



Potent Medicinal Influences of Ziziphus Spina-Christi

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Abstract

The contemporary trend in modern science is to search for the multiple purposes of scattered plants, which are characterized by rapid growth and sweetness of taste in order to benefit from every part of it and it seems that it has no value. Among the most important of these traditional plants that the ancients benefited from in all ages and all cultures is Ziziphus, which is characterized by growth in salty lands and deserts, it endures the harsh conditions. Among the benefits of the Ziziphus plant is that every sprinkle has a great economic benefit. Its leaves are used as food for animals, and its fruits are food for humans, and its roots are used as buffers for air and help in fixing sand dunes in order to branch out and extend it. Wood is used as a source of fuel and the bark is used as a source for obtaining honey. All of these uses prompted scientific research to study the Ziziphus plant and its chemical composition and use it as an effective, cheap and available treatment for many diseases to reduce the side effects of chemotherapy. In this review we will list information on the Ziziphus Spencerts and its multiple uses in various fields.

Keywords: Ziziphus Spina-Christi; Animal Feed; Fuel; Anti-Inflammatory; Antioxidants

Introduction

Recently, due to the scarcity of food, especially in harsh areas, where its population means poor nutrition, due to the lack of adequate food sources due to the surrounding environment conditions. This led the population to search for plant sources to supply them with the nutritional value they needed [1].

These plants were harvested by the Food and Food Organization (FAO) between 15,000 - 28,000. To meet the needs of the increasing population, we turned to nature to search for plants rich in nutrients and at the same time endure the harsh conditions of drought, stress and salinity [2].

Among the most important of these plants is Ziziphus, which is characterized by its high ability to grow in the midst of drought and high salinity, in addition to being rich in chemical compounds that make it a food, industrial and environmental source [3].

Ziziphus spina-christi is also known as Christ's thorn jujube. Tree grows in northern and tropical Africa, as well as in North and West Asia [4].

It has great medical importance that the ancient people knew, as it was used as food, as well as a medicine for many diseases [5].

There are many ways to name Z. spina-christi, which is known as Christ's thorn; Syrian Christ-thorn in English, on behalf of epine du Christ; jujube in French, on behalf of epine du Christ; jujube [6].

This tree is one of the trees of Heaven. I mentioned in the Holy Qur'an in four places, and this indicates that it indicates the economic, nutritional and curative importance of it, and this is explained in the following article [7].

So they offered, and we sent to them the torrent of war, and we exchanged them for their own paradise, two parasites that were full and full (Surat Saba / 16).

At the end of the end (Surat al-Star / 14).

When the cover is obscured by the cover (Surat al-Najm / 16).

In Mahdur Siddur (Surat Al- Waqi'ah / 28).

Ziziphus is distinguished by its tree having a height of 5 - 10 meters and a trunk diameter of 45 cm. The bark changes color from whitish brown to pale gray. The leaves are simple and curly, the length ranges from 1-9 cm and width 1-3.5 cm, the flowers are small greenish-white color found at the top of the leaves and are characterized by the presence of 5 sepals with a length of 2mm, 3 petals with a length of 1.5mm. The warp consists of 5 opposite petals surrounded by a flat lobed disk, the ovary has two lobes, and the fruit is reddish brown in color and ranges in diameter to 1.5 cm and has a solid seed around it with a sweet-tasting pulp, and these fruits thrive from October to April, figure 1 [8].



Figure 1: Ziziphus Spina-Christi plant.

Chemical composition of Ziziphus spina-christi

Z. spina-christi is an important food source because it contains many nutrients, as 100 grams of Z. spina-christi contains 314 calories. Fresh fruits contain 80% carbohydrates (glucose-fructose-glucose), 3mg% iron, 0.9gfat, 140mg calcium, 0.04 mg of thiamin, 0.13 mg riboflavin, 3.7 mg niacin and 30 mg ascorbic acid, and the concentration of ascorbic acid changes according to the degree of ripeness with respect to the fruit. The seeds contain 28.5% fat, 18.6% protein, and these proteins are characterized by being rich in sulfur amino acids. The leaves contain many minerals such as calcium 1,270 mg%, iron 7.2 mg%, magnesium 169 mg% [6].

Multipurpose of ziziphus spina-christi

There are many forms of benefiting of Ziziphus spina-christi, the fruits of which are eaten either fresh or dry and may be ground

in the form of flour used in baked goods, where they are made in the form of small balls, as the fruit pulp may be eaten or stored for the future. The benefits of this plant are summarized in figure 2 [9].

