THE SCRUB PROBLEM AT GRIMWADE PLANTATION

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Species and History

In planting since about 1955, the presence of one or both of species Acacia pulchella and A. urophylla has been a serious and costly problem. Why it does not appear to have been a problem before is not known with certainty but possibly there has been a build up in seed supply on the large cleared areas. Hot initial burns could also be a factor.

Seriousness of Infestation

Our initial approach due largely to labour shortage and the opinion of an authority, was to take no action against the scrub unless it appeared that it would overtop the pines. In such areas we were eventually forced to slash lanes 2 - 3 ft. wide along each row at a cost of £3. per acre. In most areas this later proved insufficient because the scrub leaned into the land and where taller than the pine, physically suppressed it. A second slashing was then necessary at £5. per acre.

In order to prove that prevention or eradication was necessary, 2 sets of plots were established on 30th April, 1962. In each year's planting, one plot was selected as typical of bad scrub growth and the other on the same soil type and aspect within 2 chain was a control which had always been free of dense scrub.

Year Planted	Scrub species	Scrub infested Plot				Scrub Free Pl
		Mean ht. 100 pine	Mean Ht Scrub	% of Pines		Mean height 100 pines
				Suppressed	Dominated	
1958	Ac.pulchella	7.2 ft	7.3 ft	14	10	11.2 ft
1959	90% - Ac.urophylla 10% - Ac.pulchella	5.2 ft	4.0 ft	Nil	Nil	6.3 ft

1958 : planting had been row slashed, quarter June, 1960

1959 : " " " " " " Sept. 1961

In 1958 planting the suppressed stems would almost certainly die if not freed, and despite freeing would be lost in the race and later be cut down. The dominated stems could become suppressed by scrub, but if not suppressed would be of doubtful value.

In 1959 planting the scrub is not fully grown, but the eventual effect other than a reduction in pine growth would, judging by other areas, be similar to the 1958 planting.

Conclusion from Plots

It is imperative to find a cheap means of scrub prevention or early eradication.

Preventive Measures before Planting

A study of the time of the initial burn has given no correlation with scrub development.

Due to the large area (about 300 acres) in each year's planting and limited plant, most of the ploughing has been done prior to the first winter rains. Ploughing after these rains and after scrub germination does not solve the problem as it has been found that later germination can result in a dense scrub growth.

Eradication after planting

Methods tested over the last 3 years -

1. Slashing - generally two operations as previously mentioned. This is a most unpleasant job and the prickles are still in my trousers from measuring these plots. Besides being not fully effective it is intolerably costly.

2. Spraying with weedicide - On 4/4/1960 test plots were established where both pines and scrub on 1959 planting were sprayed with

2.4.5T 40% ester. Rates of 500/1 and 100/1 were used. Scrub was knocked back severely and most of it killed but the result on the pines was similar. Hence this method of scrub eradication is not favoured. Even if the pines were protected from the spray it would be more expensive than dozing or ploughing.

3. Hoe-mate Slasher - This implement is similar to a power circular saw but carries a rotary slasher instead of a saw. It slashed the scrub quite well but was far too difficult to handle on rough plantation ground.

4. Rotary slasher on tractor 3 point linkage - In tall scrub the tractor was endangered by hidden stumps. In any scrub it was difficult to control the slasher at a correct height and avoid excessive damage to pines. It was extremely tiring and also hazardous for the driver. A contractor after trial would not continue.

5. Cultivating one year after planting - a tractor with 3 point linkage cultivator was used and encountered no difficulty but the cultivator tended to run over the scrub without removing much of it.

6. D4 dozer with 7 ft. blade - This has proved by far the best method to date and large areas have been cleared at £2. per acre (machine and wage). It is, however, necessary to wait till the scrub is at least 2 years old so that the blade running along at ground level will push out the scrub and uproot it. One man with a slasher normally accompanies the dozer to slash scrub missed near the pines. Damage to pines has been negligible. Slashing has been found to be most effectively done during summer and the same should apply to dozing or ploughing. Trials are in progress to test the effect of leaving undozed or unslashed strips along the rows. These are those which are too close to the pines for the dozer to tackle.

7. Ro-tensor plough - Although only tests have been made, I am confident that this most adpatable implement is the solution to the problem.

The machine is attached to the 3 point linkage of tractors such as Ferguson 35 or 65 and consists of a set of 6 discs (scolloped for preference) which are driven off the P.T.O. Scrub of either species from 18 inches to 8 ft. high was rooted out of the ground. It will be desirable to plough when 1 year old and about 18 inches high. The cost of this operation is estimated of £1.8.0. per acre (machine and wages).

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