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TEXTILES

सत्यमेव जयते




IMPROVED MULBERRY VARIETIES FOR SOUTHERN AND WESTERN REGIONS OF INDIA




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Silk is a major natural fibre and an eco-friendly, durable fabric that holds a prominent place in the global fashion industry. Mulberry sericulture serves as a vital source of livelihood, providing steady and sustainable income to rural families. Mulberry is a fast-growing, woody perennial species with remarkable phenotypic plasticity and wide adaptability. It thrives in diverse soil types, ranging from sandy loam to clayey soils, and can be cultivated from sea level up to altitudes of 4,000 meters. Globally, mulberry is grown under varied agro-climatic conditions, from tropical to temperate regions and within diverse production systems tailored to meet specific environmental and economic requirements. Successful silkworm rearing depends on the continuous availability of high-quality mulberry leaves. Both the quantity and quality of leaves, largely determined by the mulberry variety, are critical factors influencing cocoon yield and overall crop success.

In India, mulberry is cultivated over 2.61 lakh hectares, producing about 31,119 metric tons of raw silk (CSB, 2024-25). The mulberry cultivation is concentrated in the tropical zone, particularly in the southern states of Karnataka, Andhra Pradesh, Tamil Nadu, and Telangana, as well as in parts of western India, including Maharashtra and Madhya Pradesh. Mulberry varietal developmental efforts in India gained momentum after the establishment of CSB-CSRTI Mysuru. Breeding programmes at the institute have resulted in the development of high-yielding mulberry varieties with superior leaf quality. This has enabled the farmers to enhance their silkworm rearing capacity and have played a pivotal role in transforming sericulture into a sustainable agro-based industry. Over the years, mulberry varieties have been developed to suit specific soil types, climatic conditions, and farming requirements. However, in practice, farmers often cultivate a single variety across diverse regions, leading to lower productivity under non-recommended soils and environmental conditions. This technical bulletin provides comprehensive information on improved mulberry varieties recommended for specific agro-climatic conditions to ensure higher productivity and sustainability.



Victory-1 (V-1) [suitable for irrigated conditions]

Registration No.	ISGR 05058
Released in the year	1997
Pedigree	S-30 × C-776
Species	M. indica × M. alba
Sexuality	Male
Ploidy level	Diploid
Plant character	Compact erect with straight branches
Leaf character	Medium, Ovate, smooth, dark green
Leaf weight (g/100 No.)	530-560
Moisture content (%)	76
Moisture retention (%)	80
Protein (%)	27
Carbohydrates (%)	26
Nodal distance(cm)	5.2
Rooting of cuttings (%)	94
Diseases & Insect-pests	Moderately tolerant to leaf blight and spots diseases
Leaf yield Potential	• 50-60 MT/ha/yr (4000 – 4800 kg/acre/crop)
Cultivation Practices	Paired row system, Drip irrigated system NPK: 350:140:140 kg/ ha/y, FYM: 25 MT/ha
Special characters	<ul style="list-style-type: none"> • Most popular variety for irrigated condition • Highly suitable for late age rearing • High moisture retention capacity and quality
Recommended for	Karnataka, Andhra Pradesh, Tamil Nadu, Maharashtra, Madhya Pradesh



G-4 [suitable for irrigated conditions]

Registration No.	ISGR 05064, PPVFR: 2019-117
Released in the year	2017
Pedigree	EC493763 × S-13
Species	M. multicaulis × M. indica
Sexuality	Female
Ploidy level	Diploid
Plant character	Compact erect with straight branches
Leaf character	Medium, cordate, glossy and green
Leaf weight (g/100 No.)	420-4250
Moisture content (%)	75
Moisture retention (%)	78
Protein (%)	26
Carbohydrates (%)	25
Nodal distance(cm)	3.9
Rooting of cuttings (%)	92
Diseases & Insect-pests	Moderately tolerant to leaf spot, rust root rot diseases & sucking pests
Leaf yield Potential	• 60-65 MT/ha/yr (4800– 5200 kg/acre/crop)
Cultivation Practices	Paired row system, Drip Irrigated system NPK : 350:140:140 kg/ ha/y, FYM: 25 MT/ha
Special characters	<ul style="list-style-type: none"> • High yielding under irrigated condition • Higher water use efficiency and feed conversion efficiency (PECS)
Recommended for	TTamil Nadu, Madhya Pradesh, Maharashtra, Karnataka, Andhra Pradesh, Telangana



