



Herbal Garden (Muligai Vanam)

Samai



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Botanical Name	:	<i>Panicum sumatrense</i> Roth ex Roem. & Schult.
Tamil Name	:	Samai
Sanskrit Name	:	Kuree
English Name	:	Little millet

Distribution and Habitat

P. sumatrense is an annual erect or geniculate grass, 30–100 cms. tall, belongs to family *Poaceae*. It occurs wild and as a weed in Pakistan, India, Sri Lanka, Nepal, Myanmar, Thailand, China, Philippines, Indonesia. In India, it is cultivated mainly in the Eastern Ghats and is drought/water logging tolerant.



It thrives in open grasslands, disturbed areas, roadsides, and fallow fields within tropical and subtropical climates. Leaves linear with hairy ligules, 10–30 x 0.4–1.2 cms., flat with scabrous margins; leaf sheath glabrous to sparsely hairy, culms slender, glabrous or sparsely hairy and branched at base. Inflorescence is an open, diffuse panicle 10–30 cms. long, branches capillary, drooping at maturity with spikelets borne singly on long pedicels. Spikelets elliptic-ovate, 2–2.5 mm long, pale green turning straw-coloured. Flowers protogynous with 3 anthers ~1.5 mm long. The plant flowers during rainy season and is highly drought-tolerant, also able to withstand waterlogging. The grains are small, round, and smooth, with a diameter of 1.8–1.9 mm, and range in colour from pale yellow to brown. The crop is ready for harvest in 65 - 75 days after sowing.

Parts used: Seed/grain as food; leaf / whole plant as forage.

Phyto-chemical constituents

Carbohydrate, protein, fat, fibre, hydroxyl-benzoic acid derivatives, hydroxyl-cinnamic acid derivatives, myricetin, catechin, luteolin, apigenin, daidzein, naringenin, kaempferol,

quercetin, phytic acid, tannins, oxalate, bioactive peptides, oleic acid, carotenoids, sterols, tocopherols, iron, zinc, calcium, magnesium, potassium, phosphorus and trypsin inhibitors.

Uses

Grain cooked like rice or ground to flour for healthy snacks/bread/puddings/cakes. Being gluten-free and easy to digest, it is a great rice replacement for daily meals. Whole plant and straw used as cattle feed.

Medicinal uses

Little millet has been valued in traditional systems for its cooling and astringent properties. The grain is considered stomachic and emollient, helping with indigestion and poor appetite by soothing the digestive tract (Nambiar et al., 2011). The high dietary fibre 32.3 g kg^{-1} , especially, insoluble fibre, slows glucose



diffusion and inhibits α -amylase activity to delay carbohydrate digestion and help manage post-meal blood sugar levels (Babu et al., 2018). Rich in good fats and fibre, little millet helps lower bad cholesterol (LDL) while maintaining good cholesterol (HDL). This reduces the risk of heart disease and keeps the arteries clear and functioning well. The grain is rich in minerals, so it is traditionally used to address anaemia and support bone health (Longvah et al., 2017). Little millet is a good provider of calcium and phosphorus, thus good for bones and strong teeth. In traditional medicinal systems, particularly Siddha practices in South Asia, little millet preparations are used to treat edema. The crop's phenolic compounds and flavonoids exhibit anti-inflammatory properties, which have been documented in ethnobotanical uses for managing localized swellings and inflammatory conditions, supported by its antioxidant profile that mitigates oxidative stress. In Ayurvedic practice, it is used as a light, easily digestible food for convalescents and people with weak digestion. Recent research also explores its extracts for antimicrobial properties and as a functional food ingredient for anti-obesity and metabolic health due to the combined action of bioactive peptides, phenols and resistant starch (Kumari et al., 2020).

Photo link: <https://www.crops.org/news/science-news/big-potential-little-millet/>

