# POLE THINNING IN NORTHERN JARRAH FOREST

P.N. Hewett

In 1902 an area of approximately 20,000 acres within the Goldfields Water Supply Catchment was ringbarked and cut to increase water yields.

The system used was to ringbark all trees greater than 9" DBHOB and to fell trees smaller than this. The project had three immediate effects and two long term effects:-

a) Immediate
   i Water run-off increased
   ii Silt accumulation in the reservoir increased
   iii Salinity increased

b) Long term effects
   i Spring and soakage water has not re-appeared
   ii This Department has 20,000 acres of dense sapling and pole forest of relatively poor form.

Over the past 30 years several attempts at improvement felling in those stands, have been made and none of these attempts has had spectacular success. (A detailed study of response to thinning was done by Chandler W.G. - sec. Aust. Forestry Vol. IV Page 69, 1930). However, with the advent of systemic hormones of the 2.4.5.T group, it has been possible to recommence thinning of these stands, with some prospects of a response to treatment.

In mid 1963 A.D.F.O. Underwood marked a series of plots to test

a) Response to thinning

b) Three different spacings.

Two replications of each treatment were made, together with two controls, and dendrometer bands were mounted in August 1963, at the rate of two dendrometers per plot. These dendrometer have been read once monthly since August 1963 and a summary of increment readings is shown below.

Statistical analysis of these figures is not warranted since the response to thinning together with suppression of new coppice with 2.4.5.T. Ester is quite marked.

Note 2.4.5.T was used as a foliar spray in February 1964 since much of this stand consists of several stems on one coppice stool, and application to freshly cut stumps would kill the remaining stem.

Results

| Spacing Ratios | | | Total Increment | Ratio | |
|---|---|---|---|---|---|
| Control | 5'x 5' | 1 | 0.395" girth | 1 | (1) |
| Treatment 1 | 15'x15' | 3 | 1.080" " | 2.74 | (3) |
| Treatment 2 | 20'x20' | 4 | 1.630" " | 4.13 | (4) |
| Treatment 3 | 25'x25' | 5 | 2.280" " | 5.76 | (6) |

The dendrometer readings will be continued for a further 2 years to assess long term trends in response to the various thinning regimes.

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# A BOOM SPRAY FOR FOREST TRACKS

by D. R. Lejeune

## OBJECT:

In "Forest Notes", December 1963 - 'How Often Should A Track Be Graded', it was mentioned that trials were planned to use 2,4,5-T on scrub and suckers that grow on forest tracks. This was to avoid the use of graders except where restoring the surface or the drainage.

## DESIGN OF BOOM:

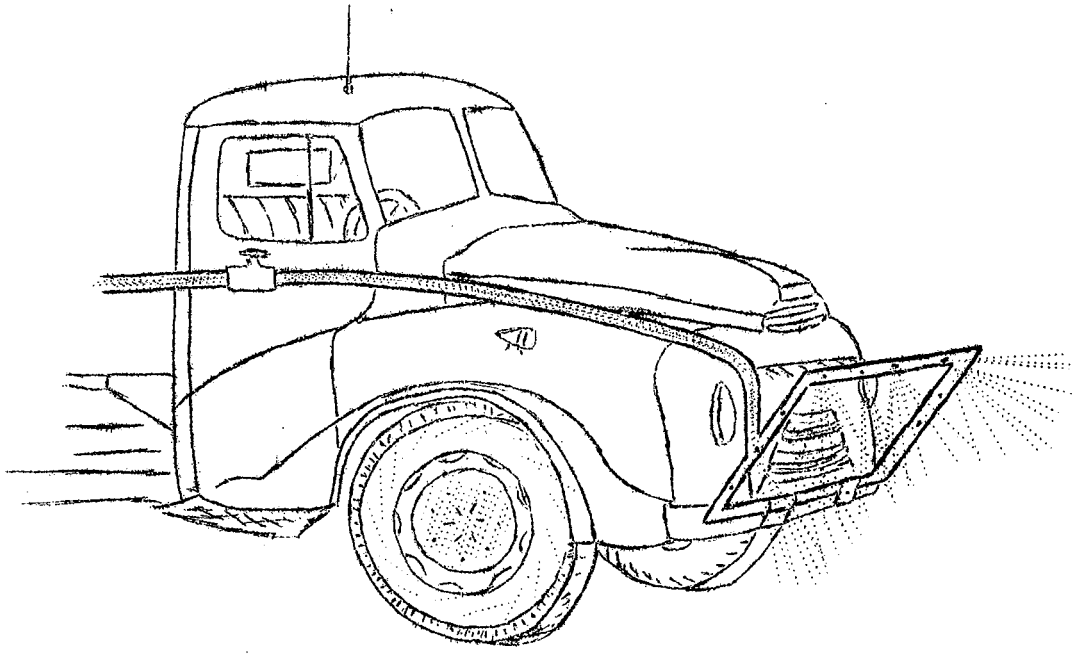
A boom spray for this job has been developed by Jack Dearle at Grimwade with 'jet' assistance from the experts at Nannup.

