

Prosopis cineraria: A Tree with Multiple Benefits

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Article History

Received: 5.03.2023

Revised: 9.03.2023

Accepted: 13.03.2023

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INTRODUCTION

Prosopis cineraria, also known as Khejri, are a deciduous tree that is native to the Indian subcontinent. It is a hardy plant that can tolerate extreme temperatures, ranging from -5°C to 50°C, and is able to survive in arid and semi-arid regions. The tree has many benefits, and has been used for centuries in traditional medicine, agriculture, and as a source of fuel and timber.

Why *Prosopis cineraria* is useful?

➤ Agriculture:

Prosopis cineraria is an important tree for farmers in arid regions, as it is able to grow in poor soil and is drought-resistant. It is also a nitrogen-fixing tree, meaning it can improve soil fertility by increasing the amount of nitrogen in the soil. In addition, the pods of the tree are used as animal feed, and the wood is used for fencing and construction.

➤ Fuel and Timber:

Prosopis cineraria is an excellent source of fuel, as its wood is high in calorific value and burns slowly. The tree is also used for timber, as its wood is durable and termite-resistant. The wood is used for making furniture, tool handles, and agricultural implements.

➤ Conservation:

Prosopis cineraria is an important tree for conservation in arid regions, as it provides habitat for wildlife and helps to prevent desertification. The tree is also used for reforestation, as it is able to grow in degraded areas.

Silvicultural characteristics of *Prosopis cineraria*

Prosopis cineraria is a versatile tree with various silvicultural characteristics. Here are some of its silviculture characteristics:

➤ **Growth and Habit:**

Prosopis cineraria is a medium to large-sized tree, which can reach a height of up to 10-12 meters. It has a deep root system, which makes it drought-resistant and helps in stabilizing sand dunes. It has a spreading crown with irregular, gnarled branches.

➤ **Propagation:**

Prosopis cineraria can be propagated through seeds, which are highly viable and can remain dormant for many years. It can also be propagated vegetatively by using stem cuttings or root suckers.

➤ **Site Requirements:**

Prosopis cineraria can grow on a wide range of soils, including sandy, loamy, and gravelly soils, but prefers well-drained soils. It is well adapted to arid and semi-arid regions with low rainfall, high temperatures, and high evaporation rates.

Agroforestry:

Prosopis cineraria has great potential for agroforestry, as it can be grown along with crops, providing shade, fodder, and nitrogen fixation. It can also be grown in silvipasture systems, where it provides food and shelter for livestock.

➤ **Timber and Non-Timber Forest Products:**

Prosopis cineraria provide high-quality timber, which is termite-resistant and durable. Its wood is used for making furniture, tool handles, and agricultural implements. The pods of the tree are used as animal feed and have high nutritional value. The leaves, bark, and pods of the tree have medicinal properties and are used in traditional medicine.

➤ **Conservation and Ecological Significance:**

Prosopis cineraria is an important tree for conservation, as it provides habitat for wildlife and helps in preventing desertification. It is also a nitrogen-fixing tree, which improves soil fertility and helps in restoring degraded areas.

Prosopis cineraria is one of the most prized tree species with a range of silvicultural characteristics. It is well adapted to arid and

semi-arid regions and provides various benefits to humans and the environment. Its potential for agroforestry, timber production, and ecological restoration makes it an important tree for sustainable land management.

Medicinal use of *Prosopis cineraria*

Prosopis cineraria has a long history of use in traditional medicine. Its leaves, bark, pods, and gum have been used for various medicinal purposes. Here are some of the medicinal uses of *Prosopis cineraria*:

➤ **Traditional Medicine:**

Prosopis cineraria has long been used in traditional medicine to treat a variety of ailments. Its leaves, bark, and pods are believed to have anti-inflammatory, analgesic, and antimicrobial properties. The tree is also used to treat respiratory infections, asthma, and fever.

➤ **Anti-inflammatory and Analgesic Properties:**

The bark and leaves of *Prosopis cineraria* have anti-inflammatory and analgesic properties. They are used to treat joint pain, arthritis, and other inflammatory conditions.

➤ **Respiratory Infections:**

The pods of *Prosopis cineraria* are used to treat respiratory infections, such as coughs and bronchitis. They are also used to relieve congestion and improve breathing.

➤ **Treating Digestive Disorders:**

The gum of *Prosopis cineraria* is used to treat digestive disorders, such as diarrhea and dysentery. It is also used to treat ulcers and other stomach problems.

