SHORT SCIENTIFIC NOTES

Vitamin C Content in *Moringa* Pod Vegetable

The tender pod-like fruits of *Moringa* tree are used in the preparation of various types of vegetable-curries and pickles throughout India. The pods start ripening during the last week of March and are then cooked alongwith "Sambar".

In our studies on the genetical improvement of *Moringa* for wood-pulp we came across extensive variation in the taste of pods of *M. oleifera* and *M. concanensis* which varied from very sweet to extremely bitter. Different grades of sweetness of both raw and cooked pods of *M. oleifera* was the basis for selection of clones 3, 6, 7 and 10 from vegetatively propagated trees planted under standard nursery environment. From amongst the four clones of *M. oleifera*, clones 6 and 7 flower almost throughout the year and they, therefore, fall in the category of "Baramasi" varieties. Both leaves and fruit-juice of *M. oleifera* are known to be rich in vitamin C content[1-4].

The fresh pods of the four sweet clones of *M. oleifera* and of one bitter clone of *M. concanensis* were screened for ascorbic acid content. The fruits from each tree were also collected randomly during II week of April and a composite sample of 10 g was ground with 12% oxalin acid. Ascorbic acid content was then determined by titremetric method using 2–6 dichlorophenol indophenol. The results are given in Table I. *M. concanensis* had the highest ascorbic acid content in the bitter fruit of the clone evaluated.

TABLE 1

	M. oleifera			*M. concanensis*	
Sl. No.	7	3	10	6	1
Baramasi Long flowering and fruiting period	+	—	—	+	—
Fruit size large	+	+	+	—	+
Fruit very sweet	+	+	+	+	—
Fruit very bitter	—	—	—	—	+
Ascorbic acid content mg per 100 gm pulp	126·41	124·53	97·17	91·51	132·17

\+ Present; — Absent;

Amongst the sweet clones of *M. oleifera* clones 7 and 3 had the highest amount of ascorbic acid followed by 10 and 6. Clone 6 although sweet has a poor yield in spite of its long flowering period due to sterility. Work is also in progress in this Laboratory on screening of new germplasm of *M. oleifera* for other important nutritive contents such as proteins, carbohydrates and other vitamins.

We are grateful to professor T. S. Sadasivan, for suggesting the problem of screening the sweet clones of *M. oleifera* for vitamin C content.

Tree Genetics Laboratory, P. D. DOGRA.
National Botanic Gardens (CSIR). B. P. SINGH.
Lucknow, *June* 10, 1974. S. TANDON.

1. Damodaran, M. and Srinivasan, M., *Curr. Sci.*, 1934–35, 3, 553.
2. Srinivasan, M., *Ibid.*, 1935–36, 4, 407.
3. Panse, T. B. and Sreenivasan, A., *Ibid.*, 1945, 14, 303.
4. Annonymous, *The Wealth of India*, (*Raw Materials*), 6, 426, C.S.I.R., New Delhi.

Comparative Observations on Glume, Spikelet and Stomatal Length in Haploid, Diploid and Tetraploid Rices

Spontaneous occurrence of tetraploids in the F_2 generation of two diploid rice varieties, *viz.*, J.B.S. 820 and AC. 1225 has been reported[1]. AC. 1225 has long sterile glume while in J.B.S. 820 the sterile glumes are asymmetrical in length. One haploid plant was later isolated from the F_2 population. An attempt was made to study the ploidy effect on the glume (sterile lemma), spikelet and stomatal length of the cytotypes.

The haploid plant, diploid parents (J.B.S. 820 and AC. 1225) and a typical tetraploid Tet-6, were studied. All the cytotypes had asymmetrical glumes and therefore, glumes on lemma and palea sides were separately observed. Stomata of dorsal side of the second leaves from top were always selected. One hundred measurements were taken in all cases.

Data are presented in Table I along with the range and mean.

There is a linear increase in the mean length of spikelet, glume and stomata from haploidy to tetraploidy. The proportion of increase is, however, not the same in all characters. The mean spikelet length of diploids was approximately twice the mean length of haploid while the increase was marginal from diploidy to tetraploidy. A similar trend was noted in the case of glume length on the palea side; there was overlapping of measurements. The ploidy effect was thus most pronounced in the length of lemma side glume.