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FERTILISER APPLICATION FOR TOBACCO SEED BEDS

By A. J. E. LYNEHAM, B.Sc. (Agric.), Tobacco Adviser.

An important phase of tobacco production is the growing of healthy seedlings in as short a time as possible. Recent experiments overseas have shown that the older the seedlings at the transplanting time, and the lower the temperatures have been during the seed bed stage, the sooner the plants bloom once they are set in the field.

In 1953, a trial was conducted to determine the optimum rate of fertiliser application. The following treatments were applied:—

1. No fertiliser.
2. $\frac{1}{2}$ lb. per square yard.
3. 1 lb. per square yard.
4. 2 lb. per square yard.
5. 4 lb. per square yard.

Design.

The trial was conducted in seed beds, 9 ft. long and 3 ft. wide, divided into plots and buffers as shown below:—

Each plot of $\frac{2}{3}$ sq. yard was replicated four times.

Procedure.

Virgin bush soil was brought in and built up to approximately 18 in. above ground level, in order to allow free drainage and to endeavour to raise the soil temperature. Wooden frames were then placed on top of the built up soil. The plots were fertilised on 19/7/53 and seed was sown on 28/7/53. After sowing, beds were covered with a mulch of pine sawdust and kept watered.

Germination occurred approximately six weeks after sowing, the soil temperature at time of sowing being 44 deg. F. at a depth of 4 in. By the 21/9/53, it was possible to see the effects of the no fertiliser treatment. No growth occurred at all after germination.

Seedlings were pulled as they reached the transplanting stage at 4-6 in., and numbers of seedlings pulled each week are given in Table 1.

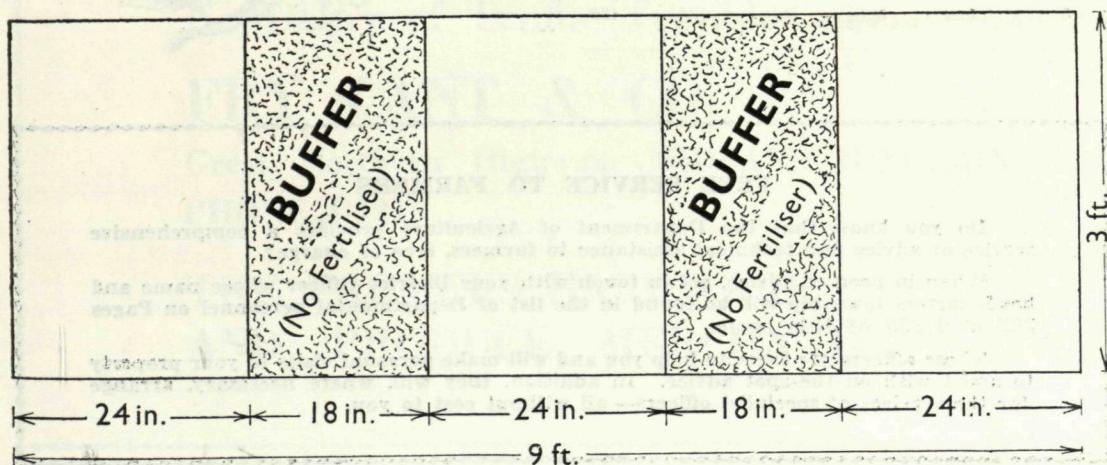


Table 1.

Treat-ments.	Dates.				Total.
	28/10.	5/11.	16/11.	17/11.	
Replications.	A1	....	....	....	Nil
	2	....	....	80	80
	3	50	....	100	225
	4	....	150	175	325
	5	....	400	180	620
	B1	....	....	....	Nil
	2	....	....	25	25
	3	....	125	75	200
	4	200	....	40	290
	5	100	100	50	325
	C1	....	....	....	Nil
	2	....	....	90	115
	3	....	125	15	160
	4	....	75	115	220
	5	40	100	120	300
	D1	....	....	....	Nil
	2	....	....	50	75
	3	50	150	50	290
	4	125	100	50	350
	5	125	150	110	485

Table 2 gives the total numbers of seedlings pulled from each replication of each treatment.

Table 2.

