NEW CROP VARIETIES AND AGRICULTURAL IMPLEMENTS

2013

DIRECTORATE OF RESEARCH
TAMIL NADU AGRICULTURAL UNIVERSITY
COIMBATORE – 641 003

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Compiled by

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CONTENTS

NEW CROP VARIETIES

1. RICE CO 51

Special features

- Shorter duration
- High yielding semi dwarf rice variety
- Moderately resistant to Blast, Brown Plant Hopper and Green Leaf hopper
- White medium slender rice with high milling (69%) and head rice recovery (63%)
- Intermediate amylose content (22%), gelatinization temperature and soft gel consistency

Parentage	ADT 43 / RR 272 – 1745
Duration	105 -110 days
Season	June-July / September-October
Grain yield	6623 kg/ha (11% increase over ADT 43)
Highest yield obtained	11,377 Kg/ha at Nallampalli of Dharmapuri District
Recommended districts	Suitable for cultivation as transplanted rice throughout Tamil Nadu except Nilgiris district.
Scientists involved in the release S.Robin, K. Mohana Sundaram, S.Manonmani, S.Rajeswari, P.Jeyaprakash, R.Pushpam, K.Thiyagarajan, R.Rabindran, S.Suresh, V.Ravichandran and S.Radhamani	

2. RAGI CO 15

Special features

- Long duration, bold grain, non shattering, non lodging, blast resistant with preferable grain quality with nutritious fodder characteristics
- Rich in protein (11.8%)

Parentage	CO11 x PR 202
Duration	125 days
Season	Rainfed: June-July / September-October Irrigated: January-February / April-May
Yield	Rainfed - Grain - 2950kg/ha; Fodder - 5030 kg/ha Irrigated - Grain - 3461kg/ha; Fodder - 6698kg/ha Increased yield over CO (Ra) 14 (2739 Kg/ha) - 17% GPU 28 (2643 Kg/ha) - 21% Paiyur (Ra) 2 (2769 Kg/ha) - 16%
Highest yield obtained	Irrigated - Grain - 6775kg/ha Fodder - 10125kg/ha
Area of adoption	Rainfed - Erode, Salem Dharmapuri and Krishnagiri Irrigated - Thiruvannamalai and Vellore
Scientists involved in the release A. Nirmalakumari, A.Subramanian, P.Veerabadhiran, K.Thiyagarajan, S.Manoharan, T.Raguchander and C.Priyadharshini	

3. GREENGRAM CO 8

Special features

- Short duration
- Determinate plant type with synchronized maturity, suitable for single/ mechanical harvest
- Resistant to yellow mosaic disease, stem necrosis and moderately resistant to root rot
- Moderately resistant to aphids and stem fly
- Suitable for intercropping in maize and in redgram (drip irrigation)

Parentage	COGG 923 X VC 6040A
Duration	55 – 60 days
Season	June – July / September – October
Yield	845 kg/ha (20% over CO (Gg) 7)
Highest yield obtained	1310 kg/ha – Pattukottai
Area of adoption	All greengram growing districts of Tamil Nadu
Scientists involved in the release P.Jayamani, AR.Muthiah, C.Durairaj, S.Pazhanivelan, A.Kamalakanan and K.Thiyagarajan	

4. GROUNDNUT CO 7

Special features

- Tolerant to drought
- Moderately resistant to rust and late leaf spot
- Shelling outturn 71%
- Oil content 51%
- Acceptable pod traits

Parentage	Derivative of the cross ICGV 87290 x ICGV 87846
Duration	100-105 days
Season	Rainfed : April-May / June –July / Sep-Oct Irrigated: Dec-Jan / Feb-Mar / June -July
Yield	Rainfed : 2300 kg/ha - 14% over VRI (Gn 6) Irrigated: 2806 kg/ha - 17% over VRI (Gn 6)
Highest yield obtained	5632 kg/ha under irrigated condition
Area of adoption	Except Kanyakumari and Nilgiris
Scientists involved in the release S.N.Nigam, P.Vindhiyavarman, M.Vaidhyalingan, N.Manivannan, S.Saravanan, B.Meenakumari, C.Gopalakrishnan, J.S.Kennedy and K.Thiyagarajan	

5. LUCERNE CO 2

Special features

- Higher green fodder yield (130 t/ha/year)
- More number of stems per crown with soft and dark green leaves
- High crude protein content (24%) and dry matter yield (22 t/ha/yr)
- Profuse flowering leading to enhanced seed yield
- Superior ratooning ability and early flowering - 14 harvests per year
- Highly palatable, preferred by milch cattle, goat, sheep and horses
- First harvest at 60-65 days; subsequent harvest in 20-25 days interval

