



# IMPROVED VARIETIES OF FIELD AND HORTICULTURAL CROPS FOR ANDAMAN & NICOBAR ISLANDS, INDIA



**R.K. Gautam, S. Dam Roy, P.K. Singh,  
Shrawan Singh, Awnindra K. Singh,  
S.K. Zamir Ahmed, I. Jaisankar  
and K. Sakthivel**





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## PREFACE

It is a well established fact that cultivation of high yielding, stress resilient and good quality varieties plays an important role in enhancing and sustaining the crop productivity of a particular area. It is also perceived that varietal technology is simple to adopt, economically viable, eco-friendly and socially acceptable for higher productivity. Andaman & Nicobar Islands are endowed with exuberant and vibrant mosaic of ago-biodiversity thus figuring among 22 agro-biodiversity hotspots in India. Of the 576 Islands, only about 30 are inhabited and of the total geographical area, only about 5-7 % is under agriculture and thus maximum area is under forests cover due to ecological considerations. Therefore area for agri- horticultural cultivation cannot be expanded and thus vertical growth of productivity is the only option. In addition, “Organic agriculture” which relies on zero or minimal application of chemical inputs is perceived as the effective approach towards protecting the sensitive marine and terrestrial biota from the ill- effects of harmful chemicals. Moreover the inherent geographical isolation of the islands also restricts the uniform spread and adoption of new technologies. Climate change is another looming threat which is perceived to strike islands more as compared to mainland.

Under such a challenging scenario, the selection, development and adoption of island-specific varieties possessing higher yield, resistance/ tolerance to various biotic and abiotic stresses with other preferred traits is vital for reaping higher productivity and economic gains in a sustainable manner. Moreover, the variety method for achieving higher productivity per unit crop area is considered as the most simple, economical, eco-friendly and socially acceptable approach. In this regard, ICAR-CIARI Port Blair, has developed about 30 varieties of various field and horticultural crops. The majority of these varieties are derived from the locally adapted germplasm material through pure line selection. This indicates their higher chances of adaptability and performance under local conditions.

Therefore in this technical bulletin, we have endeavored to compile and document the detailed information about each of these varieties. We are grateful to Dr. N.K. Krishna Kumar, Deputy Director General (Horticulture Science), ICAR for his kind inspiration, support and guidance. The authors are immensely thankful to Director, ICAR-CIARI, Port Blair for encouragement and support for this work. We also feel grateful to all the scientists and other staff members who were directly or indirectly associated with the development of these varieties for the service of these Islands and country. It is hoped that this technical bulletin will be of great benefit and interest to the researchers, line departments like Directorate of Agriculture, NGOs and farmers etc. Efforts are also being taken up for the notification of these varieties and spread through seed production and multiplication through line departments. It is aimed at to achieve higher productivity and profitability in a sustainable manner through cultivation of improved varieties of field and horticultural crops from the islands.

(Authors)



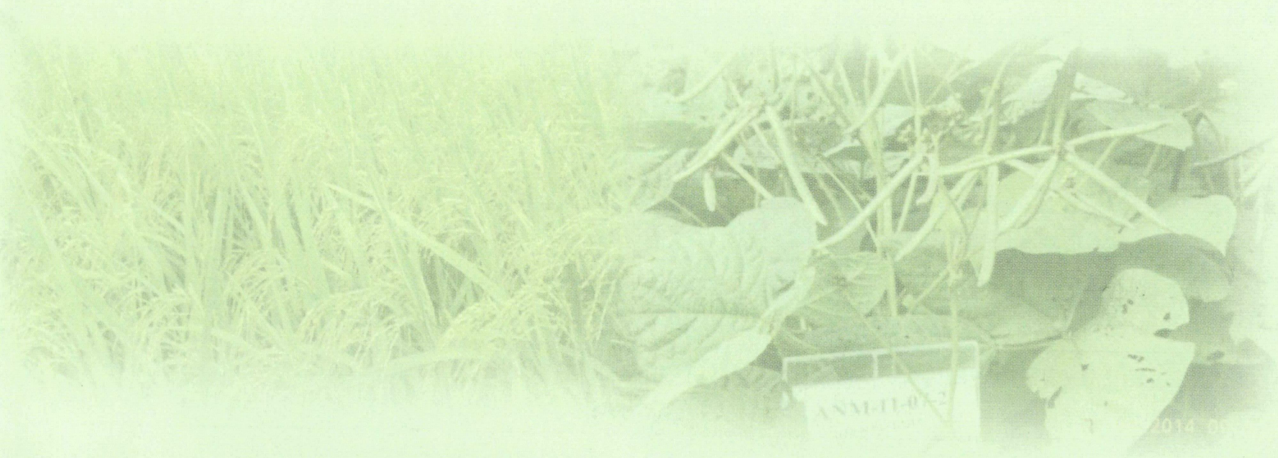
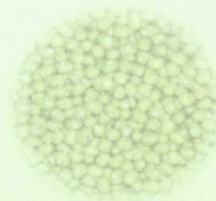
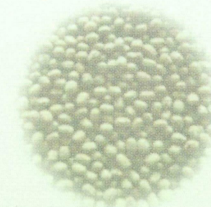
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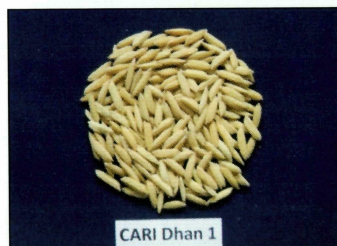
## FIELD CROPS





