

Supplementary note on tolerance to cacao swollen-shoot virus in Nigeria

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The reaction of different cacao clones to infection with a Nigerian isolate of swollen-shoot virus has been reported (Longworth & Thresh, 1963*a*). Clone 77 was the most tolerant type tested and its behaviour has been confirmed, though small swellings were produced infrequently in addition to the slight and often transient leaf symptoms reported previously.

The parents of clone 77 were the Amazon trees Iquitos (I.M.C.) 60 and Nanay 34 which were growing at the Imperial College of Tropical Agriculture, Trinidad. Both parents were sensitive in tests on clones introduced from Trinidad between 1952 and 1956. Similarly the reaction of the Nanay \times Parinari hybrids of the T 63 series was dissimilar to that of either parent. These results were attributed to the segregation of a recessive character, but Glendinning (1963) has questioned the authenticity of some clones received from Trinidad. Until this problem has been resolved and genuine material from the original Trinidad trees has been located it will be impossible to relate the reaction of the Amazon hybrids to that of their parents.

Table 1. *The severity of the symptoms and effect on growth of swollen-shoot virus in progeny 'IID' and its two components (Longworth & Thresh, 1963*b*)*

Progeny	Mean symptom score	Mean stem diameter increment (cm.)			Difference %
		Healthy	Infected	Difference	
'IID'	0.89	3.30	2.98	0.32	9.7
Authentic IID (T 16/603 \times E 1)	0.93	3.53	3.06	0.47	13.3
Open-pollinated T 16	0.85	3.08	2.91	0.17	5.5

The selection referred to as IID was the most tolerant seedling progeny tested in a field trial of sensitivity to virus infection (Longworth & Thresh, 1963*b*). This selection consisted of ninety trees obtained by the natural pollination of T 16 (itself an open-pollinated Iquitos type) trees at Tafo, Ghana, and ninety hand-pollinated authentic series II progeny D (T 16/613 \times E 1 Trinitario). The growth data as presented originally for 'IID' have now been analysed into the two components (Table 1). Both the hand-pollinated and the open-pollinated trees developed slighter symptoms than any other progenies in the trial and their growth was little affected by virus. The difference in mean stem diameter increments between the infected and healthy trees was significant at $P = 0.05$ for the hand-pollinated trees, and there was a

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significant correlation ($r = -0.525$, $P = 0.001$) between growth increments after infection and symptom score. There was no significant difference between the girth increments of healthy and infected trees of the open-pollinated T 16 progeny and no correlation between increments and symptom score.

REFERENCES

- GLENDINNING, D. R. (1963). Botany Division. *Half-yearly Prog. Rep. Ghana Cocoa Res. Inst.*
LONGWORTH, J. F. & THRESH, J. M. (1963*a*). The reaction of different cacao types to infection with swollen-shoot virus. *Ann. appl. Biol.* **52**, 117.
LONGWORTH, J. F. & THRESH, J. M. (1963*b*). Field trials on the effect of a Nigerian swollen-shoot virus on the growth of different cacao types. *Ann. appl. Biol.* **52**, 217.

ERRATA

Annals of Applied Biology, **52** (1), August 1963

Page 121, *Nanay and Iquitos Amazons*, third paragraph. Delete 'tolerant'.

Annals of Applied Biology, **52** (2), October 1963

Page 219, Table 1. Line 13 of Table should read:

Nanay bNb T81/1992 \times T81/1880

Page 221, line 5. For IM read IA