It is designed for attaching to the front bumper of a 5 ton Austin HD truck and consists of a rectangle of $\frac{3}{4}$ GI pipe with ordinary bends at the corners. This is 6'6" long by 4' wide. The jets are along one of the 6'6" sides and the opposite side is pivotted by fittings on the bumper attachment.

The jets are six Rega Low Pressure $\frac{1}{4}$" gas 110-1 jets spaced 15" apart and turned so the fan is not quite parallel with the boom and the fan spray from each jet just misses but overlaps slightly the fan from its neighbours

## OPERATION:

It is essential that the driver can see the boom in order to be able to constantly check the proper functioning of jets and the application generally.



This is why the boom must stand out with 4' arms in front of the bumper. The height must be readily adjustable for height of scrub and wind. This has been achieved simply by means of a length of sash cord tied at one end to the middle of the boom, led back under the slightly opened windscreen and tied to the door pillar, so that the boom is at the desired height. When travelling at speed without spraying the boom is turned right back so it rests on the bonnet which is protected by a packspray pad.

A length of 1" rubber hose is run from the H/D pump past the driver's door to the boom. Beside the driver an ordinary H.P. tap is fitted.

The 600 gal. tank is filled with 2,4,5-T mixture at the desired strength and the motor adjusted to give the desired pressure. If there is a short stretch of the track free of scrub the spray can be conserved by turning off the tap at the driver's side. It has been found that the solution must be well filtered or jets will continually become blocked. H/D tanks are never very clean. In future it is intended to draw the solution through a hose dropped through the top of the tank with a fine gauze filter on the end.

THE TRIAL:

On 28/5/64 a trial was run on 1½ miles of recently opened up formation which was covered with our old friend 'Prickly Moses' (Ac. pulchella) and a few eucalypt suckers. The scrub then averaged 18" in height. The spray used was 0.4% 2,4,5-T without white oil(none in stock) and this was applied at the rate of 100 gals. per mile.

I inspected the result in April 1965 and a count revealed that 74% of the Prickly Moses had been killed and the remainder had made no effective growth due to t the setback it received. Only a 20% kill was achieved on eucalypt suckers, but this cannot be regarded as very significant as there were so few. It was noted that scrub was also setback or killed for several feet on the side of the track preventing it growing and leaning out over same. As one will notice along P.M.G. lines which have been sprayed, other nuisances such as Zamia and Blackboys were also killed or badly set back.

The control for this trial was an unsprayed section of the track which was a first gear job with scrub 3'6" high and it really scraped the dirt off the front of my car.

CONCLUSION:

The apparatus and technique appears to be fully successful , but lack of manpower has prevented any further use as yet. If there are many miles of track requiring treatment the biggest problem is water, used at the rate of 100 gals. per mile. Application can be made at about 5 M.P.H. This is the reason why a H/D was chosen. A tractor would do the job just as well and save the extra motor, but it cannot carry more than 88 gals.

The tying up of a H/D in the fire season is not regarded as a serious drawback as it can be quickly put into action for fire control and lower hazard days can be chosen for this work.

Since this method of track scrub control was conceived, the Page rotary slasher has gained popularity for this work in plantations. It would do a good job on tracks , but the presence of much crown would reduce efficiency as would the need to make several runs to get the width. Also the scrub in general would not be killed.

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