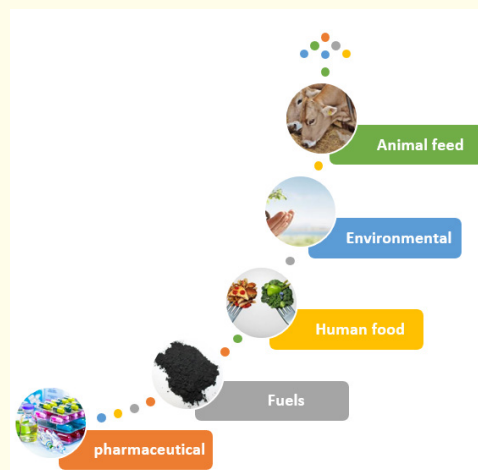


Figure 2: Benefits of Ziziphus spina-christi.

Animal feed

Leaves are used as food for animals, especially in the dry season, where small branches are rubbed and used as feed for camels and goats [10].

Environmental uses

It has great environmental importance as it is grown around villages and works as a safety belt and windbreaks because of its deep and extended roots.

In addition, it works to raise soil fertility rates because it contains a large amount of phosphorous [10].

Human food

There are many ways to take advantage of the plant, it may be eaten fruits, which are characterized by the sweetness of taste or may be ground, then mixed with water and made from it baked goods such as ginger bread.

Recent studies have proven that honey resulting from bees that feed on dam trees is a strong bacterial antibody compared to other types of honey [11].

Fuel sources

Wood is used as a source of fuel and access to high-quality coal, in addition to being used in the manufacture of doors and windows, door handles and furniture [12].

Pharmaceutical uses

The medicinal uses of *Ziziphus spina-christi* are versatile as hypoglycemic. This plant has hypoglycemic effect; researches indicated that induced diabetic rats by aqueous extract of plant decrease the level of blood glucose by two mechanisms by acting on glucose homeostasis in an extra-pancreatic way or by improvement of liver action and take glucose to synthesis glycogen act as fuel of energy. Saponin glycoside is known as natural product present in this plant which responsible for lowering level of glucagon which is hormone responsible for mobilization of glucose in to blood stream and hence lowering level of blood glucose in indirect pathway, hypotension, anticancer, anti-inflammation is used [13].

Due to the fact that the plant contains tannins, it has an antibacterial effect. This is due to the fact that the tannins are associated with the protein, especially proline-rich proteins.

Where tannins are bound to the iron, which contributes to the inhibition of metabolism inside the microbe and helps to eliminate it [14].

The presence of saponins contributes to increasing the surface tension of the membranes, which contributes to increasing the permeability of cells and helps in destroying the microbe [15].

Alkaloids are bound to DNA, which affects the process of cell division, Flavonoids bind to DNA and RNA, thereby inhibiting protein and fat formation, causing energy metabolism to be impaired, thereby affecting the growth of the microbe [16].

The plant is used as a treatment for diarrhea and colon cramps. It is also used as a twig powder in the treatment of rheumatism, scorpion sting, strengthening the immune system and regulating its mechanism of action [17].

The leaves are also used to treat headache, bone pain, abscess treatment, and superficial wound dressing, and are sometimes used as an analgesic [18].

Small branches are used in the treatment of eye infections, its leaves are boiled in water and used as a face wash and mixed with lemon and used as a shampoo to maintain the softness of hair and the purity of the skin [19].

Fruit tea is used to treat measles. Fruits are used to treat chest pain, respiratory system, and blood purification from impurities [6].

Its leaves are used to get rid of the undesirable taste in oral medications and to keep the gums clean [20].

Phytochemical components

The plant contains many phytochemical compounds such as Flavonoids, alkaloids and saponins [21].

Each part of the Sidr plant contains many Phytochemical compounds, where the leaves are rich in betulic and ceanothic acids, various flavonoids, saponins, erols, and Triterpenes, Panama The seeds contain saponin compounds, Jujuboside A and B and flavonoid components and flavoneC-glycosides such as swertisin, spinosin, 6-sinapoylspinosin, 6-feruloylspinosin and ρ -coumaroylspinosin plus 3-O has been isolated - [(2-O- α -D-fucopyranosyl-3-O-gl-Dglucopyranosyl) - α -L-arabinopyranosyl] - jajubogenin from the stems of these trees, the fruits contain Mucilage, vitamin C, and ziziphottannique acid was also extracted from the bark of the plant [22].

Conclusion

Despite the great importance of the *Ziziphus spina-christi* plant, it is threatened with extinction due to the unjust cutting and climate change. Therefore, most of the countries tended to preserve the trees of this plant from extinction and sought to improve its characteristics so that its ability to withstand harsh climate changes increases, so they started to use strains of good and high-value seeds and changed genes to improve its nutritional properties and its ability to withstand environmental conditions. Work on the availability of farms for these trees will maintain the rate of production and its quality, which contributes to rising the national income as it works in cultivating and selling it to many people.

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