**RICE**

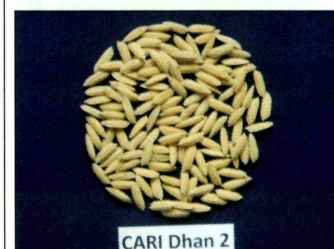
**CARI Dhan 1**



Crop	Rice ( <i>Oryza sativa</i> L.)
Breeding method	Pedigree selection
Source material	International Rice Research Institute, Philippines
Nature of variety	Pure line
Crop season	Kharif (June to October)
Crop duration (days)	122-125 days (medium duration)
Salient characteristics	Medium stature (115 cm), 5 - 6 tillers and medium bold grains
Recommended ecology	Rainfed lowland areas of Andaman & Nicobar Islands
Agronomical practices	Spacing : 20 X 15 cm Seed rate : 25 Kg/ha N:P:K : 90 : 60 : 40 Kg/ha
Grain yield	4.5 – 5.0 t/ha
Year of release	2009
Released by	State Variety Release Committee, Andaman & Nicobar Administration
Developed by	Asit B. Mandal, T.V.R.S Sharma, P.K. Singh & R.C. Srivastava

**RICE**

**CARI Dhan 2**



Crop	Rice ( <i>Oryza sativa</i> L.)
Breeding method	Pedigree selection
Source material	International Rice Research Institute, Philippines
Nature of variety	Pure line
Crop season	Kharif (June to October)
Crop duration (days)	115-120 days (medium duration)
Salient characteristics	Semi dwarf stature (110 cm), 6 - 7 tillers and long bold grains
Recommended ecology	Rainfed lowland areas of Andaman and Nicobar Islands
Agronomical practices	Spacing : 20 X 15 cm Seed rate : 25 Kg/ha N:P:K : 90 : 60 : 40 Kg/ha
Grain yield	5.0 – 5.4 t/ha
Year of release	2009
Released by	State Variety Release Committee, Andaman & Nicobar Administration
Developed by	Asit B. Mandal, T.V.R.S Sharma, P.K. Singh & R.C. Srivastava



**RICE**

**CARI Dhan 3**



Crop	Rice ( <i>Oryza sativa</i> L.)
Breeding method	Pedigree selection
Source material	International Rice Research Institute, Philippines
Nature of variety	Pure line
Crop season	Kharif (June to October)
Crop duration (days)	120 days (medium duration)
Salient characteristics	Medium stature (112 cm), 6 - 7 tillers and long slender grains
Recommended ecology	Rainfed lowland areas of Andaman & Nicobar Islands
Agronomical practices	Spacing : 20 X 15 cm Seed rate : 20-22 Kg/ha N:P:K : 90 : 60 : 40 Kg/ha
Grain yield	4.5 - 5.0 t/ha
Year of release	2009
Released by	State Variety Release Committee, Andaman & Nicobar Administration
Developed by	Asit B. Mandal, T.V.R.S Sharma, P.K. Singh & R.C. Srivastava

**RICE**

**CARI Dhan 4**



Crop	Rice ( <i>Oryza sativa</i> L.)
Breeding method	Somaclonal selections
Source material	Pokkali
Nature of variety	Pure line
Crop season	Kharif (July to November)
Crop duration (days)	135-140 days (late duration)
Salient characteristics	Salt tolerant, medium stature (120 cm), 5 - 6 tillers and medium bold grains with brown husk colour
Recommended ecology	Saline soils and rainfed lowland areas of Andaman & Nicobar Islands
Agronomical practices	Spacing : 20 X 15 cm Seed rate : 25 Kg/ha N:P:K : 90 : 60 : 40 Kg/ha
Grain yield	3.1 - 3.3 t/ha (Saline soils) 5.0 - 5.4 t/ha (Normal soils)
Year of release	2009
Released by	State Variety Release Committee, Andaman & Nicobar Administration
Developed by	Asit B. Mandal, T.V.R.S Sharma, P.K. Singh & R.C. Srivastava



**RICE**

**CARI Dhan 5**



Crop	Rice ( <i>Oryza sativa</i> L.)
Breeding method	Somaclonal selections
Source material	Pokkali
Nature of variety	Pure line
Crop season	Kharif (July to November)
Crop duration (days)	140 days (late duration)
Salient characteristics	Salt tolerant, medium stature (120 cm), 6-7 tillers and medium bold grains with yellow husk colour
Recommended ecology	Saline soils and rainfed lowland areas of Andaman & Nicobar Islands
Agronomical practices	Spacing : 20 X 15 cm Seed rate : 25 Kg/ha N:P:K : 90 : 60 : 40 Kg/ha
Grain yield	3.2 - 3.7 t/ha (Saline soils) 5.0 - 5.4 t/ha (Normal soils)
Year of release	2009
Released by	State Variety Release Committee, Andaman & Nicobar Administration
Developed by	Asit B. Mandal, T.V.R.S Sharma, P.K. Singh & R.C. Srivastava

**RICE**

**CARI Dhan 6**

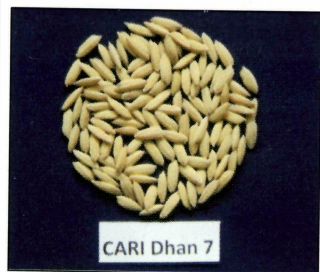


Crop	Rice ( <i>Oryza sativa</i> L.)
Breeding method	Pedigree selection
Source material	International Rice Research Institute, Philippines
Nature of variety	Pure line
Crop season	Kharif (June to October)
Crop duration (days)	125 days (medium duration)
Salient characteristics	Short statured (100 cm), 7 - 8 tillers, long slender grains and resistant to Bacterial Leaf Blight disease
Recommended ecology	Rainfed lowland areas of Andaman & Nicobar Islands
Agronomical practices	Spacing : 20 X 15 cm Seed rate : 25 Kg/ha N:P:K : 90 : 60 : 40 Kg/ha
Grain yield	5.0 - 5.5 t/ha
Year of release	2013
Released by	Institute Variety Release Committee, ICAR-CIARI, Port Blair, Andaman & Nicobar Islands
Developed by	P. K. Singh, Krishna Kumar, Ajanta Birah, R. K. Gautam, Naresh Kumar, T. V. R. S. Sharma, A. K. Singh, S. K. Zamir Ahmed & S. Dam Roy