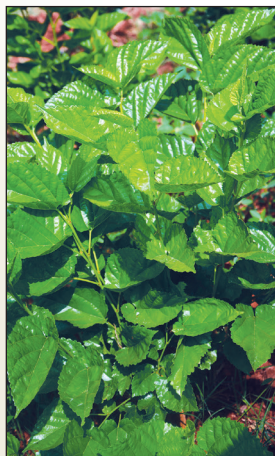
CMY-1 (AGB-8) [suitable for irrigated conditions]

Registration No.	
Released in the year	
Pedigree	(Sujanpur-5 × Philippines) × (K-2 × Black cherry)
Species	M. indica × M. alba
Sexuality	Female
Ploidy level	Diploid
Plant character	Erect with slightly curved branches
Leaf character	Large, wide ovate, smooth, glossy, green
Leaf weight (g/100 No.)	630-655
Moisture content (%)	76
Moisture retention (%)	84
Protein (%)	31
Carbohydrates (%)	23
Nodal distance(cm)	3.9
Rooting of cuttings (%)	80-90
Diseases & Insect-pests	Moderately tolerant to foliar & root rot disease and sucking insect pests
Leaf yield Potential	Irrigated condition: <ul style="list-style-type: none"> • 60-63 MT/ha/yr (4800-5300 kg/acre/crop); • Sub-optimal condition in semi-arid region: • 47-48 MT/ha/yr (3800-4000 kg/acre/crop)
Cultivation Practices	<ul style="list-style-type: none"> • Paired row system; Irrigated (Drip system); • NPK - 350:140:140 kg/ha/y; FYM: 25 MT/ha • Sub-optimal in Semi-arid (60% water & Nutrients) • Paired row system; irrigation 10-12 days interval • NPK - 210: 84: 84 kg/ha/yr; FYM: 20 MT/ha
Special characters	<ul style="list-style-type: none"> • High yielding under irrigated condition • Tolerant to low moisture and nutrient stress • High harvest index, moisture retention & quality
Recommended for	Karnataka, Andhra Pradesh, Tamil Nadu, Maharashtra, Madhya Pradesh



G-2 [suitable for chawki (young silkworm) rearing]

Registration No.	ISGR 05063, PPVFR: 2021-0048
Released in the year	2018
Pedigree	EC493763 × S-34
Species	M. multicaulis × M.indica
Sexuality	Female
Ploidy level	Diploid
Plant character	Compact erect with straight branches
Leaf character	Medium, cordate , smooth and green
Leaf weight (g/100 No.)	460
Moisture content (%)	80
Moisture retention (%)	85
Protein (%)	27
Carbohydrates (%)	25
Nodal distance(cm)	4.50
Rooting of cuttings (%)	94
Diseases & Insect-pests	Moderately tolerant to leaf spots & rust disease
Leaf yield Potential	• 38-40 MT/ha/yr (1900– 2100 kg/acre/crop)
Cultivation Practices	Paired row system: Irrigated (Drip system) Alternate leaf and shoot harvest : 8 crops/yr NPK : 260:140:140 kg/ha/y, FYM: 40 MT/ha
Special characters	<ul style="list-style-type: none">• Most suitable variety for Chawki (young silkworm) rearing• High moisture retention with nutritive quality• recommended for cultivation by Chawki rearing centers
Recommended for	Karnataka, Tamil Nadu, Andhra Pradesh, Maharashtra



MSG-2 [suitable for rainfed conditions of semi-arid region]

