



SREE DHRONA

A High Yielding Semi-Dwarf White Yam Variety

Introduction

The genus *Dioscorea*, commonly known as yams comprises over 600 species of herbaceous, tuber-producing vines widely distributed across the tropics and subtropics. These species belong to the family Dioscoreaceae and are cultivated primarily for their underground tubers, which serve as important sources of carbohydrates and essential nutrients. Among the cultivated yams, only a few species are economically significant, including *Dioscorea alata*, *D. esculenta*, *D. rotundata*, *D. bulbifera*, *D. cayenensis* and *D. dumetorum*.

White yam (*Dioscorea rotundata* Poir.) is the most widely cultivated and consumed yam species, especially in West Africa, which accounts for over 90% of the global yam production. Native to the African continent, it thrives well in the tropical climates of Nigeria, Ghana, Benin and Togo. It is a staple crop that plays a central role in food security, cultural identity and the economy of these regions commonly called as 'yam belt'. Compared to other yam species, white yam is preferred for its superior culinary qualities, including its smooth texture, low moisture content and desirable taste when boiled pounded or fried. It also has better storage characteristics than *D. alata* or *D. dumetorum*, which are more prone to post-harvest physiological deterioration. In terms of agronomic value, *D. rotundata* typically produces higher yields responds well to improved cultivation practices and suited for different agro-climatic regions of India.

The significance of white yam extends beyond nutrition. It is an important source of income for farmers and is traded both locally and internationally. Its tubers are rich in carbohydrates, particularly starch and contain moderate amounts of dietary fibre, vitamins (such as vitamin C and B-complex) and essential minerals like potassium and manganese. These are potent for its bioactive compounds such as diosgenin and effective in pharmaceutical and industrial applications.

In cultivation, tall varieties are high yielding and need staking/trailing, which accounts to a major share of about 35 % of the cost of cultivation, while bushy dwarf varieties are low yielding. Hence, breeding programme was initiated at ICAR-CTCRI to develop a white yam variety with compact tuber shape and high tuber yield when grown under non-trailing conditions. Sree Dhrona is the recently released white yam variety with compact tuber shape and high tuber yield even under non-trailing condition. The variety was released by the State Sub Committee on Crop Standards, Notification and Release of Varieties held on 12th November 2025 for the State of Kerala.





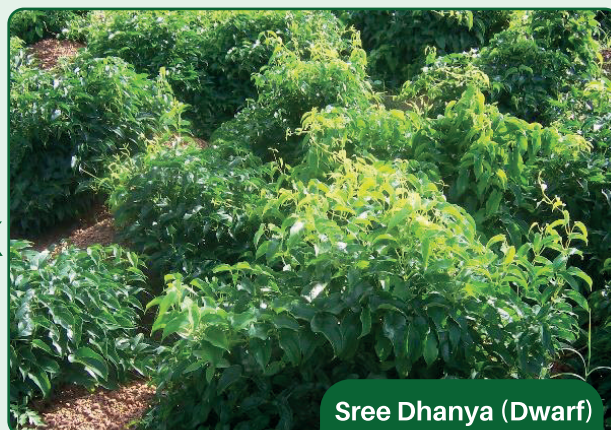
Pedigree of Sree Dhrona

Sree Dhrona (SD-15) was developed by crossing DRS 657 (Tall) x Sree Dhanya (Dwarf). It has sparsely spiny green vines twining to right and dark glossy unifoliate narrow leaves with wavy margin. Medium cylindrical smooth tubers with beige coloured skin and light cream flesh colour. It has lesser vine length than DRS 657 and can be grown under non-trailing condition also. It has few spines on vine, while DRS 657 is spinier and Sree Dhanya is without spines.