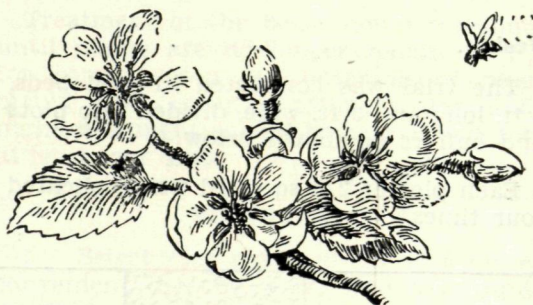
Treat-ment.	Replication.				Mean.
	A.	B.	C.	D.	
1	....	....	....	....	Nil
2	80	25	115	75	74
3	225	200	160	290	219
4	325	290	220	350	296
5	620	325	300	485	432

DISCUSSION.

Figures in Table 1 show that higher rates of fertiliser application produce plants which are a suitable size for transplanting several weeks earlier. Table 2 shows that the number of suitable plants is greatly increased, and plants themselves were stronger and healthier. It seems that the application of up to 4 lb. per square yard of 3.8 : 15 : 6 N.P.K. tobacco fertiliser would allow seed beds to be sown later in the season. The soil type used was a typical, light loamy sand which did not pack tight or create a hard surface with watering. Since it is a recommended practice to alternate the seed bed sites, the residual effect of this heavy application should have no detrimental effect on the succeeding crop.

SUMMARY.

On a loamy-sand virgin bush soil the application of 4 lb. per square yard of tobacco fertiliser produced an increased number of healthier seedlings at an earlier date than when the previously recommended rate of 1 lb. per square yard was used.



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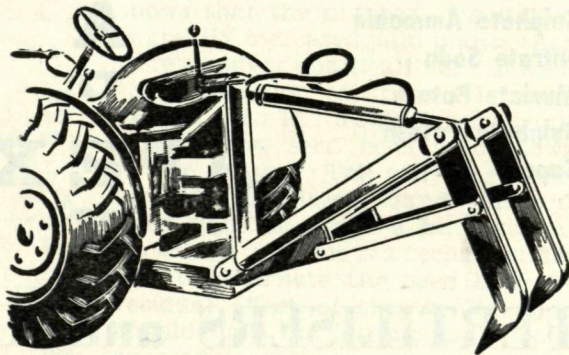
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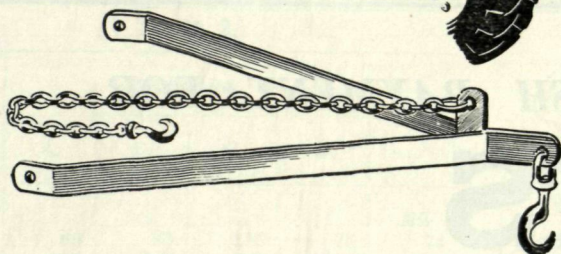
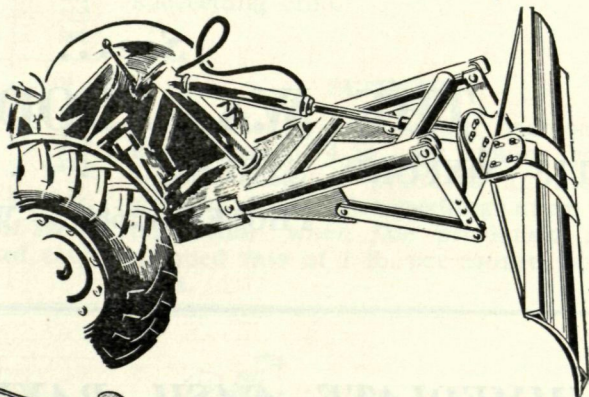
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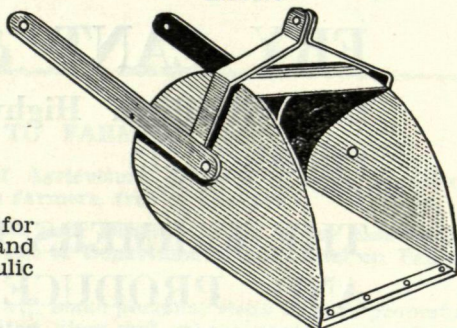


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