Registration No.	ISGR 05062, PPVFR: 2021-0050
Released in the year	2015
Pedigree	BR-4 × S-13
Species	M. indica
Sexuality	Male
Ploidy level	Diploid
Plant character	Compact erect straight branches
Leaf character	Medium, cordate, dark green
Leaf weight (g/100 No.)	350-370
Moisture content (%)	77
Moisture retention (%)	80
Protein (%)	25
Carbohydrates (%)	28
Nodal distance(cm)	4.0
Rooting of cuttings (%)	89
Diseases & Insect-pests	Moderately tolerant to foliar diseases and sucking pests
Leaf yield Potential	• 22-24 MT/ha/yr (3000-3200 kg/acre/crop)
Cultivation Practices	• MDP (3 × 3 feet: 4940 plants/acre) NPK : 100:50:50 kg/ ha/y, FYM: 20 MT/ha • LDP (8 × 8 feet : 680 plants/acre NPK : 258:103:103 /plant/yr, FYM: 15kg/plant
Special characters	• Tolerant to low moisture stress • Good moisture retention capacity and quality
Recommended for	Andhra Pradesh, Telangana, Karnataka, Maharashtra, Tamil Nadu



Sahana [suitable for inter-cropping in coconut plantation]

Registration No.	ISGR 05066, PPVFR: 2021-0049
Authorized in the year	2018
Pedigree	Kanva-2 × Kosen[EC493823]
Species	M. indica × M.latifolia
Sexuality	Female
Ploidy level	Diploid
Plant character	Erect with slightly curved branches
Leaf character	Large, cordate, smooth, dark green
Leaf weight (g/100 No.)	397-420
Moisture content (%)	76
Moisture retention (%)	82
Protein (%)	22
Carbohydrates (%)	21
Nodal distance(cm)	4.8
Rooting of cuttings (%)	80
Diseases & Insect-pests	Moderately tolerant to leaf spots, rust and tukra
Leaf yield Potential	• 42-45 MT/ha/yr (3400- 3600 kg/acre/crop)
Cultivation Practices	Mulberry: Paired row with Drip irrigation system, NPK : 350:140:140 kg/ ha/y, FYM: 25 MT/ha Coconut: 8 × 8 Meter with Drip irrigation system NPK 500:320:1200 g/tree/yr in two splits
Special characters	<ul style="list-style-type: none"> • Tolerant to partial shade(40%) condition • Good moisture and nutritive quality
Recommended for	Karnataka, Tamil Nadu, Andhra Pradesh



AR-12 [suitable for alkaline soils]

Registration No.	ISGR 05066, PPVFR: 2021-0052
Authorized in the year	2018
Pedigree	S-41 (4x) x Ber. C-776
Species	M. indica × M. alba
Sexuality	Male
Ploidy level	Triploid
Plant character	Semi erect straight curved branches
Leaf character	Medium, ovate, dark green
Leaf weight (g/100 No.)	536-555
Moisture content (%)	75
Moisture retention (%)	80
Protein (%)	21
Carbohydrates (%)	19
Nodal distance(cm)	3.75
Rooting of cuttings (%)	90
Diseases & Insect-pests	Moderately tolerant to leaf rust and spots
Leaf yield Potential	• 23-25MT/ha/yr(3000-3300kg/acre/crop)
Cultivation Practices	MDP(90×90cm), Rainfed condition NPK : 100:50:50 kg/ ha/y, FYM: 20 MT/ha
Special characters	• Tolerant to soil alkalinity condition up to soil pH of 8.0-9.4 • High nutritive and moisture quality
Recommended for	Andhra Pradesh, Karnataka, Telangana, Maharashtra, Tamil Nadu



RC-1 [suitable for sub-optimal conditions/ red sandy soils/marginal soils]

