Conference field trips highlighted the diversity of forestry and farm forestry in the Westland Region. The use of the wet impoverished pakihi sites were a feature of one day. However, we also saw other farm foresters growing shelterbelts and woodland on more fertile sites. Both site types included a range of tree species. A visit to Wanganui Forest to see helicopter logging and a portable sawmill in operation in podocarp forest was a major highlight. Geoffrey Chavasse gave an excellent after-dinner talk about his time in Westland and this tied in nicely to an indigenous theme. On the last day beech silviculture was covered.

An excellent conference with a lot of fun times and interaction between people. Next year’s conference will be in the Bay of Plenty.

Don Mead

Site preparation of pakihi by V-blading at the West Coast Farm Forestry Conference. Photo: A. Bowker

LETTERS

Influence of site and discount rate on silviculture

Sir,

I am not sure what the Timberlands' regime is referred to by Geoff Fischer, but infer its main characteristics from the data he gives at age five. The age does not help much. It was, and is, better to use top height; I had assumed this was routine.

Quality of Upper Logs

I suppose the regime is a variant of what Dennis Richardson calls the direct sawlog regime. If this is so then, as long as the trunk holds together, the criterion for selection of the final crop is visible at top height of 10 to 12 metres. The criterion was, and is, as uniodal a length as possible above the pruned log. The objective of these wide-spaced, short rotation regimes is brutally simple and I had hoped would be apparent by now. It is clearwood and clear-cuttings, with some returns from animals, etc in the earliest years. The first result from pruning, assuming growth continues, is a clear-cuttings board, the lengths between defects increasing as the outside of the trunk is approached. The longest fully-clear boards will tend to be narrower. The first silvicultural work the Strategic Studies Group at the old FRI did was the cost of finger-jointing, and the clear-cutting lengths were measured in the repeated grade studies. No doubt current research has refined these data.

Higher Stockings

With the drop-off in mortality, it is feasible to hold higher stockings than those proposed (as an interim measure in any case, it was apparent the mensuration base in 1968 was not at all comprehensive) 25 years ago. About four years ago I wrote a letter to The New Zealand Farmer proposing higher stocking with uninodal trees. It should now be possible to ease the restraint of the low early stocking a bit, if the log above the pruned one is UNINODAL. I hope the genetics people have this straight?

Effects of Interest Rate

This again seems to have been misunderstood. I have shown the effect of various interest rates on project ranking in the last of the 10 profitability papers (NZ Journal of Forestry Science 2(3) p 382). If regime B, say, is ahead at a 10 per cent discount rate, it is very likely to be ahead at three per cent. This is because of the characteristic expenditure and return flow in afforestation. I had sent a similar note on this to the Australian Journal some years ago.

Sigmoid Curve

The sigmoid curve for discount rates is an interesting idea and may well be true for all I know. I admit to being a sceptical economist at the time as, whether the change in rates is sigmoidal or not, it is certain that interest rates change, and further, there is no objective way of choosing a rate. There is a Nobel Prize waiting for the solution of this topic. In the meantime, I took pragmatic refuge in the solution given in the paragraph above. I once surprised Treasury by protesting the interest rates they proposed were too low. This initially cheered them as unusual in forestry. But at high enough rates all that is necessary is a modest subsidy at that moment, and everything is covered by the ensuing interest. This is the only fun I have ever got out of that particular problem.

Commercial Thinning

Even if low interest rates apply, the “commercial thinning” remains self-contradictory. As soon as you make money by thinning, you can make a lot more by clearfelling. The crop acquires an additional opportunity cost that soon reduces the rotation. Surely by now the Zero interest doctrinaires can join the Flat-earth Society?

R. Fenton

Forest valuation

Sir,

Investment in forest is becoming more popular and will become even more so as people look for places to invest their superannuation funds. For this to happen, and for it to reach its full potential, professional foresters must demonstrate their ability to account for the value of their forests.

In the past, accountants have placed the true value of forests in the too-hard-basket, and while quite prepared to go to extraordinary lengths to account for contents of sheds and cupboards etc, have shied away from treating forests in the same way. Today with computers and sophisticated forest models there are ade-
quate means to properly account for the
everchanging value of standing forest.
There exists regional growth models of
P1nis radiata forest for most areas of
New Zealand. By selecting the appropri-
ate model, checking and modifying it to
suit the particular forest, the current value
of a forest can be calculated.

To do this good records must be kept
on an annual basis of the volume, type and
value of all produce removed, together
with percentage assessments of the vari-
ous age classes in the forest. These figures
must be used to check and, if necessary,
modify the computer model being used;
remembering always that it is the forest
that is right, not the model.

