

BRUSHCUTTER FOR NONCOMMERCIAL PINE THINNING

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PURPOSE OF TRIAL

With the advent of a new silvicultural regime there will be extensive areas of this thinning in most divisions and particularly at Wanneroo. To this stage the only tools tried had been the axe and chain saw. It was hoped to find a more efficient and safer method.

THE BRUSHCUTTER

The machine uses a Mac 250 motor with an enclosed drive shaft projecting in front of the motor. A circular saw 10" diameter or a slasher as required is attached to the forward end of the drive shaft. Above the saw is an arm extending diametrically across the saw. This arm assists the operator to keep the saw in place against the stem.

A webbing harness goes over the shoulders and is attached to the drive shaft. This and a handlebar arrangement make it almost impossible for the operator to come in contact with the saw. Overall weight is approximately 40 lb. and price to the Government is \$315.63.

TRIAL

6 year old P. pinaster was chosen for the trial with codominant height about 20 feet and butt diameters ranging from 1" to 5".

Four different operators had some practice with the machine and then rough time studies were made for about 5 minute periods.

RESULTS

Where butt diameters were less than about 2½" the machine worked efficiently with an average time of 20 seconds per tree including movement from tree to tree. However on larger stems up to 5", times from 40 to 75 seconds per tree were normal. It appeared that there is not enough power for the larger trees and the saw blade overheated.

CONCLUSIONS

In previous trials with axe and chain saw it was found that these two tools had similar production rates of about 30 second per tree including all size classes. Using Forests Department costing of chain saws, the cost of running the saw is approximately equal to the wage rate of the operator. It is assumed that the brushcutter would have a similar operating cost. Therefore to equal the cost of the job done by an axeman, the operator with either chain saw or brushcutter must work at approximately twice the speed: viz 15 seconds per tree.

Considering economics alone it appears that even allowing for improved skill of the operator, the brushcutter could not compete with the axe.

However a more important aspect is operator fatigue. We found it very tiring carrying the machine and holding the saw into the cut. After 5 minutes every operator was ready to hand it to someone else. Even the salesman was quite convinced that this was not the machine for the job and we had not even discussed the economics.