Registration No.	ISGR 05068, PPVFR: 2021-0051
Authorized in the year	2018
Pedigree	Punjab Local × Kosen
Species	M. alba × M.latifolia
Sexuality	Male
Ploidy level	Diploid
Plant character	Compact with erect branches
Leaf character	Smooth, glossy and dark green
Leaf weight (g/100 No.)	410-440
Moisture content (%)	76
Moisture retention (%)	82
Protein (%)	23
Carbohydrates (%)	16
Nodal distance(cm)	4.3
Rooting of cuttings (%)	85
Diseases & Insect-pests	Moderately tolerant to leaf blight and spots
Leaf yield Potential	<ul style="list-style-type: none"> • 20-21 MT/ha/yr (2800-3100 kg/acre/crop) [Red sandy soil] • 26-30 MT/ha/yr (3500-4000 kg/acre/ crop) [Sub-optimal condition]
Cultivation Practices	Rainfed red sandy soils ; MDP(90×90cm), NPK : 100:50:50 kg/ha/yr & FYM: 20 MT/ha Sub-optimal input: 50% irrigation & Fertilizer [NPK:150:60:60 kg/ha/y] FYM: 20 MT/ha
Special characters	<ul style="list-style-type: none"> • Tolerant to low nutrients & moisture stress, • Suitable for red sandy soils of rainfed areas • Suitable of sub-optimal irrigated and fertilizer input condition
Recommended for	Karnataka, Andhra Pradesh, Tamil Nadu, Maharashtra



Plant Spacing Followed in Mulberry Cultivation across South India



5' x (3' x 2')



3' x 3'



4' x 4'



6' x 4'



5' x 4'



8' x 4'

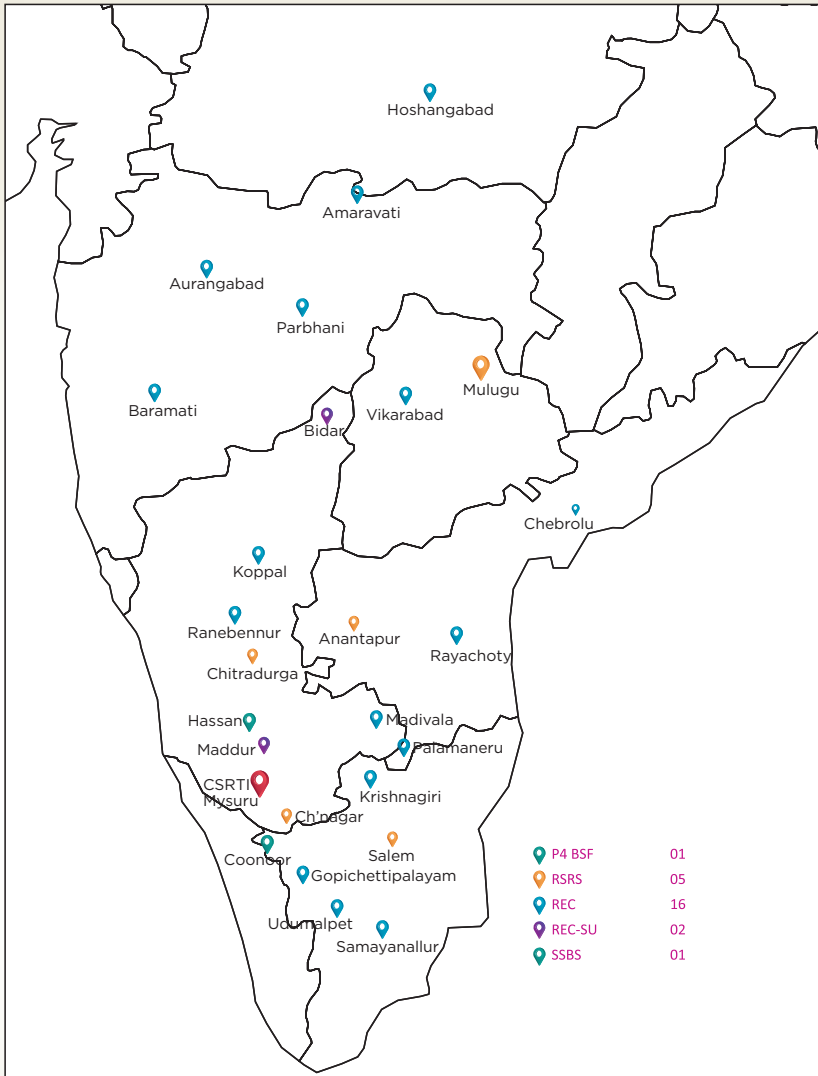


8' x 8'



10' x 10'

CSB-CSRTI Mysuru Nested Units



For further details Contact:

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