RANDOM THOUGHTS ON PINE BURNING

By J. McCormick.

The pine burning season is now over and there are some amongst us who can put worry aside until it is on again. Certainly the forest officer who has pine burning on his plate is not a man to be envied; his one consolation is that having completed a pine burning programme he has carried out the most important safety act of all.

With pine planting on the increase and the resultant increase in plantation size, the argument for and against controlled burning in pine seems to fade into the dim distant past, whilst the fire risk becomes greater with increased population stress both in Metropolitan and country areas.

The major concern of those employed in controlled pine-burning operations is that of crown scorch; it does in fact present a constant worry, in the absence of which, the word 'controlled' may well drop out of the term altogether. To the question "What is the detrimental effect of crown scorching on pine tree growth", we do not as yet have an answer. However, if we look at such local information as we have to hand we may be a little bit the wiser. The most common type of scorching that occurs is that in which the needles on the lower limbs only are affected and less commonly, that in which the branch cambium is killed thus leaving a number of dead branches on the lower crown, the result of which would be a pruning effect. (See R. J. Underwood's "A study of the Effect of Pruning...") The latter and more severe type of scorch is brought about in a controlled burn mainly where slash heaps are concerned and where there is an accumulation of dry pruning slash pulled in around compartment edges which, whilst burning, release intense heat for prolonged periods.

During burning operation in Somerville Plantation in September, 1966, fifty foot high P. pinaster in a small exposed area received severe scorching Six months after the event a dendrometer trial was put in to isolate the effect of scorching at different levels of intensity on G. B. H. growth. The trial was of necessity a small one in which ten trees in each of the three scorch categories were examined. The average green crown height of the thirty trees considered before scorching was 24 ft. (approx.) and the green crown heights (six months after scorching were one foot, six inches (A), seven feet, six inches (B) and ten feet, six inches (C). Each of the 30 trees was matched with a burned but unscorched tree to a girth accuracy of a quarter of an inch. Measured at monthly intervals for one year the growth results are compared (see graphs).

The total growth was :-

GIRTH INCREMENT.

	Scorch	Control	Diff.	Sig.	Mean G.B.H.O.B.
CLASS A	.125"	.701"	.576"	.01	26.90"
CLASS B	.383"	.735"	.352"	.05	27.05"
CLASS C	.750"	1.004"	.254"	N.S.	29.07"

At the time of writing i.e. two years after the scorching took place, the growth discrepancy in Class C has virtually disappeared whilst that in Class A remains. A considerable amount of green crown has been replaced on all trees but there is still a marked difference in green crown height between the A and C class trees. In the former class the pruning effect has been carried much higher into the tree crowns.

If the effect of light needle scorch on P. pinaster girth growth bore some relation to that indicated by severe scorch then this effect would be slight to negligible; yet to adopt this assumption would be most unwise since there is as yet no evidence one way or the other. It does appear that the motto of the controlled-burner in pine plantations will ever be, "Watch and Worry."

P. PINASTER GROWTH (12 MONTHS)