**RICE**

**CARI Dhan 7**



Crop	Rice ( <i>Oryza sativa</i> L.)
Breeding method	Pedigree selection
Source material	International Rice Research Institute, Philippines
Nature of variety	Pure line
Crop season	Kharif (June to October)
Crop duration (days)	130 days (medium duration)
Salient characteristics	Short statured (100 cm), 7 - 8 tillers, medium slender grains and resistant to Bacterial Leaf Blight disease
Recommended ecology	Rainfed lowland areas of Andaman & Nicobar Islands
Agronomical practices	Spacing : 20 X 15 cm Seed rate : 25 Kg/ha N:P:K : 90 : 60 : 40 Kg/ha
Grain yield	5.0 - 5.5 t/ha
Year of release	2013
Released by	Institute Variety Release Committee, ICAR-CIARI, Port Blair, Andaman & Nicobar Islands
Developed by	P. K. Singh, Krishna Kumar, Ajanta Birah, R. K. Gautam, Naresh Kumar, T. V. R. S. Sharma, A. K. Singh, S. K. Zamir Ahmed & S. Dam Roy

**RICE**

**CIARI Dhan 8**

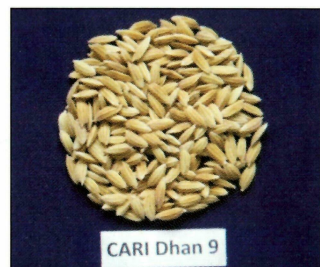


Crop	Rice ( <i>Oryza sativa</i> L.)
Breeding method	Pure line selection
Source material	Local (C 14-8 or <i>Aath Number Dhan</i> )
Nature of variety	Pure line
Crop season	Kharif (July to December)
Crop duration (days)	215 days (long duration)
Salient characteristics	Tall statured (188 cm), 6 - 7 tillers, long panicles, medium bold grains with yellow husk and good grain quality. It is suitable for low input management conditions and also gives good straw yield for fodder purpose
Recommended ecology	Rainfed lowland areas of Andaman & Nicobar Islands
Agronomical practices	Spacing : 25 X 20 cm Seed rate : 25 Kg/ha N:P:K : 60 : 60 : 40 Kg/ha
Grain yield	3.0 - 3.5 t/ha
Year of release	2014
Released by	Institute Variety Release Committee, ICAR-CIARI, Port Blair, Andaman and Nicobar Islands
Developed by	R. K. Gautam, P. K. Singh, A. K. Singh, S. K. Zamir Ahmed, K. Sakthivel & S. Dam Roy



**RICE**

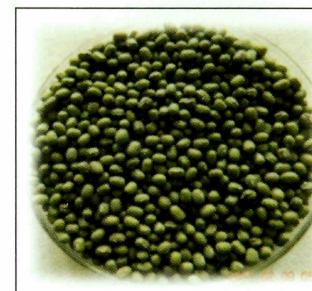
**CIARI Dhan 9**



Crop	Rice ( <i>Oryza sativa</i> L.)
Breeding method	Pure line selection
Source material	Local (C 14-8 or <i>Aath Number Dhan</i> )
Nature of variety	Pure line
Crop season	Kharif (July to December)
Crop duration (days)	216 days (long duration)
Salient characteristics	A tall stature (200 cm), 6 - 7 tillers, long panicles, medium bold grains with brown husk and good grain quality. It is suitable for low input management conditions and also gives good straw yield for fodder purpose
Recommended ecology	Rainfed lowland areas of Andaman & Nicobar Islands
Agronomical practices	Spacing : 25 X 20 cm Seed rate : 25 Kg/ha N:P:K : 60 : 60 : 40 Kg/ha
Grain yield	2.5 - 3.0 t/ha
Year of release	2014
Released by	Institute Variety Release Committee, ICAR-CIARI, Port Blair, Andaman & Nicobar Islands
Developed by	R. K. Gautam, P. K. Singh, A. K. Singh, S. K. Zamir Ahmed, K. Sakthivel & S. Dam Roy

**GREEN GRAM**

**CIARI Mung 1**



Crop	Green Gram ( <i>Vigna radiata</i> L.)
Breeding method	Pure line selection
Source material	Local
Nature of variety	Pure line
Crop season	Rabi (December to February)
Crop duration (days)	66-70 days (medium duration)
Salient characteristics	Synchronous maturity (at 75-80% physiological maturity), bold seeded, brown and long pods with 13 - 15 seeds per pod, medium statured variety (70 - 75 cm), profuse branches and resistance to charcoal rot, powdery mildew and mung bean yellow mosaic virus.
Recommended ecology	Rainfed areas of Andaman & Nicobar Islands
Agronomical practices	Spacing : 30 X 10 cm Seed rate : 20-25 Kg/ha N:P:K : 10 : 45 : 00 Kg/ha
Grain yield	1.8 t/ha
Year of release	2014
Released by	Institute Variety Release Committee, ICAR-CIARI, Port Blair, Andaman & Nicobar Islands
Developed by	A. K. Singh, Krishan Kritania, R. K. Gautam, Sanjeev Gupta, G. P. Dixit, Naresh Kumar, P. K. Singh, Krishna Kumar, S. K. Zamir Ahmed & S. Dam Roy



