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## **OVERVIEW ON APPLICATION OF SWEET FLAG**

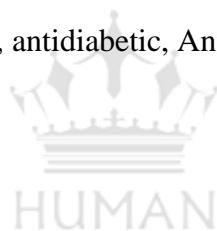
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### **ABSTRACT**

In the present article, we have reviewed the application of sweet flag commonly known as Vekhand. It has an application in inhibitory action against *Salmonella typhi*, Staphylococcus and hence acts as an antibacterial agent. It is also used as Cytoprotective, Bronchodilatory, Antidiabetic and Antidiarrheal activity.

**Keywords:** - Sweet flag, antibacterial, antidiabetic, Antidiarrheal



## INTRODUCTION

Sweet flag is the most popular known medicinal plant which is used for many Ayurveda drug in India. It is a semiaquatic plant and is cultivated in damp and marshy places. This plant is found in North America, Holland, Central Asia, European countries. In India, it is found in a Manipur, Himalayas and Naga hills and on the edges of lakes and streams.

The rhizomes of the plant are used to cure various diseases such as sedative, stomachic, aromatic insecticidal, Anti-inflammatory, aphrodisiac, Antipyretic insecticidal, carminative and many other diseases.

Sweet flag is a perennial herb 1-4 feet tall consisting of tufts of basal leaves that emerge directly from a spreading rootstock. These basal leaves are erect and sword-shaped resembling iris leaves. They are flattened, smooth along the margins and have parallel veins.

[1-4]

Synonym:- sweet root, calamus.

Scientific name: - *Acarus calamus*

Family:- Aceraceae.

Kingdom:- Plantae.

Order:- Acorales.

Rank:- Species.

Higher classification:- Acorus

### **Cultivation and Collection:**

**Soil:** Prefers growing in shallow water or in a very moist loamy soil. It requires a sunny position. pH range is 5.5 to 7.2 plant is hardy to about 25°C.

**Propagation:** Allow the seeds to grow in winter to be fruitful. Allow the pot to be in 3 cm of water. Put newly grown seedlings in a large enough handle, keep them wait by allowing the pots to be in less water till winter for the first year in the greenhouse.

### **Chemical constituents:**

Calamus leaves and rhizomes contain reactive oil that gives a specific odor and flavor. Major components of the oil are beta-asarone (As much as 75 %), saponins, lectins, and steroids. Diploids do not contain beta-asarone.

### **Parts used:**

The parts used in most of the experimental studies are the leaves, roots, and stem of the plants. The dry rhizome contains some of the yellow aromatic oil 1. calamus oil that is responsible for medicinal and insecticidal properties. The parts of the plant that is rhizomes, root, leaves, flowers, and fruit.

### **Antibacterial activity of sweet flag:**

The growth of cultured gram-negative organisms was inhibited significantly by an extract of the rhizome. A standard cultured of staphylococcus aureus, Escherichia coli, and Shigella flexneri was observed after treatment with the essential oil. The leaf and rhizome part possess the antibacterial activity. The methanolic extract of Acorus Calamus shows the inhibitory action against the bacterial strains of *Salmonella typhi*, *Pseudomonas aeruginosa* and *Staphylococcus aureus*. The ethanolic and aqueous extract of Acorus Calamus also showed the inhibitory effect against the above organisms. [2]

### **Other uses:-**

#### **1. Antiulcer and cytoprotective activity:-**

The product of rhizomes which is ethanolic was studied in rats to prevent the injuries indomethacin, reserpine, and cysteamine in gastroduodenal mucus.

#### **2. Bronchodilatory effect:-**

*Acorus Calamus* has been found to be a famous remedy for the respiratory disorder due to the unique combination of airways relaxant constituents that were found in the crude extract of Acorus Calamus such as a papaverine-like dual inhibitor of calcium channel and phosphodiesterase in the hexane fraction and anti Cholinergic. [1]

### **3. Anti-diabetic activity:-**

It is widely used in the treatment of diabetes in the traditional folk medicine of America and Indonesia.

### **4. Anti-diarrheal activity:-**

The mice which ingested with castor oil showed the rapid onset of diarrhea within a period of four hours.

### **5. Anti-cellular and immunosuppressive activity:-**

The ethanolic extract of this has been found to possess unicellular and immunosuppressive potential.

## **SUMMARY**

Sweet flag commonly known as Vekhand has an application in inhibitory action against *Salmonella typhi*, Staphylococcus and hence acts as an antibacterial agent. It is also used as Cytoprotective, Bronchodilatory, Antidiabetic and Antidiarrheal activity.

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