

A Note on the Characters and Performance of Some Sweet Potato Varieties

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SWEET POTATO—*Ipomoea batatas*—a native of South America was introduced into Ceylon many years ago and is now extensively grown in village gardens.

This paper describes the performance of ten varieties at the Experiment Station, Peradeniya.

Morphological Characters of the Varieties

A. Vines pigmented or distinct pigmentation at nodes and axils.

Vines—Slender, hairy and purple.

Leaves—Purple petioles and tender leaves dark purple, cordate to trilobed, upper surface of older leaves green, lower surface light purple with tinted veins.

Tubers—Round, white epidermis, deep yellow flesh.

SUMAR BIG YELLOW (1)

B. Tender leaves green, veins purple.

Vines—Slender and short internodes.

Leaves—Long petiole, both ends purple pigmented with streaks of purple on the lower side, palmately 3-5 lobed, purple veins on the lower side.

Tubers—Conical and warty at base, light red epidermis, light cream flesh.

B-5 (2)

Vines—Long and green, axils of leaves purple.

Leaves—Petiole long, both ends purple pigmented, cordate to trilobed, veins purple on the lower surface.

Tubers—White epidermis, white flesh.

WHITE MALTESE (3)

Vines—Long and green, nodes and axils of leaves purple.

Leaves—Petiole, both ends purple, trilobed, veins on the lower side of leaves purple.

Tubers—Large and long, white epidermis, white flesh.

V-52 (4)

BB—Tender leaves purple, veins green.

Vines—Short and green, prominently hairy, short internodes.

Leaves—Short petioles, tender leaves purple, cordate to trilobed, veins green

Tubers—Medium sized, bright yellow epidermis, golden yellow flesh.

GOLDEN YELLOW (5)

Vines—Short and green, hairy.

Leaves—Petioles short, tender leaves, purple cordate to trilobed, veins green.

Tubers—Long, light yellow epidermis, light yellow flesh.

YELLOW (6)

AA Vines green and without pigmentation at nodes and axils.

Vines—Short and stout.

Leaves—Tender leaves purplish at the margin, palmately 5-9 lobed.

Tubers—Long, cylindrical, red epidermis, light cream flesh.

GANDIA (7)

Vines—Long vines, prominently hairy.

Leaves—Laminal end of petiole purple, leaves 4-7 lobed.

Tubers—Large and cylindrical, red epidermis, white flesh.

MURISEE (8)

Vines—Stout and prominently hairy.

Leaves—Laminal end of petiole purple, palmately mostly 5-lobed, margin of leaves purplish.

Tubers—Long, red epidermis, white flesh.

GONA MURISEE (9)

Vines—Long and slender, hairy.

Leaves—Hairy, mostly cordate, margin of leaves light purple.

Tubers—Round, white epidermis, light yellow flesh.

WANNOP (10)

Experimental Results

THE above varieties were tried out in a randomized block design of three replicates. Each plot measured 12 ft. by 12 ft. All plots were separated by shallow drains 2 ft. wide and 10 ins. deep to facilitate weeding. Cuttings about 12 ins. long were planted 10 ins. apart on flat beds. A month after planting, the plots were weeded, and a dressing of sulphate of ammonia at 300 lbs. per acre was given. A border of 2 ft. round each plot was discarded at harvest keeping a nett area of 100 sq. ft. The yields of the varieties were as given below.

Weights of Tubers

Blocks	Golden Yellow	Sumar Big Yellow	Yellow Wannop	Gandia	White Maltese	Gona Murisee	B.5	V.52	Murisee
I	.. 27 ..	25 ..	23 ..	20 ..	14 ..	12 ..	29 ..	25 ..	19 .. 13
II	.. 13 ..	22 ..	31 ..	21 ..	12 ..	18 ..	22 ..	31 ..	09 .. 14
III	.. 18 ..	22 ..	35 ..	12 ..	26 ..	09 ..	19 ..	40 ..	08 .. 25
Total	.. 58 ..	69 ..	89 ..	53 ..	52 ..	39 ..	70 ..	96 ..	36 .. 52
Means	..19.30	..23.00	..29.66	..17.66	..17.33	..13.00	..23.33	..32.00	..12.00 .. 17.33

Analysis of Variance

		D. F.	S. S.	M. S.	F.	5 per cent. point
Blocks ..	..	2	22.87	11.43	—	—
Varieties ..	..	9	1,165.47	129.49	3.46	2.46
Error ..	..	18	673.13	37.39	—	—

Standard error of the mean of each variety = $\frac{6.11}{\sqrt{3}} = + 3.51$.

Significant difference 5% level $4.98 \times 2.10 = 10.45$
 1% level $4.98 \times 2.88 = 14.34$

Summary

THE results indicate the superiority of B—5 to V.—52, Wannop, Gandia, White Maltese and Murisee at the 1 per cent. level of significance. B.5 is also superior

to golden yellow at the 5 per cent. level of significance. There are no significant differences between the varieties Yellow, Sumar Big Yellow, Gona Murisee, and B—5.