Parentage	Poly cross derivative of CO 1
Duration	Perennial
Season	Throughout the year under irrigated condition
Green fodder yield	130 t/ha/year 26% over CO 1
Highest yield obtained	146 t/ha/year
Area of adoption	Coimbatore, Tiruppur, Erode and Krishnagiri districts (Not suitable for hot and humid areas)
Scientists involved in the release C.Babu, G.Vijayakumar, K.Velayudham, K.Iyanar, K. Sathia Bama, A.Kalamani and K.Thiyagarajan	

6. DAVANA PKM 1

Special features

- The accession AP. 7 has high herbage (16.78 t/ha) and oil yield (20.32 kg/ha) with medium duration
- Foliage distinctly silvery green in colour
- Profuse branching from the base of the plant
- Highly fragrant in nature
- First harvest by 40 days after transplanting
- Field tolerance to aphids and damping off

Parentage	Acc. No. AP. 7 is a mass selection from the local type (Chinnamanur)
Duration	145 to 150 days
Season	June-July / November-December
Yield	Herbage - 17 t/ha 28% over Nilakottai local
Highest yield obtained	Herbage - 17.45 t/ha
Area adoption	Theni, Dindigul, Madurai, Salem, Kanyakumari and Virudhunagar districts.
Scientists involved in the release K.R.Rajadurai, J.Rajangam, R.Sankaranarayanan,V.Ponnuswami, K.Rajamani, S.Chithra, S.Parthiban, A.Subbiah, M.Palanikumar, K.Suresh and K.Venkatesan	

7. TAPIOCA YETHAPUR 1

Special features

- Erect, tall growing and non branching
- Shorter inter nodal length, bigger leaves
- Long and cylindrical tubers
- Brown outer skin, light cream rind and white flesh
- Starch content - 25 to 27 %

Parentage	Selection from Thondamuthur local of Coimbatore district, Tamil Nadu
Duration	270-300 days
Season	Irrigated: November – January Rainfed: April – May
Yield	50 t/ha 35% over CO(TP)4 and 58% over H 226
Highest yield	57 t/ha
Area of adoption	Salem, Namakkal, Erode, Perambalur, Dharmapuri and Cuddalore districts
Scientists involved in the release K.Nageswari, T.Saraswathi, M.Kannan, P.Jansi Rani, S.Venkatesan, V.Jayalakshmi, V. Palanisamy, V. Rajendran and L. Pugalendhi	

8. TURMERIC CO 2

Special features

- Fresh rhizome yield 43 t/ha
- Curcumin content 4.14%
- Moderately resistant to leaf blotch and leaf spot
- Highly resistant to rhizome rot
- Field tolerance to thrips, shoot borer, leaf folder and scale insect

Parentage	Selection from Bhavanisagar local
Duration	250 – 260 days
Season	May – June
Yield	43 t/ha (fresh rhizomes) 27% of rhizome and 18% of Curcumin content over BSR-2
Highest yield obtained	45 t/ha of fresh rhizomes
Area of adoption	Coimbatore, Erode and Salem Districts
Scientists involved in the release N.Shoba, P.Muthulakshmi, S.Subramanian, P.Paramaguru, P.Jansirani, K.Rajamani, G.Balakrishnamoorthy, N.Kumar and E.Rajeswari	

9. SWEET POTATO CO 5

Special features

- Tubers with attractive orange flesh and pink skin
- β-carotene 20.02 μg/g
- Tuber dry matter 18%
- Harvest index 44%
- Good flavour acceptance
- Dextrose sugar 7.5mg/g
- Organoleptic score of 9/10 for overall acceptability

Parentage	Clonal selection from the culture CIP 440038
Duration	100-110 days
Season	Irrigated: June-July / October-November
Yield	29 t/ha 38% over CO 3
Highest yield obtained	33 t/ha
Area of adoption	Coimbatore, Salem, Namakkal, Erode and Tirupur districts
Scientists involved in the release K.Venkatesan, T.Saraswathi, K.Nageswari, L.Pugalendhi and S.Natarajan	

10. COLEUS CO 1

Special features

- Dry tuber yield of 2.0 t/ha
- Forskohlin content 23%
- Moderately resistant to root rot and wilt diseases
- Field tolerance to nematode and mealy bug infestation

