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WATER PLANTS YOU CAN EAT: A DIVE INTO AQUATIC VEGETABLES IN INDIA

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ABSTRACT

Aquatic vegetables, which have long been treasured in traditional cuisines throughout Asia and other places, are emerging as a potential food source that is both sustainable and nutrient dense. Water spinach (*Ipomoea aquatica*), Water chest nut stems (*Eleocharis sp*.), Lotus roots (*Nelumbo nucifera*), Water dropwort (*Oenanthe stolonifera*), Cordon Euryale (*Euryale ferox*), and Water rice *(Zizania latifolia, Z. aquatica*) are the most often consumed aquatic crops and are cultivated in both fresh and saltwater habitats. Aquatic vegetables offer an innovative remedy that utilizes natural water systems, uses less land, and promotes biodiversity as concerns about climate change, soil erosion, and food security mount. The types, benefits and growing acceptance of aquatic vegetables are examined in this article, which also emphasizes how they have the potential to change our perceptions of agriculture.

INTRODUCTION

Edible plants that thrive in water-rich habitats including ponds, lakes, rivers, and wetlands are known as aquatic vegetables. These plants, in contrast to conventional land crops, have evolved to survive in water, either completely or partially. Being rich in dietary fibres, vitamins, minerals, fats, antioxidants, phenolic compounds, and carbohydrates, aquatic plants are exceptionally nutrient-dense and essential to food security, especially in areas where water-based agriculture is prevalent.

These plants, which range from duckweed and seaweed to lotus roots and water spinach, are becoming more well-known for their health benefits, culinary diversity, and sustainability. Aquatic vegetables are starting to gain popularity in contemporary diets as the need for wholesome and environmentally friendly food sources rises worldwide.

AQUATIC VEGETABLES IN INDIA

1. WATER SPINACH

Scientific name Ipomoea aquatica

Chromosome No. 2n=30

Family Convolvulaceae

This marshy aquatic plant is indigenous to the tropics and subtropics and is occasionally grown in southern China, India, and Southeast Asia. Although the entire young plant can be eaten, the tips of the shoots and the younger leaves are utilized more frequently (Prasad *et al.,*2008). In many Asian cuisines, water spinach is stir-fried or used in soups and stews.

The plant is high in iron, antioxidants, and vitamins A and C, which help to promote a strong immune system and shield the body from

oxidative stress. Because of its high fibre content, water spinach has been known for helping with digestion and treating constipation. It may also help in controlling blood sugar levels. Several cultures utilize water spinach juice as a treatment for liver problems and jaundice. Insect bites and skin irritations can occasionally be treated topically with the leaves.

2. CHINESE WATER CHESTNUT

Scientific name Eleocharis dulcis

Chromosome No. 2n=64

Family Cyperaceae

These aquatic tuber vegetables can be found in ponds, marshes, paddy fields, and shallow lakes. In addition to Southeast Asia, Southern China, Taiwan, Australia, and Africa, water chestnuts are native to many islands in the Indian and Pacific oceans (Jhelum and Sury,2023).

Their crisp, white meat, which may be eaten raw or cooked, makes them an integral component in Asian dishes including stir-fries, chop suey, curries, and salads.

Rich in ferulic acid and other antioxidants, water chestnuts may help defend the body from damage to cells. In addition, they are a good source of manganese, potassium, vitamin B6, and dietary fibre.

In medicine, water chestnut is used to treat urinary tract infections, lower inflammation, and promote digestive health.

As it contains a lot of water, some traditional treatments also employ it to help with detoxification and hydration.

3. LOTUS

Scientific name Nelumbo nucifera

Chromosome No. 2n=16

Family Nymphaeaceae

In Asian traditions, lotus (*Nelumbo nucifera*) is a popular aquatic vegetable that is utilized in both cooking and medicine. Nearly every part of the plant, including the roots, seeds, leaves, and flowers, are utilized for its medicinal properties.

Lotus root is particularly recognized for its capacity to boost immunity, improve circulation, and aid with digestion. It has a lot of antioxidants, potassium, vitamin C, and dietary fibre. The root is frequently used to treat respiratory ailments like congestion and coughing as well as to lessen inflammation. (Seferli *et al.,*2024)

4. FOXNUT

Scientific name Euryale ferox

Chromosome No. 2n=58

Family Nymphaeaceae

It is native to Eastern Asia and Southern Asia. Makhana, also known as foxnut, comes from the seeds of the Euryale ferox plant, which thrives in still freshwater ponds. In India, it's commonly eaten as a snack or in a variety of

traditional recipes and Ayurvedic treatments (Pooja Belwal, 2023).

Their low glycaemic index aids with blood sugar regulation, weight loss, and better digestion. Foxnuts, which are high in antioxidants, also help to slow down aging and promote healthy skin. Because of their high magnesium and low salt content, they are a natural and nutrient-dense option for people of all ages, helping to lower blood pressure and promote heart health.

5. WATERCRESS

Scientific name Nasturtium officinale

Chromosome No. 2n=32

Family Brassicaceae

A fast-growing aquatic vegetable, watercress (*Nasturtium officinale*) is frequently found in ponds, rivers, and shallow streams. It is often used in salads, soups, and sandwiches as it is renowned for its peppery and tangy flavour.

Watercress is a great source of antioxidants, calcium, iron, and vitamins A, C, and K. These nutrients maintain general health, strengthen bones, and strengthen the immune system. Watercress has been used medicinally for its ability to improve skin health, aid with digestion, and purify the body. It is a beneficial supplement to a balanced diet because it is also thought to help lower blood pressure and reduce inflammation (Pandey *et al.,* 2014).

CONCLUSION

Aquatic vegetables represent a promising frontier in sustainable agriculture. With their adaptability to diverse aquatic environments and high nutritional value, they offer innovative solutions to food security and climate-resilient farming. In future, understanding and exploring the cultivation, management, and economic potential of aquatic crops like water spinach, lotus, etc., can open up new avenues in both research and commercial production. Embracing these underutilized resources could play a vital role in shaping the future of agriculture.

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