



# Bio Fortified Sweet Potato Varieties for India Catalogue 2018





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## INTRODUCTION

Sweet potato (*Ipomoea batatas* (L.) Lam, family Convolvulaceae) is the second most important root tuber and the seventh most important food crop of the world. It is grown as a starchy food crop throughout the tropical, subtropical and frost-free temperate climatic zones in the world. Sweet potato is a herbaceous perennial vine, bearing heart shaped or lobed leaves and medium sized flowers. The edible tuberous root is having a smooth skin with variable colours like red, purple, brown and white where as the flesh colour ranges from white, yellow, orange to purple. This carbohydrate rich root crop is used as subsidiary food, the vine tips used as vegetables and vines along with leaves serves as fodder. The sweet potatoes are eaten raw, boiled, roasted and as cooked vegetables. In many parts of India it is considered as a “Poor man’s rich food” or “Famine Crop”. India occupies twelfth, eighth and fifth rank globally in terms of sweet potato area, production and productivity respectively while fifth rank in Asia in terms of area, production and productivity. Sweet potato has got many food and nutritional values. A regular intake of 100 g of orange fleshed sweet potato tubers per day can provide the recommended daily amount of vitamin A for adults and children. Additionally, the purple fleshed sweet potato, being rich in anthocyanin (90mg/100g), can provide good amounts of bio-available antioxidant to overcome oxidative stress. The orange and purple flesh sweet potato tubers rich in starch, sugars, minerals and vitamins are gaining importance as the cheapest source of antioxidants as bio-fortified crop to combat malnutrition especially in small and marginal farming community.



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# Bhu Sona

## Growth Characters

Canopy or plant type : Spreading

Leaf : Teeth, green petiole

Emerging leaf colour : Green

Vine : Pubescent, purple with shallow grooves

Flowering ability : Profusely flowering

## Major Agronomic Attributes

Maturity period : 105-110 days

Storage root yield : Average 20-24 t ha<sup>-1</sup>

Resistance to biotic/abiotic stress : Field tolerant to weevil ; Tolerant to mid season drought and salinity stress

## Storage Root Characters

Shape : Round elliptic

Skin colour : Yellow

Flesh colour : Dark Orange

$\beta$  Carotene : 11.5-12.5mg/100g

Dry matter :27- 28%

## Pedigree

Clonal selection of open pollinated seedling progenies of exotic source

**State for which recommended : Odisha**



# Sree Kanaka

## Growth Characters

Canopy or plant type : Compact

Leaf : 3-5 lobed

Emerging leaf colour : Purple

Vine : Green

Flowering ability : Very sparse flowering

## Major Agronomic Attributes

Maturity period : 75-85 days maturity

Storage root yield : 10-15 t ha<sup>-1</sup>

Resistance to biotic/abiotic stress : Low resistance to weevil

## Storage Root Characters

Shape : Cylindrical

Skin colour : Cream with reddish yellow tint

Flesh colour : Dark Orange

β Carotene : 8.8-10mg/100g

## Pedigree

Hybrid : S-187 x H-633

State for which recommended : Kerala



# Bhu Kanti (CIP 440127)

## Growth Characters

Canopy or plant type : Spreading

Leaf : Triangle

Emerging leaf colour : Dark green

Vine : Green with many purple spots

Flowering ability and habits : Profusely flowering

## Major Agronomic Attributes

Maturity period : 105-110 days

Storage root yield : 22-24 t ha<sup>-1</sup>

Resistance to biotic/abiotic stress : Field tolerant to weevil, mid season drought and salt stress

## Storage Root Characters

Shape : Elliptic

Skin colour : Light yellow

Flesh colour : Orange

β Carotene : 6.5 mg/100g

Dry matter : 25-26.6%

## Pedigree

Clonal selection from exotic lines, Source CIP



**State for which recommended : Odisha**

## Bhu Ja (CIP-SWA-2)

### Growth Characters

Canopy or plant type : Semi compact

Leaf : Teeth

Emerging leaf colour : Green

Vine : Green

Flowering ability : Profusely flowering

### Major Agronomic attributes

Maturity period : 100-110 days

Storage root yield : 20-22 t ha<sup>-1</sup>

Resistance to biotic/abiotic stress : Tolerant to salt stress

### Storage Root Characters

Shape: Round elliptic

Skin colour : Pink

Flesh colour : Orange

$\beta$  Carotene : 5.5-6.4mg/100g

Dry matter : 23.2-24.8%

### Pedigree

Clonal selection of introduced CIP line

State for which recommended : Odisha





# Gouri

## Growth Characters

Canopy or plant type : Semi-erect  
Leaf : 5-6 lobes  
Emerging leaf colour : Slightly purplish  
Vine : Light purple  
Flowering ability : Profusely flowering

## Major Agronomic Attributes

Maturity period : 110-120 days  
Storage root yield : 18-25 t ha<sup>-1</sup>  
Resistance to biotic/abiotic stress : Tolerant to moisture stress