**GREEN GRAM**

**CIARI Mung 2**



Crop	Green Gram ( <i>Vigna radiata</i> L.)
Breeding method	Pure line selection
Source material	Local
Nature of variety	Pure line
Crop season	Rabi (December to February)
Crop duration (days)	66-70 days (medium duration)
Salient characteristics	Synchronous maturity (at 80% physiological maturity), bold seeded, black and long pods with 11 - 14 seeds per pod, medium statured variety (65 - 75 cm), profuse branches and resistance to charcoal rot, powdery mildew and mung bean yellow mosaic virus
Recommended ecology	Rainfed areas of Andaman & Nicobar Islands
Agronomical practices	Spacing : 30 X 10 cm Seed rate : 20-25 Kg/ha N:P:K : 10 : 45 : 00 Kg/ha
Grain yield	1.6 t/ha
Year of release	2014
Released by	Institute Variety Release Committee, ICAR-CIARI, Port Blair, Andaman & Nicobar Islands
Developed by	A. K. Singh, R. K. Gautam, Khokan Mondal, Sanjeev Gupta, G. P. Dixit, Naresh Kumar, P. K. Singh, Krishna Kumar, S. K. Zamir Ahmed & S. Dam Roy

**GREEN GRAM**

**CIARI Mung 3**



Crop	Green Gram ( <i>Vigna radiata</i> L.)
Breeding method	Pure line selection
Source material	Local
Nature of variety	Pure line
Crop season	Rabi (December to February)
Crop duration (days)	64-68 days (medium duration)
Salient characteristics	Synchronous maturity (at 80% physiological maturity), medium seeded, black and long pods with 11 - 14 seeds per pod, medium statured variety (65 - 75 cm), profuse branches and resistance to charcoal rot, terminal drought, powdery mildew and mung bean yellow mosaic virus
Recommended ecology	Rainfed areas of Andaman & Nicobar Islands
Agronomical practices	Spacing : 30 X 10 cm Seed rate : 20-25 Kg/ha N:P:K : 10 : 45 : 00 Kg/ha
Grain yield	1.5 t/ha
Year of release	2014
Released by	Institute Variety Release Committee, ICAR-CIARI, Port Blair, Andaman & Nicobar Islands
Developed by	A. K. Singh, R. K. Gautam, Prashant Mondal, Sanjeev Gupta, G. P. Dixit, Naresh Kumar, P. K. Singh, Krishna Kumar, S. K. Zamir Ahmed & S. Dam Roy



**COCONUT**
**CARI Annapurna**

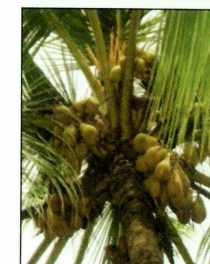
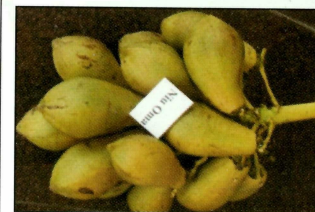

Crop	Coconut ( <i>Cocos nucifera</i> L.)
Breeding method	Selection
Source material	ICAR - CPCRI, Kasargod
Nature of variety	Pure line
Crop season	Round the year
Crop duration (days)	Days taken for flowering – 69 months Days taken for harvesting – 85 months
Salient characteristics	It is unique because of dwarfness with high copra content (245 g / nut) and performance under rainfed conditions
Recommended ecology	Island and coastal ecosystem
Agronomical practices	Suitable for rainfed conditions. Spacing should be 6.0m x 6.0 m. An application of 500g N, 320g P <sub>2</sub> O <sub>5</sub> and 1200g K <sub>2</sub> O per palm per year is generally recommended for adult palms. Fertilizers are applied in two split doses in a year
Average yield	52 nuts/tree/year
Year of release	2013
Released by	Institute Variety Release Committee, ICAR-CIARI, Port Blair, Andaman & Nicobar Islands
Developed by	M.A. Suryanarayana, M. Sankaran, V.Damodaran, D.R.Singh, S. Dam Roy, T. Damodaran, R.P.Medhi, E.V.V.Bhaskar Rao, P.K.Khosy, B.C. Viraktamath, Joshi Joseph, S.Chander Rao, R.Dhanapal, B.Augustine Jerard, P.M.Kumaran, M.J.Rathnambal, R.V.Nair, P.M. Jacob, V.Arunachalam, S.K. Rizal, K.V.K. Nampoodhiri & George V.Thomas

**HORTICULTURAL CROPS**



**COCONUT**
**CARI Annapurna**


Crop	Coconut ( <i>Cocos nucifera</i> L.)
Breeding method	Selection
Source material	ICAR - CPCRI, Kasargod
Nature of variety	Pure line
Crop season	Round the year
Crop duration (days)	Days taken for flowering – 40 months Days taken for harvesting – 53.5 months
Salient characteristics	It is unique because of its dwarfness with attractive red colour fruits and good performance under rainfed conditions and ornamental value. There is market demand from entrepreneurs of mainland cities
Recommended ecology	Island and coastal ecosystem
Agronomical practices	Suitable for rainfed conditions. Spacing should be 6.0m x 6.0 m. An application of 500g N, 320g P <sub>2</sub> O <sub>5</sub> and 1200g K <sub>2</sub> O per palm per year is generally recommended for adult palms. Fertilizers are applied in two split doses in a year
Average yield	114 nuts/tree/year
Year of release	2013
Released by	Institute Variety Release Committee, ICAR-CIARI, Port Blair, Andaman & Nicobar Islands
Developed by	M.A. Suryanarayana, M. Sankaran, V.Damodaran, D.R.Singh, S. Dam Roy, T. Damodaran, R.P.Medhi, E.V.V.Bhaskar Rao, P.K.Khosy, B.C. Viraktamath, Joshi Joseph, S.Chander Rao, R.Dhanapal, B.Augustine Jerard, P.M.Kumaran, M.J.Rathnambal, R.V.Nair, P.M. Jacob, V.Arunachalam, S.K. Rizal, K.V.K. Nampoodhiri & George V.Thomas

