

KTC 20 (P) Dieback pruning & no pruning (Block 506)

Aim: To ~~indicate~~ ^{assess} the effect on ~~production~~ ^{the productivity} of mature cocoa of pruning for vascular streak dieback following some months without pruning.

Method: The trial was run on Block 506, which ~~is a~~ ^{was} the site of KTC 3, a progeny/shade/spacing comparison and fertilizer trial. KTC 3 comprised two spacings, ^{the spacing in} half of each being ~~grown under no shade~~ ^{without overhead} since 1954.

~~Block~~ ^{Half of} Block 506 was planted to cocoa in 1949, half at ^{3.66m} ~~12~~ on the triangle and half at ^{4.58m} ~~15~~ ^{(actually 12 feet and 15 feet).}

The shade was removed ~~from~~ ^{over} half of the cocoa in each spacing during 1953-1954. In 1958 each shade x

spacing combination was split into four plots, two of which were fertilized and two of which were not.

The layout was as shown ^{diagrammatically} in Figure 1.

(Figure 1 about here)

The eight plots in the middle section of the block were chosen for the pruning treatment, as this leaves the design balanced with respect to the original treatments and minimizes the ~~effect~~^{effect} of the unpruned plots as infection sources for the pruned plots.

Pruning for dilbach was carried out regularly the whole of ^{for some years prior to} through block 506, ~~until about~~ October 1966 when it was discontinued. ^{22nd} ~~On~~ May 1967 the ~~the~~ middle 8 plots (960 pits) were pruned as required. This took 75 man-days. The following ^{second} pruning on 14th June took ~~15~~¹⁵ man-days ~~required~~.

Further prunings were made on the dates and at the labour ^{inputs} indicated in Table 1. ~~labour costs indicated below~~
(Table 1 about here)

Table 1. Pruning dates + labour inputs

Date of pruning	Man-days	Date of pruning	Man-days
27-7-67	6	24-4-68	5
6-9-67	5	20-5-68	4.5
4-10-67	4.5	12-6-68	7
2-11-67	13	17-7-68	6
29-11-67	12	8-8-68	4.5
28-12-67	10	9-9-68	7
25-1-68	11	3-10-68	4
27-2-68	26	20-10-68	5
29-3-68	9		

From 1968 onwards the trial was pruned as part of station routine (every 2½ - 4 weeks) but labour input was not recorded.

Results.

Yields in total pods / ~~plot~~ ^{treatment} are given in Table 2.

(Table 2 about here)

Table 2. Yield (pods/treatment) of pruned & unpruned sections of KTC 20(F).

		<u>Unpruned</u>	<u>Pruned</u>
Pre-treatment period	1965/66	34555	34553
	1966/67	37651	37267
Post-treatment period	1967/68	41090	12292
	1968/69	39817	8284
	1969/70	31906	9335
	1970/71	26658	8087

in 1971.

mature trees for vascular-streak dieback

Thus, pruning, after months of no pruning for ~~vascular-streak dieback~~ not only adds to production costs but brings about a severe production drop. The necessary pruning ^{in this trial was} extensive and leads to exposure of the trees which remained. ~~Many~~ Many of these, ^{particularly} ~~subsequently~~ those which had been heavily pruned themselves, eventually died.

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Discussion

There was an immediate drop in production following pruning and the trees did not recover. The ^{yield from the} unpruned sections also declined ^{steadily}, although ~~yield~~ dieback was not the sole cause of this. The block was established in 1948 and was nearing the end of its economic life in 1971.

Thus, ^{mature trees for vascular-streak dieback} pruning, after months of no pruning for ~~vascular-streak dieback~~ not only adds to production costs but brings about a severe production drop. The necessary ^{in this trial} pruning was extensive and ^{lead} to exposure of the trees which remained. ~~By~~ Many of these, ^{particularly} ~~subsequently~~ those which had been heavily pruned themselves, eventually died.

Figure 1. Layout of Krc 3, a shade / spacing / fertilizer comparison.

15' Δ

	N	N	
N			N

N_2 fertilizer

12' Δ

N		N	
Δ	N		N

NO SHADE

SHADE