Parentage	Clonal selection from Periyakulam local
Duration	160-180 days
Season	August - September
Yield (dry tubers)	2.0 t/ha 33% increase over local
Highest yield (dry tubers)	2.5 t/ha
Area of adoption	Except Nilgiris all parts of Tamil Nadu, specifically suited to Salem, Erode, Namakkal, Coimbatore, Dindigul, Theni, Thiruvannamalai and Vellore districts
Scientists involved in the release K.Rajamani, L.Nalina, C.Kavitha, K.Kumanan, S.Rajangam, K.Rajadurai, M.Velmurugan, S.Padma Priya, R.M.Vijayakumar, B.Meena, M.Suganthy, S.Vanitha, P.Muthulakshmi and N.Seenivasan	

11. AMARANTHUS PLR 1

Special features

- Short duration 20-21 days with yield of 9 t greens and 200 kg of seeds/ha
- Moderately resistant to white rust, *Cercospora* leaf spot and leaf webber
- Rich in antioxidants and contain nutrients like iron, calcium & vitamins
- Highly preferred due to the green colour of the entire plant
- Suitable for different types of culinary preparations

Parentage	Selection from Thiruvannamalai local
Duration	20-21 days for greens 50-55 days for seed to seed
Season	Suitable for all seasons except during heavy rain
Yield (Greens)	8984 kg/ha 16% over A9-local type
Highest yield obtained (Greens)	11.7 kg/ha
Area of adoption	Suitable for growing in North Eastern Zone of Tamilnadu comprising of Cuddalore, Villupuram, Kanchipuram, Thiruvannamalai, Vellore and Ariyalur districts.
Scientists involved in the release T.Kalaimani, K.Sakthivel, M.Babu, V.Paramasivam, S.Jaya Prabhavathi, A.D.Ashok, R.Pandiyan, R.Vaidyanathan, S.Nazeer Ahamed, S.Jeeva, N.Shoba, S.Lakshmi, T Jayaraj, N.Kumar, V.Ashok Metha and A.Sathyavelu	

12. EUCALYPTUS MTP 1

Special features

- Large, fast growing multipurpose industrial wood species
- Suitable for pulp, paper, biomass, energy and plywood industries
- Propagated predominantly through clonal prorogation using shoot bud cuttings
- Wood yield of 130 t/ha in 5 years under irrigated condition
- Harvested between 3 and 5 years depending on the need
- Suitable for both irrigated and rainfed cultivation
- Pulp yield 48% with 19.30 kappa
- Calorific value of 4300 kcal/kg
- Maintainable for 3 rotations

Parentage	Selection & evaluation from the seed sources introduced from CSIRO, Australia
Duration	3 Years for Biomass 5 Years for Pulp and Paper
Season	Monsoon planting
Yield	130 t/ha 33% over local
Highest yield obtained	150 t/ha
Area of adoption	All districts. Suited for all soils except clay and waterlogged condition
Scientists involved in the release K.T.Parthiban, P.Durairasu, M.Paramathma, S.Vennila, R.Seenivasan (TNPL), R.Jude Sudhagar, S.Umesh Kanna, P.Rajendran, S.Sukumar, P.S.Devanand, N.Natarajan, A.Vidyavathi, D.Saravana Kumar and V. Anandhi	

AGRICULTURAL IMPLEMENTS

13. TAMARIND HULLER

Special features

- Portable and continuous type unit with feed hopper, beater assembly, sieve and outlet
- Reduces the drudgery involved in manual hulling and to make the process hygienic
- Operated by 1 hp single phase motor

Capacity of the equipment	:	100 kg/h
Hulling efficiency	:	94%
Cost of the equipment	:	Rs.22,000/-
Cost of operation	:	Rs.0.70/kg
Scientists involved for release	:	T.Pandiarajan and A.Tajuddin

14. MULTI CROP MULTI ROW WEEDER

- Suitable for weeding in garden land crops viz., cotton, tapioca, maize, blackgram, greengram and also rice
- Operated with 2.7 HP diesel engine
- Adjustable weeding blades and depth wheel to alter the interspace and depth to suit the crop geometry and requirement
- Engine modulation with control fixed in the handle
- Cost of implement: Rs.63,000/-
- Weeding efficiency and cost of operation

Land type	Efficiency (ha/h)	Cost (Rs./ha)
Wetland	0.08	3100/-
Garden land	0.18	2300/-

Scientists involved for release : A.Tajuddin and R.Thiyagarajan

This booklet is printed utilizing the grants provided under DST – PURSE (Promotion of University Research and Scientific Excellence)