## Storage Root Characters

Shape : Round elliptic tuber  
Skin colour : Red  
Flesh colour : Orange  
 $\beta$  Carotene : 4.5-5.5 mg/100g  
Dry matter : 22-27%

## Pedigree

Hybrid : H-219 x H-42

State for which recommended : Odisha



# Sree Rethna

## Growth Characters

Canopy or plant type : Spreading

Leaf : 5-6 lobes,

Emerging leaf colour : Dark purple

Vine : Purplish green

Flowering ability : Moderate

## Major Agronomic Attributes

Maturity period : 90-105 days

Storage root yield : 20-22 t ha<sup>-1</sup>

Resistance to biotic/abiotic stress : Susceptible to sweet potato weevil

## Storage Root Characters

Shape : Round Spherical tubers

Skin colour : Purple

Flesh colour : Yellow

$\beta$  Carotene : 3.2-3.5 mg/100g

Dry matter : 30-32%

## Pedigree

Hybrid: S-187 x Sree Vardhini



**State for which recommended : Kerala**

# Kamala Sundari

## Growth Characters

Canopy or plant type : Spreading

Leaf : Cordate

Emerging leaf colour : Purple to deep purple

Vine : Purple green

Flowering ability : Profuse during winter

## Major Agronomic Attributes

Maturity period : 110-120 days

Storage root yield : 21-24 t ha<sup>-1</sup>

Resistance to biotic/abiotic stress : Field resistant to tuber rot and black scurf diseases, tolerant to begomo virus, moderately susceptible to weevil, can grow in sandy soil with very less irrigation.

## Storage Root Characters

Shape : Long elliptical

Skin colour : Light orange

Flesh colour : Vibrant Orange

β Carotene : 8.2mg/100g

Dry matter : 26.47%

## Pedigree

Selection from Bangaon of North 24-Paagns District(W.B)

**State for which recommended : West Bengal, Odisha**



## CO 5 (CIP-440038)

### Growth Characters

Canopy or plant type : Spreading

Leaf : No leaf lobe

Vine : Green

Flowering ability : Moderate

### Major Agronomic Attributes

Maturity period : 130-140 days

Storage root yield : 25-30 t ha<sup>-1</sup>

Resistance to biotic/abiotic stress : Tolerant to weevil infestation registering only 11 to 15%

### Storage Root Characters

Shape : Ovate

Skin colour : White

Flesh colour : Orange

$\beta$  Carotene : 6mg/100 g

Dry matter content : 18.27%

### Pedigree

Clonal selection from CIP and collected from ICAR-CTCRI Regional centre

**State for which recommended : Tamil Nadu**



# Indira Narangi

## Growth Characters

Canopy or plant type: Erect

Leaf: Deep lobe, elliptic and abaxial vine pigmentation

Vine: Green with few purple spots

Flowering ability: Profusely flowering

## Major Agronomic Attributes

Maturity period: 90-100 days

Storage root yield : average 23.79 t ha<sup>-1</sup>

Resistance to biotic/abiotic stress : Tolerant to sweet potato weevil

## Storage Root Characters

Shape: Fusiform tuber

Skin colour: Purple red

Flesh colour: Orange

β Carotene : 5.72mg/100g

Dry matter content : 25.17%

## Pedigree

Clonal selection from Poly cross seedling population of 56-2



**State for which recommended : Chhattisgarh**

# Indira Madhur

## Growth Characters

Canopy or plant type : Semi spreading  
Leaf : Narrow lobed, Green colour  
Emerging Leaf colour : Copper golden  
Vine : Pigmented  
Flowering ability : Flowering

## Major Agronomic Attributes

Maturity period :110-120 days  
Storage root yield : 21-25 t ha<sup>-1</sup>  
Resistance to biotic/abiotic stress : Field tolerant to weevil

## Storage Root Characters

Shape : Elliptical long tuber  
Skin colour : Red  
Flesh colour : Orange  
 $\beta$  Carotene : 4.5mg/100g

## Pedigree

Clonal selection from CIP and collected from ICAR-CTCRI Regional centre

**State for which recommended : Chhattisgarh**



# Bhu Krishna

## Growth Characters

Canopy or plant type : Semi Compact

Leaf : Triangular

Emerging leaf colour : bright green with purple edge

Vine : Green pubescent , purple nodes

Flowering ability : Sparse

## Major Agronomic Attributes

Maturity period : 110-120 days

Storage root yield : 18-22 t ha<sup>-1</sup>

Resistance to biotic/abiotic stress : Highly tolerant to weevil and salt stress

## Storage Root Characters

Shape : Long elliptic tuber

Skin colour : Dark purple

Flesh colour : Dark purple

Anthocyanin : 90mg/100g

Extractable starch : 18-20%

Dry matter content : 26-28%

## Parentage

Clonal selection of open pollinated seedling progenies of exotic source

**State for which recommended : Odisha**





“This is *the sweet* that gives health”

Maria Andrade  
World Food Prize Laureate 2016





**“Let food be thy medicine”**

**Hippocrates**





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