In the past, great emphasis has been
placed on how early a forest can be liqui-
dated. I believe that this has been so that
financiers can get the cash in their hands
and decide where it should be invested
next time round. If we look back to the
'80s we will see that much of it would
have vanished into high-flying companies
no longer listed on the stock exchange.
Forests deserve more consideration as to
when they should be cut to give the max-
imum return to those who invested in
them, which should particularly be the
case when the investment is for superan-
uation purposes.

Let us take an example using the gen-
eralised yield table and assumed product
values as shown in table 1.

A forest at age 25 shows a value of
$89,615. If this is harvested and re-es-
established, and allowing for the year lost in
between crops, the second crop at age 20
has a value of $66,355. Had the first crop
been allowed to grow on to age 46 it
would be worth $199,840, a gain of
$43,870 over the two crops and without
the cost of re-establishment. Similarly a
36-year-old crop is worth $155,825 com-
pared with the 25-year-old and a 10-year-
old growing crop at $89,615 + $20,610 =
$110,225 again without the cost of estab-
lishment. So there is a gain of $45,600 by
carrying the crop on to age 36.

The challenge to all foresters and to
consultants in particular is to have
accepted that they can establish forest val-
ues in this manner and that they can
account for the changes that take place
each year. This will include:
- Annual volume growth
- Changes in log type volumes
- Changes in areas by age classes
- Volume harvested by log types and age
classes
  - actual compared to tables
- Volume losses through other causes
e.g. fire, windblown etc.
- Changes in market prices by log types.

Using these factors, they must show to
the owners how the value changes have
come about from one year’s statement to
the next. There must be no mumbo-jumbo
but a clear statement of pluses and
minuses taking last year’s figures to the
next year’s statement.

Such an accounting shows clearly the
changes in value that take place and the
interaction of each of the following factors:
- growth in volume
- change in products
- reduction through harvesting
- loss from other causes
- change in market value of the various
types of product on stump for that par-
ticular forest.

The investors are entitled to such an
annual accounting. The industry for its
own protection should account in this way
to counteract “fly by night” promoters and
to establish a track record of the performance
of the forest manager. It will also enable
the investor to compare the actual results
with that forecast by the forest manager.

TABLE 1

<table>
<thead>
<tr>
<th>Sales Value on stump – Pruned logs</th>
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</thead>
<tbody>
<tr>
<td>Pruned logs A</td>
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<tr>
<td>Pruned logs B</td>
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<tr>
<td>Unpruned logs A</td>
</tr>
<tr>
<td>Unpruned logs B</td>
</tr>
<tr>
<td>Unpruned logs C</td>
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<tr>
<td>Pulpwood</td>
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<td>-----------------------------------</td>
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<tr>
<td>Yield per hectare</td>
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<td>Age</td>
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<td>41</td>
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<tr>
<td>45</td>
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<tr>
<td>46</td>
</tr>
</tbody>
</table>

All this must be checked by a reputable
forest consultant. The reputation of fores-
try as a sound investment will depend on
how well the forest manager and the con-
sultant do this job. The investors are enti-
tled to such an accounting from the
industry.

J.E. Henry

Response to
M.D. Wilcox commentary:
‘Priorities for research on alternative wood
species …’

Sir,

There were disturbing implications in
this paper. There are three possibilities
that have been overlooked, and two
prospects that need further justification
than given in the paper.

1. Cryptomeria japonica (sugi) and
Chamaecyparis obtusa (hinoki)
These are the two main Japanese planta-
tion softwoods. I have designed silvicul-
tural schedules for sugi to keep maximum
stocking to produce a 10.5 or 12.5 cm
square timber from two short logs. That is,
one or two pieces per tree. So instead of
pushing diameter growth to the limit, the
idea, under New Zealand’s growth condi-
tions, would be to restrict it severely. The
silviculture is almost exactly the opposite
of the radiata clearwood regimes, but the
rotations are about the same. The work is
in a rough stage, and needs further input if
anyone wishes to provide help. There is
less data on hinoki, but reasonable leads
on Lawson's cypress which would be an
acceptable substitute. Again, the principle
is to keep stands dense to suppress branch
sizes; it may be possible to grow the
hinoki-style crops from topped (and pol-
larded?) trees; there are examples in the
shelterbelts around the Central North
Island. Clearly, the work would benefit
from sawing studies of appropriate ma-
terial. The spacing of shelterbelts around
kiwifruit orchards gives some ranges for
trials. It would be easy to establish prin-
ing trials. Pruning would be designed for
Japanese preferences to provide a clear
face on one to three surfaces of the square.
I would anticipate the usual chorus to
these proposals.

This is an application of plantation
concepts, growing designer crops for a
specific market. The Japanese market
would be the main target, but the Imperial
era led to considerable plantations of sugi
in Taiwan; and to a lesser extent in South