**COCONUT**
**CARI Omkar**


Crop	Coconut ( <i>Cocos nucifera</i> L.)
Breeding method	Selection
Source material	ICAR - CPCRI, Kasargod
Nature of variety	Pure line
Crop season	Round the year
Crop duration (days)	Days taken for flowering – 44.3 months Days taken for harvesting – 61 months
Salient characteristics	It is unique because of its dwarfness with good performance under rainfed conditions and ornamental value. There is market demand from entrepreneurs of mainland cities. The peculiar pear shape fruit is unique for good ornamental value
Recommended ecology	Island and coastal ecosystem
Agronomical practices	Suitable for rainfed conditions. Spacing should be 6.0m x 6.0 m. An application of 500g N, 320g P <sub>2</sub> O <sub>5</sub> and 1200g K <sub>2</sub> O per palm per year is generally recommended for adult palms. Fertilizers are applied in two split doses in a year
Average yield	136 nuts/tree/year
Year of release	2013
Released by	Institute Variety Release Committee, ICAR-CIARI, Port Blair, Andaman & Nicobar Islands
Developed by	R.P.Medhi, T. Damodaran, R.C.Srivastava, D.R.Singh, M Sankaran, V.Damodaran, M.A. Suryanarayana, E.V.V.Bhaskar Rao, P.K.Khosy, B.C. Viraktamath, Joshi Joseph, S.Chander Rao, M.Dhanapal, V.Arunachalam, B.Augustine Jerard, P.M.Kumaran, M.J.Rathnambal, R.V.Nair, P.M. Jacob & George V.Thomas



**COCONUT**

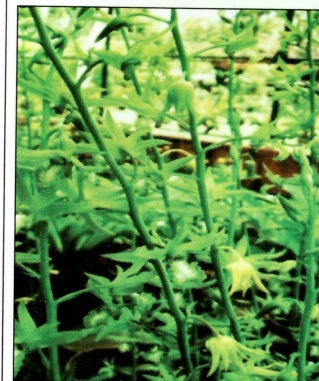
**CARI Chandan**



Crop	Coconut ( <i>Cocos nucifera</i> L.)
Breeding method	Selection
Source material	CPCRI, Kasargod
Nature of variety	Pure line
Crop season	Round the year
Crop duration (days)	Days taken for flowering – 32.7 months Days taken for harvesting – 49 months
Salient characteristics	It is unique because of dwarfness with good performance under rainfed conditions and ornamental value. There is market demand from entrepreneurs of mainland cities. The peculiar shape of long and smooth fruits without prominent ridges is unique for good ornamental value
Recommended ecology	Island and coastal ecosystem
Agronomical practices	Suitable for rainfed conditions. Spacing should be 6.0 m x 6.0 m. An application of 500g N, 320g P <sub>2</sub> O <sub>5</sub> and 1200g K <sub>2</sub> O per palm per year is generally recommended for adult palms. Fertilizers are applied in two split doses in a year
Average yield	92.5 nuts/tree/year
Year of release	2014
Released by	Institute Variety Release Committee, ICAR-CIARI, Port Blair, Andaman & Nicobar Islands
Developed by	M.A. Suryanarayana, M. Sankaran, V.Damodaran, D.R.Singh, S. Dam Roy, T. Damodaran, R.P.Medhi, E.V.V.Bhaskar Rao, P.K.Khosy, B.C. Viraktamath, Joshi Joseph, S.Chander Rao, R.Dhanapal, B.Augustine Jerard, P.M.Kumaran, M.J.Rathnambal, R.V.Nair, P.M. Jacob, V.Arunachalam, S.K. Rizal, K.V.K. Nampoodhiri & George V.Thomas

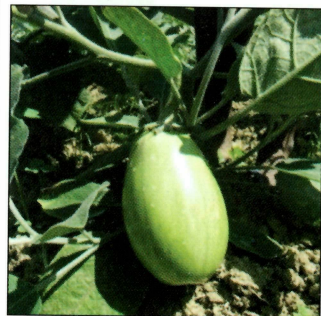
**ORCHID**

**CARI Pretty Green Bay**



Crop	Green Orchid ( <i>Eulophia andamanensis</i> )
Breeding method	Mass selection
Source material	Local material collection from wild habitat in Little Andaman
Nature of variety	Pure line
Crop season	Round the year
Crop duration (days)	120 - 180 (Medium duration)
Salient characteristics	Longest spike, attractive spike colour with long shelf life, potted plant, long duration flowering period. Well suited for tropical climatic conditions of Islands
Recommended ecology	Humid tropical ecosystem of Andaman & Nicobar Islands and similar ecosystem available elsewhere
Agronomical practices	Suitable for organic production in pots and in ground with shaded conditions (55-60% shade with specific bottling media)
Average yield	50000 spikes/ha/year
Year of release	2010
Released by	State Variety Release Committee, A & N Administration
Developed by	D. R. Singh, R. C. Srivastava, Sujatha Nair, Shrawan Singh, R. P. Medhi & TVRS Sharma



