

KTC 25(2) Seedling Resistance Trial No. 2

Aim: - To further evaluate the resistance to vascular-streak dieback of selections identified as promising by ~~the~~ Trial No. 1

Method: - ~~Under~~ Open-pollinated pods of some of the promising selections were not available when the trial was planted. ~~in October 1971.~~

Other selections were therefore incorporated to bring the number up to 20. The design was a rectangular lattice with 6 replicates + plots of 16 trees. Seed was pre-germinated by planting in small cups on 8th October 1971 + one seedling was ^{field-}planted per position in early November. The spacing was 90 cm on the square. Progenies of K20 & K23 were used as a bridge between this trial & KTC 25(1).

The trial was sited in the northern corner of Station Block 309, with unpurmed cocoa on ~~2~~ ^{two} sides, purmed cocoa on the third & a block of unplanted shade on the fourth. Infected seedlings ~~cuttings~~ were distributed around the block ^{in June 1972} ~~periodically~~ in an attempt to increase the infection rate.

Dieback was recorded four-weekly. ~~Infected seedlings were removed until infections were~~
Infected seedlings were removed unless large enough to ~~be~~ ~~to~~ have the infection pruned out. This such pruning removed one of the shortcomings of KTC 25(1), namely the loss

Table 1. Infections per selection for two periods of time.

Selection	Total to March 1973	April/May 1973	Total
K5	22	24	46
K20	27	22	49
K23	28	29	57
K52	13	32	45
K74	20	13	33
K82	8	19	27
K1-103	15	22	37
K4-101	14	20	34
K19-104	28	28	56
K24-102	29	21	50
K24-108	14	34	48
K30-101	11	17	28
K38-101	23	30	53
KA2-108	25	25	50
KA2-109	31	26	57
KA2-1011	14	34	48
KB481	14	17	31
KB484	20	27	47
KB486	19	27	46
KT140	22	13	35

of ^{later} inspection where a seedling was removed when an infection was found.

Results.

The infections to March 1973 & for April-May 1973 are given in Table 1.

(Table 1 about here).

Discussion.

~~As the~~ The aim of this trial was to ^{test} check more fully the selections which emerged from KTC 25(1) as apparently resistant. Thus, we are looking to have their resistance confirmed by this trial. ^{However, it} ~~It~~ is not possible to draw any precise conclusion from this trial because of changes in the relative performance of K20 & K23. In KTC 25(1) K23 had a total of 139 infections compared with 95 for K20. In KTC 25(2) K20 had 27 infections to the end of the first recording period & K23 had 28. ~~As K23 has in this trial has performed better (i.e. more resistant) than in KTC 25(1) has performed better in this trial than in KTC 25(1) or K20 has done worse. If the former, and if KTC 25(1) is taken as its "normal" performance, then all ten test selections common to both trials must be regarded as resistant, as they performed as well as or better than~~

Both K20 & K23.

If K20 has performed worse than normal in KTC 25(2) then it must be classed as susceptible in this trial, along with the progenies of K23, K24-102, K19-104 & KA2-108.

It is possible also that K23 has done a little better than normal in this trial & K20 a little worse. In this case, if we assume that the normal number of infections for these selections would be 21 for K20 & 34 for K23 then the four selections listed above (K23, K24-102, K19-104 & KA2-108) would again be classed as susceptible & the others resistant.

This trial has illustrated the desirability of assessing a selection's resistance to vascular streak disease by testing its vegetative progeny or its seedling progeny produced by controlled pollination.