A SUPERING EFFECT ON PINUS PINASTER.

by R.J. Underwood.

Following the inspection and measurement of six Pinus pinaster plots near Northcliffe and Pemberton recently, an interesting sidelight on the effect of superphosphate on the pines was noted.

The plots were planted in the winter of 1960 on the typical "flat" sites of this area, i.e., low-lying, highly leached grey sands which are waterlogged in the winter and bone dry in the summer. Four plots are located on the old Northcliffe Rifle Range (plots 1 to 4) and two on Willows Road, East of Pemberton (plots 5 & 6).

In each plot of 8 rows x 22 plants, four rows were given the normal super application of 2 ounces per tree at planting, and four were left unsupered. The data gathered in October, 1964 is summarized below;

Plot No.	Rows Supered		Rows Unsupered	
	% Survival	Mean Ht.	% Survival	Mean Ht.
1	63%	3'6"	86%	2'7"
2	30%	4'7"	41%	1'10"
3	38%	5'10"	70%	2'7"
4	39%	4'1"	65%	1'5½"
5	55%	3'1"	66%	2'4½"
6	85%	7'10"	97%	7'4½"
MEAN	51%	4'10"	71%	3'2½"

The implication of these figures is that while the application of Superphosphate at the time of planting gives the expected higher level of height growth, it is also possibly associated with a marked decrease in the survival of the pines.

It is interesting to note that Campbell (1) with Eastern States Eucalypts, and van Noort (2) with Jarrah, have both observed what appears to be a comparable result from seedlings planted and supered on poor soils.

A possible explanation in the case of the Northcliffe plots is that on these very poor sites, the immediate availability of phosphate to the young plant, reduces the necessity for the development of an efficient root system, with the result that the plant is unable to cope with the subsequent summer conditions.

If this is the case, then it may be better practice to carry out the super application during the winter of the second year, rather than at the time of planting. This would allow the plant to develop its root system during the first summer and autumn, before getting the necessary boost from fertilizer.

It must be remembered that these observations are based on the results of uncontrolled trial plots, and not on those of controlled experimentation. But the fact remains that they do point to what could be an important conclusion, and this suggests that further properly designed research may be of value, in assisting the effective establishment of Pinus pinaster in the Pemberton-Northcliffe area.

References cited.

1) Campbell, J.B....Eucalypts on dieback sites. Forest Notes 2(3) 1964

2) Van Noort, A.C....Jarrah seedling plots - Willowdale. Forest Notes 1(1) 1959.

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