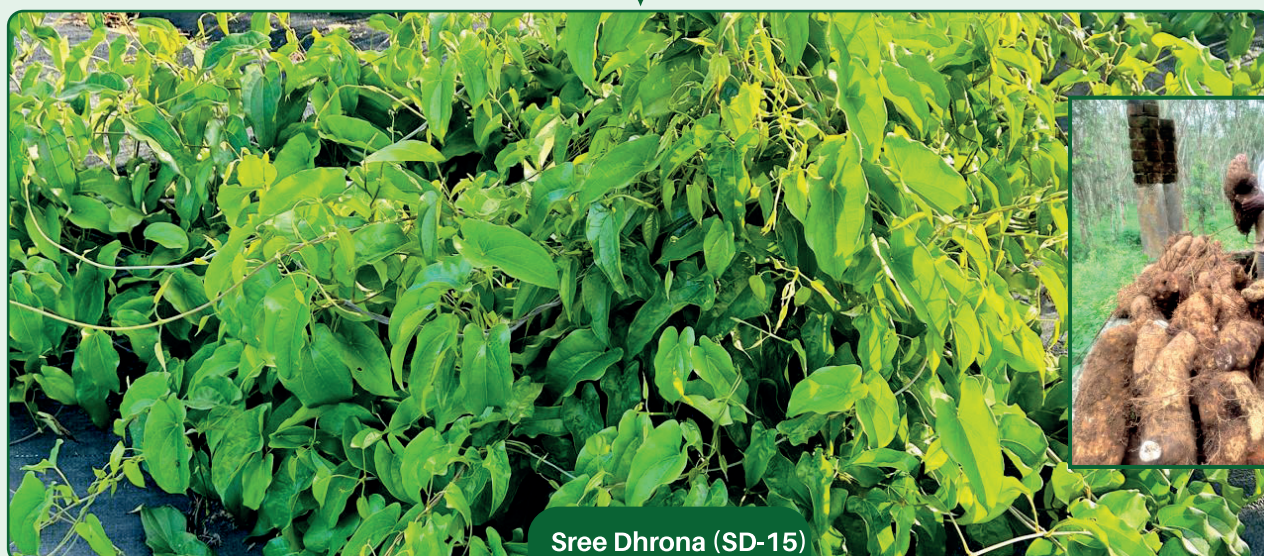


DRS 657 (Tall)

X



Sree Dhanya (Dwarf)

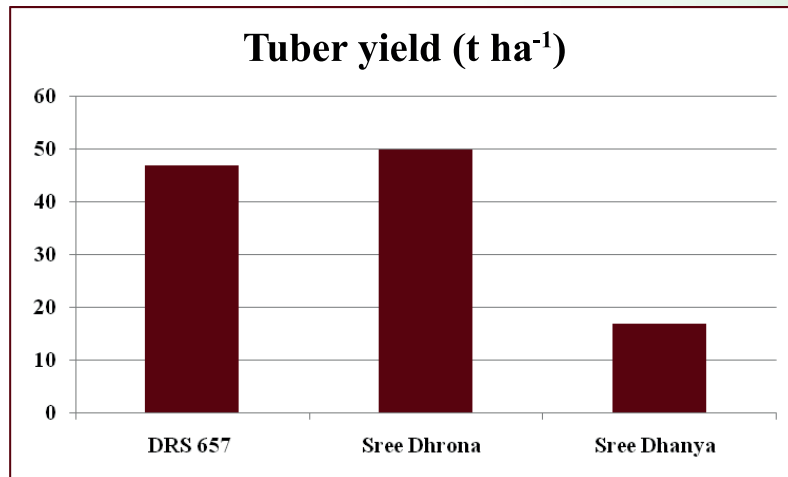


Sree Dhrona (SD-15)



Performance of Sree Dhrona and its Parents

Sree Dhrona (SD-15) has a higher tuber yield of 49.87 t ha⁻¹ compared to its parents DRS 657 (46.89 t ha⁻¹) and Sree Dhanya (16.77 t ha⁻¹).



Salient features of the variety

- Sparsely spiny green vines twining to the right
- Light green emerging leaves
- Dark glossy unifoliate narrow leaves with wavy margin
- Medium cylindrical smooth tubers with beige coloured skin and light cream flesh
- Lesser vine length than DRS 657 and can be grown under non-trailing conditions
- Crop duration is 8-9 months
- Average tuber yield of 35 t ha⁻¹ and potential yield of 52 t ha⁻¹ under non-trailing conditions with mulching



Package of Practices for Sree Dhrona

- 1 **Planting season:** March-April
- 2 **Planting material:** Tuber pieces of 200-250 g weight
- 3 **Method of planting:** Mounds
- 4 **Spacing:** 90 x 90 cm
- 5 **Planting material requirement:** 2.5 t ha⁻¹
- 6 **Fertilizer requirement:** FYM: 10 t ha⁻¹ NPK: 100:50:100 kg ha⁻¹
- 7 **Intercultural operations:** Keep the field free of weeds during the initial 3-4 months. Earthing up should be done along with weeding and mulching.
- 8 **Duration:** 8-9 months under trailing/non-trailing conditions
- 9 **Average tuber yield:** 35 t ha⁻¹
- 10 **Potential tuber yield:** 52 t ha⁻¹

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By

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