➤ **To Cure Skin Conditions:**

The leaves and pods of *Prosopis cineraria* are used to treat skin conditions, such as eczema, psoriasis, and rashes. They are also used to reduce inflammation and redness.

➤ **Fever:**

The leaves and bark of *Prosopis cineraria* are used to treat fever. They are believed to have antipyretic properties, which help in reducing body temperature.

➤ Antimicrobial Properties:

Prosopis cineraria has antimicrobial properties, which make it effective against various types of bacteria and fungi. It is used to treat infections and wounds.

***Prosopis cineraria* based Agroforestry system**

Prosopis cineraria is a versatile tree that has great potential for agroforestry. Here are some of the ways that *Prosopis cineraria* can be integrated into agroforestry systems:

➤ Intercropping:

Prosopis cineraria can be grown along with crops such as wheat, barley, and chickpea. The tree provides shade, which helps in reducing water loss through transpiration, and improves the microclimate for the crops. The tree also fixes atmospheric nitrogen, which improves soil fertility and crop productivity.

➤ Silvopasture:

Prosopis cineraria can be grown along with forage crops, providing food and shelter for livestock. The tree also helps in preventing soil erosion and improving soil fertility.

➤ Windbreaks:

Prosopis cineraria can be grown as a windbreak in arid and semi-arid regions. The tree helps in reducing wind speed, which helps in preventing sand dune movement and soil erosion. The tree also provides shade, which helps in reducing water loss through transpiration.

➤ Fuelwood Production:

Prosopis cineraria can be grown for fuelwood production in arid and semi-arid regions. The tree has high calorific value and can be used as a source of energy for cooking and heating.

➤ Apiculture with trees:

Prosopis cineraria can be grown along with honeybee colonies. The tree provides nectar and pollen for the bees, which improves honey production and pollination of crops.

Socio-cultural and Religious value Of *Prosopis cineraria*

Prosopis cineraria, also known as the Ghaf tree, is a tree species that is native to the Indian subcontinent and the Arabian

Peninsula. It has several socio-cultural and religious values in the region, including:

➤ Shade and shelter:

The Ghaf tree is well adapted to survive in arid and semi-arid environments and can provide shade and shelter to people, livestock, and other flora and fauna in the region.

➤ Traditional medicine:

Various parts of the Ghaf tree, including the bark, pods, and leaves, are used in traditional medicine to treat various ailments such as fever, diarrhea, and skin diseases.

➤ Religious significance:

The Ghaf tree is considered sacred in many cultures in the region, including in Hinduism, where it is believed to be the abode of Lord Brahma. In Islam, the tree is said to have provided shade and shelter to Prophet Mohammed during his journey to Medina, and its wood is used to make prayer beads and other religious objects.

➤ Cultural significance:

The Ghaf tree has been an important part of the culture and heritage of the region for centuries, and its images can be found in many forms of art, literature, and music. In the United Arab Emirates, the Ghaf tree is the national tree and is featured on the country's currency.

CONCLUSION

Prosopis cineraria is a versatile and valuable tree that has many benefits. It has been used for centuries in traditional medicine, agriculture, and as a source of fuel and timber. In addition, it is an important tree for conservation in arid regions. As the world faces increasing challenges due to climate change, the value of trees like *Prosopis cineraria* will only continue to grow. *Prosopis cineraria* have a long history of use in traditional medicine. Its various parts, including leaves, bark, pods, and gum, have been used to treat a range of conditions, such as respiratory infections, digestive disorders, skin conditions, and fever. Its antimicrobial, anti-inflammatory, and analgesic properties make it a valuable resource for traditional

medicine. However, it is important to note that further scientific research is needed to fully understand the medicinal properties of *Prosopis cineraria* and to determine its safety and efficacy. *Prosopis cineraria* is a valuable tree species that can be integrated into agroforestry systems in various ways. Its potential for intercropping, silvopasture, windbreaks, fuelwood production, and agroforestry with honeybees makes it an important tree for sustainable land

management in arid and semi-arid regions. Its ability to improve soil fertility, prevent soil erosion, and provide food and shelter for livestock makes it an important resource for farmers and communities in these regions. Overall, the Ghaf tree has significant socio-cultural and religious values in the Indian subcontinent and the Arabian Peninsula, and its conservation is crucial for the sustainable development of the society.