

DO FARMERS' PREFER WHITE YAM? VARIETAL ASSESSMENT THROUGH PARTICIPATORY APPROACH IN KERALA, SOUTHERN INDIA

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WHITE YAM

- ❖ A recent introduction from Africa
- ❖ High yield, higher dry matter, excellent cooking quality, less slimy tubers etc
- ❖ An excellent source of potassium, a good source of vitamin C, B6, folate, iron, and magnesium.

❖ Relatively free from pest/diseases

PARTICIPATORY VARIETAL ASSESSMENT

- ❖ Facilitates farmers' participation in varietal evaluation
- ❖ Helps in development of location-specific varieties

METHODOLOGY

A. SELECTION OF STUDY AREA

- Purposive sampling based on concentration of area

Districts selected

- Kollam, Pathanamthitta & Alapuzha districts

B. COLLECTION OF DATA

No. of clones tested: 5 (2 released and 3 pre-released)

Observations: Yield and matrix ranking based on various characteristics

Statistics used: Tabular analysis and Matrix ranking

PRODUCTION SYSTEM OF YAMS IN KERALA



Upland Sandy soil
As mixed stand in coconut



Upland Laterite soil
As intercrop in banana



Lowland Clay soil
As mixed stand in banana



Table 1 Yield performance of white yam accessions under various production systems (2004-05)

Accessions	Average tuber yield (kg/plant)		
	Sandy soil*		Laterite soil**
	Location 1	Location 2	Location 1
Sree Priya	2.73	1.46	1.30
Sree Subhra	4.02	2.47	1.30
DR 18	4.37	2.00	1.70
DR 29	5.68	1.00	2.13
DR 164	1.88	3.00	1.38

* Harvested at 12th month

** Harvested at 8th month

Table 2 Yield performance of white yam accessions under various production systems (2005-06)

Accessions	Average tuber yield (kg/plant)				
	Sandy soil*		Laterite soil**		Clay soil***
	Location 1	Location 2	Location 1	Location 2	Location 1
Sree Priya	NE	8.75	0.54	0.67	Wild boar attack
Sree Subhra	13.00	2.00	0.47	0.65	Wild boar attack
DR 18	NE	NE	0.40	0.64	0.55
DR 29	NE	NE	0.50	1.28	0.59
DR 164	NE	2.50	0.67	1.04	Wild boar attack

* Harvested at 12th month

** Harvested at 8th month

*** Harvested at 7th month

NE Not established

Assessment of white yam accessions by farmers based on tuber characteristics (sandy soil type, Kerala)

Tuber characteristics	Sree Priya		Sree Subhra		DR 18		DR 29		DR 164	
	L1	L2	L1	L2	L1	L2	L1	L2	L1	L2
Yield	2	2	3	1	3	3	1	2	3	1
Duration	3	3	3	3	3	3	3	3	3	3
Tuber shape	2	3	2	2	1	3	3	2	3	2
Tuber size	3	3	3	3	2	3	3	3	3	3
Flesh colour	3	3	3	3	3	3	3	3	3	3
Smoothness	3	3	1	2	3	2	3	2	3	3
Browning after cut	3	3	3	3	3	3	3	3	3	3
Incidence of scale insect/nematode	3	3	3	3	3	3	3	3	3	3
Mucilage	3	3	3	3	2	3	3	3	3	3
Taste	3	2	3	3	3	3	3	3	3	3
Overall	2.8	2.8	2.7	2.6	2.7	2.9	2.8	2.7	2.9	2.7

Yield: High-3, Medium-2, Low-1

Tuber shape: Optimum-3, Medium-2, Irregular-1

Tuber size: Medium-3, Big-2, Small-1

Flesh colour: White/gil white-3, Purple-2, Yellow-1

Browning after cut: No browning-3, Slight browning-2, More browning-1

Incidence of scale insect: No incidence-3, Little-2, More-1

Taste: Good-3, Somewhat O.K-2, Bad-1

Duration: Optimum-3, Long-2, Short-1

Smoothness of tuber: Very smooth-3, Somewhat hairy-2, Very much hairy-1

Mucilage: No mucilage-3, Little-2, More-1

Assessment of white yam accessions by farmers based on tuber characteristics (laterite soil type & clay soil type, Kerala)

Tuber characteristics	Sree Priya		Sree Subhra		DR 18		DR 29		DR 164	
	L	C	L	C	L	C	L	C	L	C
Yield	1	-	1	-	1	1	2	1	2	-
Duration	2	-	2	-	2	2	2	2	2	-
Tuber shape	1	-	2	-	2	2	2	1	2	-
Tuber size	1	-	1	-	1	1	1	1	1	-
Flesh colour	3	-	3	-	3	3	3	3	3	-
Smoothness	2	-	2	-	2	2	2	2	2	-
Browning after cut	3	-	3	-	3	3	3	3	3	-
Incidence of scale insect/nematode	3	-	3	-	3	3	3	3	2	-
Mucilage	3	-	3	-	3	3	3	3	3	-
Taste	3	-	3	-	3	2	3	3	3	-
Overall	2.20	-	2.30	-	2.30	2.20	2.40	2.20	2.30	-



CONCLUSIONS

❖ WHITE YAM ADAPTABLE & ACCEPTED UNDER SANDY SOIL CONDITION OWING TO

- High yield
- excellent cooking quality & taste
- Good marketability

❖ WHITE YAM NOT ACCEPTED UNDER LATERITE & CLAY SOIL CONDITION DUE TO

- Less yield
- Long, cylindrical tuber shape
- Difficulty in harvesting
- Longer duration
- Less market demand