**BRINJAL**
**CARI Brinjal 1**


Crop	Brinjal ( <i>Solanum melongena</i> L.)
Breeding method	Pure line selection
Source material	Local
Nature of variety	Pure line
Crop season	Rabi (November to April)
Crop duration (days)	216 days (Long duration)
Salient characteristics	Plants are medium tall (75 - 90 cm) with profuse branching, fruits are light green and oblong in shape with less seeds. This is notably bacterial wilt resistant. This variety also exhibited drought tolerant ability during water stress situations
Recommended ecology	Rainfed areas of Andaman & Nicobar Islands
Agronomical practices	Spacing : 90 X 60 cm Seed rate : 250-300 g/ha N:P:K : 120 : 150 : 80 Kg/ha
Yield (Fruit)	25 - 35 t/ha
Year of release	2013
Released by	Institute Variety Release Committee, ICAR-CIARI, Port Blair, Andaman & Nicobar Islands
Developed by	Krishna Kumar, P.K. Singh, Ajanta Birah, Shrawan Singh, Naresh Kumar, Awnindra Kumar Singh, D.R. Singh, R.K. Gautam & L. B. Singh

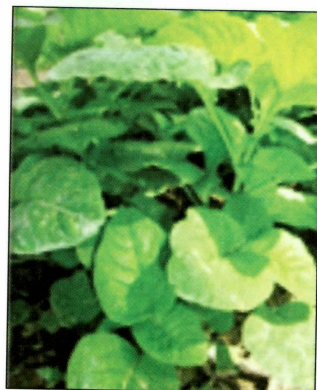
**AMARANTHUS**
**CARI Lal Marsha**


Crop	Amaranthus ( <i>Amaranthus tricolor</i> L.)
Breeding method	Selection
Source material	Local material (South Andaman)
Nature of variety	Pure line
Crop season	Suitable for round the year cultivation
Crop duration (days)	27 - 30 days
Salient characteristics	Purple magenta colour attractive broad leaves, fast vegetative growth with higher leaves: stem ratio
Recommended ecology	Humid tropical climatic conditions of Andaman & Nicobar Islands and similar ecosystem available telsewhere
Agronomical practices	FYM: 20 - 25 t/ha Vermicompost @ 3 - 5 t/ha. Spacing: 20 cm x 5 - 10 cm. Seed rate: 2.0 kg/ha
Average yield	14 - 16 t/ha in island conditions
Year of release	2014
Released by	Institute Variety Release Committee, ICAR-CIARI, Port Blair, Andaman & Nicobar Islands
Developed by	Shrawan Singh, D. R. Singh, L.B. Singh, S. K. Zamir Ahmed & S. Dam Roy



**AMARANTHUS**

**CIARI Harita**



Crop	Amaranthus ( <i>Amaranthus viridis</i> L.)
Breeding method	Mass Selection
Source material	Local material (South Andaman)
Nature of variety	Pure line
Crop season	Suitable for round the year cultivation
Crop duration (days)	28 - 32 days
Salient characteristics	Excellent and fast vegetative growth, more number of leaves, broad and attractive green leaves. Well suited to tropical climatic conditions of Islands
Recommended ecology	Humid tropical climatic conditions of Andaman & Nicobar Islands and similar ecosystem available elsewhere
Agronomical practices	FYM: 20 - 25 t/ha Vermicompost @ 3 - 5 t/ha. Spacing: 20 cm x 5 - 10 cm. Seed rate: 2.0 kg/ha
Average yield	14-16 t/ha in island condition
Year of release	2014
Released by	Institute Variety Release Committee, ICAR - CIARI, Port Blair, Andaman & Nicobar Islands
Developed by	Shrawan Singh, D. R. Singh, L.B. Singh, S. K. Zamir Ahmed & S. Dam Roy

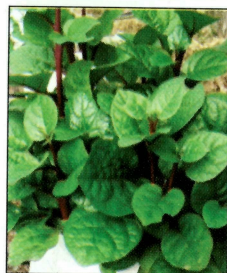
**POI**

**CARI Poi 1 Selection**



Crop	Poi ( <i>Basella alba</i> L.)
Breeding method	Selection
Source material	Local material (South Andaman)
Nature of variety	Pure line
Crop season	Round the year
Crop duration (days)	Early (40 - 45 days)
Salient characteristics	Attractive green and broad leaves, short internodal length, better shelf-life, tolerance to foliar disease and pests. It is rich in Fe and Ca, ascorbic acid and carotenoids. It is highly suitable to tropical climatic conditions
Recommended ecology	Irrigated conditions of Andaman & Nicobar Islands and similar ecosystem available elsewhere
Agronomical practices	Recommended manures and fertilizers: 10 t/ha compost; 80 kg nitrogen (1/2 as basal dose; 1/4 after 1 <sup>st</sup> and 1/4 after 2 <sup>nd</sup> harvesting); 40 kg/ha phosphorus, 50kg/ha potassium as basal application through organic or inorganic sources
Average yield	55.0 - 60.0 t/ha/year
Year of release	2013
Released by	Institute Variety Release Committee, ICAR - CIARI, Port Blair, Andaman & Nicobar Islands
Developed by	Shrawan Singh, D. R. Singh, Krishna Kumar, Ajanta Birah, L. B. Singh, S. K. Zamir Ahmed & S. Dam Roy



