Acorus calamus

The Awakener of Voice and Mind



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INTRODUCTION



Acorus calamus, commonly known as Sweet flag or Gudwach (Trade names), Baje (Kannada), Vayambu (Malayalam), Vashambu (Tamil), or Vasa (Telugu), is a strongly aromatic, semi-aquatic perennial herb of the Acoraceae family. Originating from creeping underground rhizomes, it features erect, sword-shaped leaves and a cylindrical spike of tiny, greenish-yellow flowers.

The aromatic rhizome is highly valued in Ayurvedic, Unani, and European herbal traditions for its diverse therapeutic properties. Functioning as a natural antimicrobial, fever reducer, and digestive aid, it traditionally treats gastrointestinal issues like indigestion, diarrhoea, gas, and stomach cramps, while also relieving toothaches and chest discomfort. Additionally, Ayurveda reveres the rhizome as a rejuvenating brain tonic, using it extensively to enhance memory, boost cognitive function, protect overall neural health, and calm nervous system disorders.

AGRO-TECHNIQUES

Acorus calamus is a highly adaptable, semi-aquatic crop that thrives in tropical to subtropical climates. It grows exceptionally well in areas with abundant moisture, including waterlogged or marshy lands. While it flourishes in clay loams and light alluvial soils, the plant tolerates a broad soil pH range of 6.0 to 8.5, with slightly alkaline conditions being ideal for maximum productivity and healthy root development.

Proper field preparation is the first step toward a successful harvest. The main field must be thoroughly ploughed and enriched with basal organic fertilizers.



Incorporating 1.0 to 1.5 tonnes of well-decomposed farmyard manure (FYM) and 0.5 to 1.0 tonnes of green leaf manure per hectare ensures excellent soil fertility and crop establishment.

For general farming, the most practical propagation method is using fresh rhizome cuttings collected from mature plants. These segments should be 4 to 5 cm long and contain two to three internodes. Alternatively, for large-scale and disease-free cultivation, tissue-cultured plants are highly effective.

Planting is ideally done during the onset of the monsoon in June or July. Farmers can either dibble the rhizome cuttings in nursery mother beds, where they typically sprout in 7 to 14 days and are transplanted after 20 days, plant them directly into the main field by gently pressing them into moist soil. When planting directly, the rhizome segments should be placed at a depth of 6 cm.



Maintaining a spacing of 30 cm between rows and 35 cm between plants is recommended, which requires approximately 80,000 propagules to cover one hectare of land.

Because sweet flag is a semi-aquatic plant, consistent water management is critical. The field should be irrigated through flooding to maintain a continuous standing water depth of 5 to 10 cm throughout the entire growth cycle. During the rainy season, supplemental irrigation is only necessary if dry spells exceed seven days, ensuring the water level never drops below 5 cm. In the summer months, however, irrigation must be applied every two to three days, depending on how well the soil retains water.

To keep the crop healthy, regular weeding is essential. The first weeding should be done one month after planting, followed by subsequent weeding every three months. After each weeding cycle, farmers should apply supplemental nutrition to boost growth. This can be done by top-dressing the field with 1.5 to 2.0 tonnes of FYM per hectare, or by applying a liquid nutrient mix like Jeevamruth (30 litres. diluted in 300 litres of water per hectare). Always irrigate immediately after applying these fertilizers to ensure the nutrients are effectively absorbed by the growing rhizomes.



HARVESTING AND POST-HARVEST MANAGEMENT

The crop reaches full maturity about 9 to 10 months after planting, which is indicated by the yellowing and drying of the lower leaves. Before harvesting, the field should be kept relatively dry to allow for the easy uprooting of the rhizomes. After the harvest, the rhizomes are thoroughly washed to remove soil and debris. They are then cut into pieces of about 5 to 7 cm, and any fibrous roots are removed. The cut rhizomes are air-dried by spreading them under shade to ensure their essential oil content is preserved. Finally, the dried rhizomes should be stored in airtight containers or poly-lined gunny bags to prevent moisture uptake and microbial contamination.

ECONOMICS OF CULTIVATION





Acorus calamus is a highly profitable medicinal crop ideal for commercial cultivation. Under proper management, it yields approximately 2,500 kg of dry rhizomes per hectare annually, generating a gross income of roughly Rs. 1.00 - 1.50 lakh. With average cultivation costs estimated at Rs. 60,000 - 70,000 per hectare, farmers can expect a net profit of about Rs. 40,000 - 80,000. Boasting a strong benefit-cost ratio of 1.6 - 2.1, this economically viable crop ensures excellent and reliable returns on agricultural investment.



NMPB-RCFC (SOUTHERN REGION)

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