SHORT SCIENTIFIC NOTES

Preliminary Observations on Incompatibility in Sweet Potato (*Ipomoea batatas* Poir.)

In flowering plants, self-incompatibility is one of the mechanisms which facilitate outcrossing. This outcrossing device gives opportunity for intervarietal as well as interspecific hybridization and the consequent maintenance and release of variability. It forms a basis for hybrid vigour also. In plant breeding programmes involving self-incompatible individuals hybridization procedure is made easy as it does not require hand emasculation. Cross-incompatibility on the other hand impedes hybridization programmes.

reveal, all the three female parents are self-incompatible. Cross-incompatibility was observed in two combinations, namely, I.72–30 × I.72–02 and I.72–04 × I.69–16. In the other combinations the percentage of fruitset varied from 1·96 to 71·42.

Hernandez and Miller (1962) reported that compatibility in Sweet potato ranges from zero to 80%. The results of the present study also agree to this observation though the maximum setting is only 71·42%. It was also reported that the compatibility nature of the same variety varies considerably in different combinations both as male and female parents (Togari and Kawahara, 1942 ; Van Schreven,

TABLE I

Showing percentage of fruitset

Female parents	Male parents										
	I.67–22	I.67–43	I.68–01	I.68–10	I.68–45	I.69–16	I.72–02	I.72–03	I.72–04	I.72–05	I.72–06
I.69–16	21·42	4·65	64·00	52·94	71·42	S.I.	59·25	39·28	2·50	36·00	25·00
I·72–03	59·90	25·45	23·40	2·04	1·96	50·00	C.I.	S.I.	3·39	2·27	2·01
I.72–04	25·00	8·16	16·66	20·00	33·33	C.I.	8·69	12·50	S.I.	9·80	10·41

S.I. = Self-incompatible,   C.I. = Cross-incompatible.

A study of incompatibility in Sweet potato (*Ipomoea batatas* Poir.) varieties was started in the Department of Botany, University of Kerala and preliminary results are presented in this note.

From one hundred and forty varieties of Sweet potato collected from various parts of India and abroad, eleven flowering varieties were selected for the present study. Of these, three profusely flowering varieties were used as female parents. Ten varieties were used as male parents in crosses with each of the three female parents. Fifty flowers were pollinated under each combination.

The flowers from the female parents selected for crossing were emasculated and bagged with butter paper bags between 4 and 5 p.m. Flowers of the male parent were merely bagged. Pollination was done next day morning between 4·30 and 6·30, bagged again and labelled. The bags were removed the same day between 9 and 10 a.m. Seeds from the successful crosses were collected at full maturity, *i.e.*, 20 to 27 days after pollination.

The percentage of fruitset in various combinations used is given in Table I. As data in the table

1953 ; Hermon, 1960 ; Wang, 1964). The present findings are also in conformity with this.

Dept. of Botany,   P. Gopalakrishna Pillai.
University of Kerala,
May 17, 1974.

1. Hermon, S. A., *Diss. Abstr.*, 1960, p. 21 ; *L.C. Misc. Card.*, 60 (2976), 411, (Abstr.).
2. Hernandez, T. P. and Miller, J. C., *Proc. Amer. Soc., Hort. Sci.*, 1962, 81, 428.
3. Martin, F. W., *Econ. Botany*, 1965, 91, 406.
4. Togari, Y. and Kawahara, U., *Bull. Imp. Agric. Exp. Stn. Japan*, 1942, 52, 21.
5. Van Schreven, A. C., *Landbouw*, 1953, 25, 305.
6. Wang, Hisa, *Proc. Amer. Soc. Hort. Sci.*, 1964, 84, 424.

A Computer Program for Calculating Alkaline and Acid Phosphatase Activity

Computer programming has found its application in plant breeding and genetics[1-4]. However, its utility in enzymology is not yet known. The purpose of this note. is to report a computer program