**POI**
**CIARI Shan**


Crop	Poi ( <i>Basella rubra</i> L.)
Breeding method	Selection
Source material	Local material
Nature of variety	Pure line
Crop season	Round the year
Crop duration (days)	Early (35 - 40 days)
Salient characteristics	Dark attractive purple/magenta colour stems and green leaves with coloured veins and short internodal length. It is rich in anthocyanin and micronutrients. It is highly suitable to tropical climatic conditions of Islands. It is ready to harvest at 35 - 40 days stage when it attains height of 25 - 30 cm. It escapes foliar diseases and pests
Recommended ecology	Irrigated and rainfed conditions of Andaman & Nicobar Islands and similar ecosystem available elsewhere
Agronomical practices	Recommended manures and fertilizers: 25 t/ha compost; 80 kg nitrogen (1/2 as basal dose; 1/4 after 1 <sup>st</sup> and 1/4 after 2 <sup>nd</sup> harvesting); 40 kg/ha phosphorus, 50 kg/ha potassium as basal application through organic or inorganic sources (for multi-harvest crop). This genotype performs well with organic farming practice. For this apply 3 - 5 tonnes of vermicompost in addition to 25 - 30 tonnes of well decomposed FYM
Average yield	48 - 52 t/ha/year
Year of release	2014
Released by	Institute Variety Release Committee, ICAR - CIARI, Port Blair, Andaman & Nicobar Islands
Developed by	Shrawan Singh, D. R. Singh, L. B. Singh & S. Dam Roy

**BURMA DHANIA**
**CARI Broad Dhania**


Crop	Culantro/burma dhaniya ( <i>Eryngium foetidum</i> L.)
Breeding method	Selection
Source material	Local material (South Andaman)
Nature of variety	Pure line
Crop season	Round the year
Crop duration (days)	4 - 5 months (medium early)
Salient characteristics	Excellent vegetative growth, more number of leaves, large sized leaves, rich in phytochemical compounds and micronutrients. Well suited to tropical climatic conditions of Islands
Recommended ecology	Humid tropical climatic conditions of Andaman & Nicobar Islands and similar ecosystem available elsewhere
Agronomical practices	Suitable for organic cultivation and shaded conditions, fertilizer responsive but nitrogen fertilizers should be avoided as it increases nitrate content in leaves, performs better with application of vermicompost @ 5-8t/ha. Recommended spacing is 30 cm x 20 cm and suitable as intercrop in plantations
Average yield	10 - 12 t/ha/year
Year of release	2010
Released by	State Variety Release Committee, Andaman & Nicobar Administration
Developed by	Shrawan Singh, D. R. Singh, R. C. Srivastava & L.B. Singh



**SWEET POTATO**

**CARI-Swarna**



Crop	Sweet Potato ( <i>Ipomoea batatas</i> )
Breeding method	Selection
Source material	Local material
Nature of variety	Pure line
Crop season	Round the year
Crop duration (days)	105-110
Salient characteristics	Tuber colour is light pink, orange fleshed, resistant to weevil and suitable to Island conditions
Recommended ecology	Island and coastal ecosystem
Agronomical practices	Suitable for rainfed conditions. Preparation of soil up to the depth of 15-20 cm is sufficient for good crop. The cuttings can be planted either on ridges and furrows or beds with spacing of 60 x 20 cm. Farm yard manure @ 10 tonnes/ha. is recommended. A basal dressing of 20 kg of nitrogen, 80kg of phosphorus and 120 kg of potash has to be applied before planting
Average yield	21 t/ha
Year of release	2013
Released by	Institute Variety Release Committee, ICAR - CIARI, Port Blair, Andaman & Nicobar Islands
Developed by	M.Sankaran, V.Damodaran, D.R.Singh, T.Damodaran, R.Sudha, Shrawan Singh, L.B.Singh, R.P.Medhi & S.Dam Roy

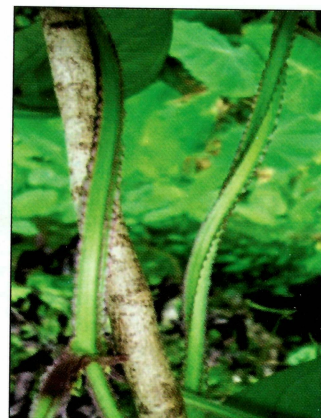
**SWEET POTATO**

**CARI-Aparna**



Crop	Sweet Potato ( <i>Ipomoea batatas</i> )
Breeding method	Selection
Source material	Local material
Nature of variety	Pure line
Crop season	Round the year
Crop duration (days)	105-110
Salient characteristics	CARI SP-2 is white fleshed, broad tuber, high yielding and locally adapted genotype. It is moderately resistant to weevil
Recommended ecology	Island and coastal ecosystem
Agronomical practices	Suitable for rainfed conditions. Preparation of soil up to the depth of 15-20 cm is sufficient for good crop. The cuttings can be planted either on ridges and furrows or beds with spacing of 60 x 20 cm. Farm yard manure @ 10 tonnes/ha. is recommended. A basal dressing of 20 kg of nitrogen, 80kg of phosphorus and 120 kg of potash has to be applied before planting
Average yield	22 t/ha
Year of release	2013
Released by	Institute Variety Release Committee, ICAR - CIARI, Port Blair, Andaman & Nicobar Islands
Developed by	M.Sankaran, V.Damodaran, D.R.Singh, T.Damodaran, R.Sudha, Shrawan Singh, L.B.Singh, R.P.Medhi & S.Dam Roy



**GREATER YAM**
**CARI Yamini**


Crop	Greater yam ( <i>Dioscorea alata</i> )
Breeding method	Selection
Source material	Local material (Little Andaman)
Nature of variety	Pure line
Crop season	Round the year
Crop duration (days)	270-300
Salient characteristics	Conical shaped and rough textured tubers, flesh is white in colour and this crop could be the ideal inter crop in the coconut and arecanut plantations
Recommended ecology	Island and coastal ecosystem
Agronomical practices	Suitable for rainfed conditions. Plough the field 3-4 times. Pits of the size 45x45x45 cm are prepared at spacing of 1x1m and these pits are filled up with farm yard manure @ 2.0-2.5 kg/pit and mixed with the topsoil,. Then mounds or ridges are formed on the filled pit
Average yield	28-30 t/ha
Year of release	2010
Released by	State Variety Release Committee, Andaman & Nicobar Administration
Developed by	M.Sankaran, V.Damodaran, D.R.Singh, R.C.Srivastava, L.K.Bharathi & R.P.Medhi

