LETTERS TO THE EDITOR

FINANCIAL RESTRICTIONS AND SILVICULTURE

Sir,—In the application of the current Government financial restrictions, Forest Service policy is for new planting to be given priority over silviculture, especially pruning.

I suggest that these priorities should be reconsidered. My reasons are:

1) Because we already have enough forests for all foreseeable internal demands. All planting over the last few years has been essentially for export. Many of these stands are planted at relatively wide spacings and some have been thinned at an early age. In the absence of timely pruning out-turn will be predominantly of low grade and therefore not of a high quality by world standards. In most cases the quality, in the absence of pruning, will be lower than the untended old crop that is the present raw material for our forest industries.

2) My research on radiata pine's export potential has shown that investment in pruning would provide New Zealand with a quality product which could be the basis of a major manufacturing industry whose products would find profitable outlets on existing world markets. There is every indication that these markets will be even better in the future.

3) The case for a large-scale increase in forest establishment was to a large extent so successful because it was argued on the basis of potential profitability. That profitability, however, was conditional on a specific silvicultural and management system. If the forests do not receive the funds necessary for that silviculture and management, then the forests have little chance of achieving the level of profitability on which the case for their existence was originally argued.

4) The timing of pruning is very important as a delay of a year or more in application will reduce clearwood yields as well as increase pruning costs (because the branches will be larger).

5) The two major pulp and paper companies as well as many private owners either are not pruning, or are pruning only some of their stands.

6) An "on again-off again" pruning programme results in the loss of good contractors. It will be difficult, if not impossible, to build up a cadre of efficient experienced contractors in such circumstances.

All this would surely imply that for most sites pruning should be regarded as an essential operation once the trees are planted. This being so, the pruning commitment must come before new planting.

The basic argument of the 1974 FDC planting targets was that, since export markets were unlikely to be limited, New Zealand should establish as much as could be afforded. A commitment to good silviculture at the expense of new planting could not therefore be regarded as a violation of the FDC recommendations.

I think there is also a political aspect on which we could capitalise. A reduction in the pruning and other silvicultural work would go largely unnoticed by the public at large (even though the effect on future export prospects will be serious). A reduction in the planting programme, on the other hand, would attract comment from a wide sector, and resultant
pressure may well force Government to reconsider the effect of the cut in forest investment.

To sum up, I believe that there is an overwhelming case for pruning (and associated thinning) and that it should, for most of our forests, be regarded as an essential forest operation. New planting should not take place at the expense of pruning.

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PULPWOOD FORESTRY: FACTS AND FALLACIES

Sir, — The article by R. K. Grant in Vol. 21 (1) of this Journal which advises that “specialised tree crops for given final products offer considerable cost advantages over a policy of growing a general resource” needs to be put into perspective.

The author demonstrated in some detail that the cheapest way to grow pulpwood is by designing a special regime for that purpose; but he overlooked the more important fact that generally the grower will make considerably less profit from a pulpwood regime (e.g., site index 29 m, rotation 19 years, M.A.I. 26 m³/ha/yr, mean dbh 31.8 cm) than from a sawlog regime (e.g., site index 29 m, rotation 26 years, M.A.I. 22 m³/ha/yr, mean dbh 61.7 cm).

In fact, if the grower has the opportunity of earning 10% per year return on investment elsewhere, and conservatively assuming that pulpwood revenue was $1.00/m³ in 1967 then, based on Table 2 in Grant’s paper, and excluding land and social costs, he will lose $2.16/m³ over the rotation. That is, he loses well over two-thirds of the $3.16/m³ that he spent growing the pulpwood. In effect, the pulpwood regime is like a sawlog regime that is cut well before the crop’s financial maturity is reached.

Pulpwood prices do not reflect the cost of growing pulpwood. Rather they mainly reflect the marketing opportunities for the large volumes of pulpwood which are generated as a by-product of producing sawlogs and milling them into sawn timber. Because of an expected world scarcity of wood, it is possible that growing costs might be paid for pulpwood in the long term. However, there are good indications that the gap between sawlog and pulpwood revenues per m³ will be maintained or continue to widen (Sutton, 1975). Hence it is unlikely that special pulpwood regimes will be any more attractive to the grower in the future.

The fact that the pulpwood regime produces a greater M.A.I. (26 m³/ha/yr) than the sawlog regime (about 22 m³/ha/yr) is not of great national importance because, in the long term, the construction of pulp and paper mills in New Zealand is likely to be constrained by shortages of capital, labour, and industrial water, problems of effluent disposal, and access to good ports rather than pulpwood shortages, even if pulpwood arises only as a by-product of sawn timber and sawlog production (Uprichard, 1974).

However, in special local circumstances pulpwood regimes may prove justifiable — e.g., if there are economic advantages in advancing the start-up or expansion date of a mill, or increasing the production of an under-utilised mill. It is stressed, however, that pulpwood regimes would
normally only prove justifiable for short periods of time. Of course, in these situations the pulpmill owner has other options. It might be more profitable for him to grow an annual crop like kenaf or flax; or to thin or clearfell his own financially immature stands; or to import wood from overseas; or to encourage other forest owners to supply wood by offering higher prices.

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A REPLY

Sir,—While Levack and Hargreaves are correct in pointing out that pulpwood crops would not be profitable at current stumpages, many foresters will be aware that most sawlogs sold from State forests currently earn stumpages less than even the 1967 cost of growing sawlogs (see Table 2, Grant, 1976). We must therefore conclude that most forest crops, except perhaps export logs, are grown and sold without profit to the grower!

Further, about one-fifth of total exotic roundwood production is in fact currently used as pulplogs! That is, some logs from regimes producing wood of sawlog or export log quality are sent for pulping. Tables 2 and 3 clearly show that such wood will cost more than wood from regimes specifically producing pulpwood.

In fact, the next cheapest source of pulpwood is the third log from a sawlog regime ($3.17/m³; Table 3). The loss in income to the forest resulting from pulping this for the assumed pulpwood stumpage of $1.00 would be $4.17/m³ — nearly twice the loss Levack and Hargreaves argue would eventuate in a pulpwood regime. Further, this loss is sufficient to make the sawlog regime as a whole unprofitable at a 10% interest rate.

This example illustrates the point of the paper. If the stumpage of a product (whether sawlogs, export logs or pulpwood) is fixed, then the greatest profit or least loss is made by producing the product at least cost. If roundwood is to be used for pulping, pulpwood regimes are the cheapest source for site indices of about 29 m.

To suggest that the principal source of wood for pulping is likely to be sawmill by-products is advocating a radical departure from present practice since less than one half of the wood currently pulped comes from sawmill residues (N.Z. Forest Service, 1975). Further, the high M.A.I. of a pulpwood crop offers prospects of a lower capital investment in land purchase and shorter log hauls, both important components of the cost of delivered wood.
However, the purpose of the paper was not to advocate growing pulpwood but merely to demonstrate that, under some conditions, no matter what the crop — pulpwood, sawlogs, or export logs — the cheapest source is from a regime designed to produce that product. The discussion of profitability was deliberately omitted (see final paragraph of Grant, 1976) because present stumpages rarely exceed the minimum cost of growing except for export logs.

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