

CTRI Sulakshana: A High Yielding TMV Resistant and Aphid Tolerant Virginia Tobacco Variety for Black Soils of Andhra Pradesh

Complete Details of Technology:

Flue-cured Virginia (FCV) tobacco grown in black soils and Southern light Soils of Andhra Pradesh is known for its neutral coloury filler character. For increasing and stabilizing the yield levels of these areas, ICAR-Central Tobacco Research Institute (CTRI), Rajahmundry has under taken breeding programme to develop aphid tolerant and TMV resistant high yielding tobacco variety suitable for these areas. A new high yielding, superior quality and pest resistant FCV cultivar was evolved through modified pedigree and back cross methods of breeding involving interspecific hybridization utilizing the cultivars, VT-1158, Hema and *Nicotianagossai*. After necessary trials, the cultivar was released in the name of “CTRI Sulakshana” for commercial cultivation at the 37th meeting of AP State Seed Sub-Committee for Varietal Release conducted on 26.11.2018.

Plant of CTRI Sulakshana has semi erect habit, grows to above 2 m height, stem is light green to cream coloured and internode short to medium (5.5 cm on an average). The plant produces a total of 30 to 38 leaves with 27-33 economic leaves. Leaves are broadly elliptic, sessile, moderately recurved, light green cast in nature with medium auricle development. Leaf lamina is very long (~80 cm), broad (~42 cm), margin wavy and tip medium pointed with medium puckering. The cured leaf is lemon yellow to lemon-orange colour in lower plant positions and lemon-yellow to light orange in higher plant positions. Cured leaf is medium bodied, oily with good ripeness characteristics and good aroma. Flowers are medium pink with strong expression of corolla tips.

In the Initial Varietal Trials conducted at six All India Network Project centres during 2008-09 season, CTRI Sulakshanashowed significant superiority over better checks at four centres viz., Rajahmundry, Kandukur, Guntur and Jelugumilli with 19% in cured leaf over better check. In Advanced Varietal Trials conducted at three centres viz., Rajahmundry, Kandukur and Guntur, this variety showed 19% higher cured leaf over better check. In the comparative on-farm evaluation at 12 locations in SBS and SLS areas during 2013-14 season, CTRI Sulakshana gave 14-15 % higher cured leaf yield than the ruling variety, Siri. It possesses resistance to TMV under artificial inoculation, besides field tolerance to tobacco aphid and leaf blight. The physical and chemical characteristics of cured leaf of variety CTRI Sulakshana are in desirable range. The variety has good Smoke flavour profile with higher quantities of Geranyl acetone, Neophytadiene, Megastigmatrienone isomers and 3-Hydroxysolavetivone. Most of the parameters of Smoke and Blend analysis of CTRI Sulakshana were on par with check variety, Siri.

Advantages: CTRI Sulakshana has a yield potential of about 3300 Kg/ha under rain-fed conditions of Andhra Pradesh. Has 15% additional yield advantage than the existing varieties. CTRI Sulakshana is recommended to Black Soil tobacco growing areas of

Andhra Pradesh under conserved soil moisture condition. It is also suitable for cultivation under Southern Light Soils. Found to give stable yield due to biotic stress tolerance. Farmer can get an additional income of Rs. 15,000 to 20,000/- kg/ha using this variety.

Brief Description of Technology Including Salient Features:

CTRI Sulakshana is a high yielding Flue Cured Virginia tobacco variety, developed through interspecific hybridisation. It has a leaf yield potential of 3300 kg/ha under normal conditions. The variety is resistance to Tobacco Mosaic Virus (TMV) and tolerance to Aphid. CTRI Sulakshana is recommended for cultivation in Black Soil tobacco growing areas of Andhra Pradesh under conserved soil moisture condition. It is also suitable for cultivation under Southern Light Soils. It has 15% additional yield advantage than the existing varieties. Found to give stable yield due to biotic stress tolerance. Farmer can get an additional income of Rs. 15,000 to 20,000/- kg/ha using this variety. Physical and chemical characters of the variety are in acceptable range. The variety has good Smoke flavour profile with higher quantities of Geranyl acetone, Neophytadiene, Megastigmatrienone isomers and 3-Hydroxysolavetivone.

Benefits/Utility

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- CTRI Sulakshana is recommended for cultivation in Black Soil tobacco growing areas of Andhra Pradesh. It is also suitable for cultivation under Southern Light Soils.
- Variety is Resistant to Tobacco Mosaic Virus (TMV) and tolerant to Aphid
- Has good Smoke flavour profile with higher quantities of Geranyl acetone, Neophytadiene, Megastigmatrienone isomers and 3-Hydroxysolavetivone.
- Has 15% additional yield advantage over the existing varieties•
- Stabilises yield due to biotic stress tolerance
- Farmer can get an additional income of Rs. 15,000 to 20,000/- kg/ha using this variety