**NONI**
**CIARI Samridhi**


Crop	Noni ( <i>Morinda citrifolia</i> L.)
Breeding method	Clonal selection
Source material	Local material (Little Andaman)
Nature of variety	Pure line
Crop season	Round the year
Crop duration (days)	Fruiting starts at 10 - 12 months and early maturity (100 - 105 days to harvest from fruit setting to full maturity stage)
Salient characteristics	Dwarf statured, top bearer, rich in phytochemical compounds with high antioxidant activity
Recommended ecology	Rainfed conditions of Andaman & Nicobar Islands and similar ecosystem available elsewhere. Suitable as intercrop in arecanut and coconut plantations
Agronomical practices	FYM: 25 kg/plant/year Vermicompost : 5.0 kg/plant Spacing : 3.0 m x 3.0 m
Average yield	16.0 - 20.0 t/ha/year
Year of release	2014
Released by	Institute Variety Release Committee, ICAR-CIARI, Port Blair, Andaman & Nicobar Islands
Developed by	D. R. Singh, Shrawan Singh, Krishna Kumar & Ajanta Birah



**NONI**

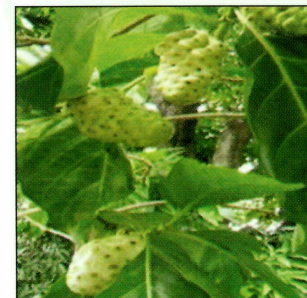
**CIARI Sanjivini**



Crop	Noni ( <i>Morinda citrifolia</i> L.)
Breeding method	Selection
Source material	Car Nicobar, (Nicobar District)
Nature of variety	Pure line
Crop season	Round the year
Crop duration (days)	Fruiting starts at 12 - 14 months and is early (Bud formation to harvest: 100 - 105 days)
Salient characteristics	Dwarf statured, top bearer, rich in phytochemical compounds with high antioxidant activity. Well suited to tropical climatic conditions of Islands
Recommended ecology	Rainfed, near to neutral soils, tropical humid climate preferably Andaman & Nicobar Islands and also similar ecosystem available elsewhere. It is suitable as intercrop in coconut plantation
Agronomical practices	FYM: 25 kg/plant/year Vermicompost : 5.0 kg/plant Spacing : 3.0 m x 3.0 m
Average yield	14 - 17 t/ha
Year of release	2014
Released by	Institute Variety Release Committee, ICAR-CIARI, Port Blair, Andaman & Nicobar Islands.
Developed by	D. R. Singh, Shrawan Singh, Krishna Kumar & Ajanta Birah

**NONI**

**CIARI Sampada**

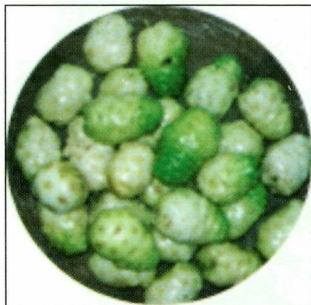


Crop	Noni ( <i>Morinda citrifolia</i> L.)
Breeding method	Selection
Source material	Local material (South Andaman)
Nature of variety	Pure line
Crop season	Round the year
Crop duration (days)	Fruiting starts at 12 - 14 months and medium duration (110 - 120 days from bud formation to fruit ripening)
Salient characteristics	Vigorous, medium sized fruits, top bearer, rich in phytochemical compounds with high antioxidant activity as demanded by industry. Well suited to tropical climatic conditions of Islands
Recommended ecology	Humid tropical climatic conditions of Andaman & Nicobar Islands and similar ecosystem available elsewhere. It is suitable as intercrop in coconut plantation
Agronomical practices	FYM: 25 kg/plant/year Vermicompost : 5.0 kg/plant Spacing : 4.0 m x 4.0 m
Average yield	15.0 - 17.0 t/ha/year
Year of release	2014
Released by	Institute Variety Release Committee, ICAR-CIARI, Port Blair, Andaman & Nicobar islands
Developed by	D. R. Singh, Shrawan Singh, Krishna Kumar & Ajanta Birah



**NONI**

**CIARI Rakshak**



Crop	Noni ( <i>Morinda citrifolia</i> L.)
Breeding method	Selection
Source material	Local material (South Andaman)
Nature of variety	Pure line
Crop season	Round the year
Crop duration (days)	Fruiting starts at 10 - 12 months and early duration (100 - 110 days from fruit setting to fruit ripening)
Salient characteristics	Dwarf, well adapted to sea water affected lands and high levels of phytochemicals and antioxidant activity
Recommended ecology	Sea water affected lands in humid tropical climatic conditions of Andaman & Nicobar Islands and similar ecosystem available elsewhere. It is suitable as intercrop in plantation under saline conditions
Agronomical practices	FYM: 25 kg/plant/year Vermicompost : 5.0 kg/plant Spacing : 3.0 m x 3.0 m
Average yield	7.0 – 9.0 t/ha/year under saline condition
Year of release	2014
Released by	Institute Variety Release Committee, ICAR-CIARI, Port Blair, Andaman & Nicobar Islands
Developed by	D. R. Singh, Shrawan Singh, Krishna Kumar & Ajanta Birah





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