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# Aromatic Rice Landraces of Tamil Nadu

**Aromatic rice always fetches a premium price in the market and therefore occupies an important position in the society. Scented or fragrant rice are regarded as auspicious in our country. Normally aromatic rice denotes basmati rice possessing long slender grains and a very good aroma. However there are several small and medium grain aromatic or scented rice genotypes which are classified under a separate group popularly called as non-basmati aromatic rice. These types of indigenous fragrant rices were abundantly present in India.**

## INTRODUCTION

Non-basmati aromatic rice landraces present in different states of India were specific to the particular state with several unique features. The aroma formation in these landraces depends upon their location where the particular genotype has been evolved. These types of scented rices are the resultant of hundred years of selection by our forefathers as farmers based on their experience. Quality of non-basmati scented rice in terms of aroma, kernel elongation after cooking, fluffiness, taste, etc., was better than basmati types. However due to green revolution many of these aromatic landraces went out of cultivation leading to genetic erosion as the focus was on yield rather than quality (Singh and Singh, 1998). However the genetic loss in basmati types was far less compared to non-basmati types. Even though the overall kernel elongation after cooking is much higher in Basmati types than in non-basmati types (Mahindru, 1995) these are still preferred by people of specific areas (area where these scented rices grows well) for making speciality dishes during family functions. The major distinguishing character between basmati and non-basmati rice is that basmati genotypes can be grown only in the states situated in and around Himalayan regions

whereas small and medium grain non-basmati rice adapted to particular region is widely distributed throughout India.

The major volatile constituents contributing to the aroma of traditional varieties have been identified, viz., hexanal, octanal, non-anal, (E)-2-octenal, 1-octen-3-ol, guaicol, and vanillin (Mathure *et al.*, 2014).

Tamil Nadu is one among the important rice growing states in India had immense number of landraces but as of now only hundreds of them are available for cultivation. As per the evidences from vedic or old tamil sangam literatures, aromatic rices like *Punugu samba*, *Kasthuri samba*, *Manakkathai*, *Karpooralai*, *Seeraga samba* and *Thulasi vasanai seeraga samba* were reported to be in existences. It is also mentioned that they are named after the specific kind of aroma possessed by them. *Punugu* in *Punugu samba* refers to the perfumed substance obtained from a civet cat, whereas *Manakkathai* means pleasant odour, *Kasthuri* means musk and *Karpooram* means camphor. Aroma might be arising after cooking or during cooking or inherently present in nature in the whole plant or in polished or unpolished grains (Sathya, 2014).

Besides aroma, the scented landrace *Punugu samba* was preferred by the farmers because of its ability to

quench thirst and hunger and strengthens the body, removes fatigue and provides a pleasant feel. Aromatic rice *Manakathai* was reported to control skin diseases, helps in poison bites, heals ulcers if one takes this variety regularly. This rice has the odour of the pleasant smelling wood (Balasubramanian *et al.*, 2019).

But due to green revolution and introduction of high yielding rice varieties many of these aromatic rice land races were lost and the only scented rice landraces available for cultivation in Tamil Nadu were *Seeraga samba* and *Thulasi vasanai seeraga samba*.

### SEERAGA SAMBA

*Seeraga samba* is non-basmati fine grain aromatic rice. The rice variety is named after *seeragam*, the Tamil name for cumin seeds, since the rice is as fine as the condiment (Fig 1a & 1b). It is a cultivar which is preferred for cultivation during samba season (Aug-Sep sowing) with 140 days duration having fine grain with an average yield of 3.0 t/ha and susceptible to lodging at maturity. It is cultivated in an area of 10,000 acres in Tamil Nadu particularly in Uppliyapuram Block of Thuraiyur Taluk, Trichy District; Varachettipalayam of Kumbakonam Block, Thanjavur District; adjoining areas of Kolli hills, Namakkal District; Vedharanyam and Sirkazhi blocks of



**Figure 1a. Plant and panicle view of Seeraga Samba**



**Figure 1b. Grain and milled rice view of Seeraga Samba**





**Figure 2a. Plant and panicle view of Thulasi vasanai seeraga samba**



**Figure 2b. Grain view of Thulasi vasanai seeraga samba**

Nagapattinam districts and small pockets in Tiruvarur and Vridhunagar districts which are popularly called as *Seeraga samba* belt with the production of 12000 tonnes of paddy, out of which 1000 tonnes of rice was exported to Canada, USA, UK, Malaysia and other Asian countries. Due to its fineness and presence of aroma it is used for making 'Biryani' in Tamil Nadu. Since it is aromatic, it fetches the highest price amongst all traditional rice varieties of Tamil Nadu. The traditional *Seeraga samba* cannot be cultivated in water logging conditions. The health benefits of this cultivar is that it regulates excess vaatha, easy to digest and it controls flatulence.

#### **UTILIZATION OF SEERAGA SAMBA FOR VARIETAL IMPROVEMENT**

In order to substitute this traditional cultivar, the rice variety VGD 1 was released from TNAU- ARS, Vaigai Dam using *Seeraga samba* as male parent. The merits of VGD 1 Rice variety over the traditional *Seeraga samba* cultivar are high yielding (5860 kg/ha) with more number of productive tillers (24), non-lodging, super fine grain (1000 grain weight is 8.10 g), mildly scented and drought tolerant. This VGD 1 rice variety can be grown in the traditional Seeragasamba belt.

#### **THULASI VASANAI SEERAGA SAMBA**

The seeds of this landrace are smaller than *Seeraga samba* and it resembles the basil seeds hence it was named as *Thulasi vasanai seeraga samba*. The duration of the crop is 120 days. It is tastier and more aromatic than *Seeraga samba*. During flowering it emanates a pleasant smell around the field where it is cultivated. It improves digestion and the person consuming this rice will gain weight quickly.

In recent years, many of the farmers are reporting that the present day *Seeraga samba* or *Thulasi vasanai seeraga samba* are not that much aromatic as in olden days. This may be due to varietal admixtures, cultivation practices and use of fertilizers instead of farm yard manures, soil factors or changing climatic conditions. More over several duplications are existing with some slight modification in the name like *Karun seeraga samba*, *Karupu seeraga samba*, *Orissa vasanai seeraga samba* and *Vasanai seeraga samba*.

#### **CONCLUSION**

Hence, it is the duty of the plant breeders to collect them, purify, characterize them and eliminate the duplications so as to supply genetically pure seeds of

aromatic rice landraces for cultivation by farmers and conserve them for utilization in plant breeding programmes.

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