitaphal also comes in spring. Due to which the growth and development of plants is also accelerated. Plants should be irrigated immediately after transplanting.

Planting stage

Biju Plants: It has often been seen that even today an abundance of farmers plant only Biju plants of Sitaphal, the main reason for which is that the Biju plants of Sitaphal start fruiting only after two years. Generally 7-8 months old Biju plant becomes fully suitable for planting. In dry areas, one year old Biju plant should be brought for planting, because the plants of longer days have more ability to fight drought and the plants die less after planting.

Pen plants

Generally, only 8-9 months old Biju plants are suitable for grafting and are also considered good, as a result of which we are able to graft in sitaphal in March-April. The grafted plants need 3-4 months for the graft knot to develop properly. Therefore, grafted plants are considered suitable for planting only when they are one year old.

Figure 11

Figure 12

Figure 13

Planting and care

While transplanting the plants and after, we should keep in mind various things:

Plants should be taken from the nusery to the planting site very carefully so that the chances of damage to the plants are very less.

- Keep a plant near each pit.
- The straw or grass outside the soil mass should be removed. If the saplings (biju or cuttings) are planted in polythene, then at the time of planting, cheer the polythene from top to bottom. After this, plant the plants at the proper place after coming out of the bag along with the body.
- Plants should be placed in the middle of the pit half filled, after that put soil all around and press it well.
- It is considered good to plant saplings in the evening.
- Plants should be planted normally only in July-August, if there is good water facility then plants can be planted in February-March with proper care.
- After planting new plants, wood should be supported so that it does not bend or twist due to strong wind. The soil around the planted plants should be loosened from time to time.
- The branches coming out of the plant base should be removed from time to time.
- If the planted plants are being damaged by termites, then take 50 ml chloropyrifos medicine and dissolve it in 15 liters of water. Now pour this solution by making a small hole in the soil near the root of each plant and pour 250 ml/plant late. After pouring the solution cover the hole with soil. So that the solution does not evaporate and the termite control is also completely done.

Flower, Fruit and Fruit Formation

Varieties and species of Annona vary greatly in color, size, and shape of flowers as well as flowering time, resulting in varying timing of fruit appearance and development. Flowers in Sitaphal species from March to July and fruits in July to August. And the time of 4 months is almost suitable for fruit development, while in Cherimoya flowers keep coming from May to June and July to September. It takes 6 months for the development of fruits. On the other hand, in the bullock heart from August to October the flowering and fruit development takes place.

Nutrient utilization at fruiting stage

In horticulture, initially there was ignorance among the people about the nutrition in trees. The use of organic fertilizers started from about the 19th century. The researchers related to this, during various researches, 50-60 kg cow dung and 2-3 kg cakes have been found suitable for 10 years old plant in different fruit trees.

Nutrient use methos

At the time of using nutrients, keep in mind that manure and fertilizers should not be given near the stem, because the plants near the stem are not able to absorb the manure, due to which the manure goes to waste.

Therefore, organic and inorganic fertilizers should be used at the required distance (0.5-1.5 m) from the stem in a groove 15 cm wide and 30 cm deep because most of the roots taking up the nutrient banks are found in this area, which results in nutrient uptake. Most of the elements are used up.

Time to use nutrients

In order to determine the time and frequency of use of nutrients, researchers have found after doing a lot of research in different fruit trees that manure and fertilizers should be given in dry areas before monsoon, in irrigated areas, fertilizers are given once in two times. It should be given at the time of monsoon and second time at the time of fruit development.

Storage and marketing

After harvesting, the most important process is that of storage. Ripe fruits cannot be stored at normal temperature for a long time, otherwise special arrangements have to be made for the storage of this fruit, otherwise the fruits get spoiled within two to three days. To make them look attractive, custard apple fruits are kept in polythene plates. In this way, this fruit can play an important role in improving the economic condition of farmers in dry areas with its productivity, time to need, promote its scientific cultivation with unitable variety in dry part of india as well as arid region with help of government agencies and private sectors.

Some important precautions

- Do not harvest or store very hard fruits
- Do not take dark brown or light black colored fruits and do not store them
- Do not harvest very small dark green fruits, eventually they will harden and turn black
- Always store fruits at normal temperature
- For quick ripening, place the fruit in a dark brown paper bag with the ripe banana.