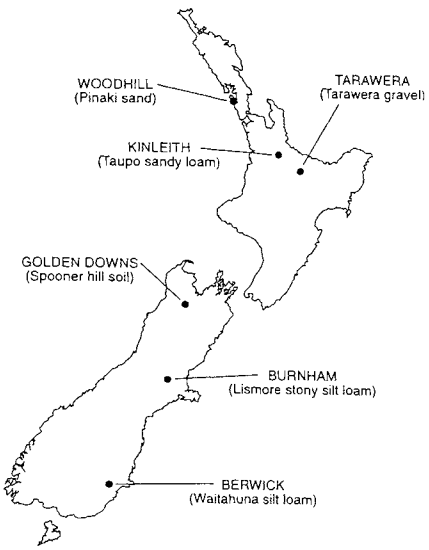
drainage class, slope, surface boulders, and other properties that would either affect productivity and silvicultural options or limit management. In addition, a USDA Forest Service silviculturist in New Hampshire (Bill Leak) felt compelled to develop Habitat Types based on parent material differences in granitic glacial till. Hence, I chose the "amazing mixture of geology, topography and/or detailed soil classification" to describe the soils and sites our trials are located on. I was concerned about conveying the important differences among trial sites. Perhaps the best choice would have been the soil type name followed by some term describing whether it was on a sand dune or a sandy pumice or sandy alluvium.

In any case, soil scientists need to be aware that some elements of soil classification are too broad to be useful in distinguishing among soils without an armful of technical books; and need to ask what might be required to make the information more user friendly. I am also aware of the increasing difficulty in obtaining the required background technical bulletins, as we shift to Hewitt's system, and as New Zealand pursues corporate research organisations. It is not easy to take a soil type name as a starting point and find out all one needs to know about that soil to manage it properly, or to understand how it differs from another soil type. And we know how deficient the New Zealand soils data base is for interpreting the limitations of soils for intensive forestry purposes. Perhaps we could discuss this some time.

Below is a copy of a revised map, which hopefully is technically correct! Thanks again for your feedback. I am concerned that if we do not address the issues you raised in your letter, and that I mentioned above, we will be managing New Zealand forests in the dark, and it will be impossible to achieve the sustainable dream of which we speak.



Tat Smith

Effects of discount rate

Sir,

Dr R. Fenton states "If regime B, say, is ahead at a 10% discount rate it is very likely to be ahead at three per cent", and refers to his paper in the NZ Journal of Forestry Science 2(3) p 382. In the context, "ahead" obviously means "has a higher land expectation value".

In response, I would suggest that rotation lengths will be determined not so much by the LEV, as by the rate of increase in liquidation value of forests. So long as the liquidation value is perceived to be growing faster than the discount rate, the rotation will, in the normal course, be extended.

Given a high premium for logs of large size, a change in the discount rate from 9% to 4% predicates an extension of the economic rotation from 27 to 35 years. Dr Fenton might be willing to accept these indicative figures: they do suggest that a dramatic change in discount rate is necessary to cause an eight-year increase in the economic rotation length.

Nevertheless, I do not believe that postulating the possibility of 4% discount rates within the next 30 years should qualify me to "join the Flat-earth Society". From 1900 to 1956 yields of high-grade corporate bonds in the United States rarely exceeded 4%, and 4% remains the borrowing rate for many Japanese corporations. The high rates experienced in Western economies in the second half of this century may prove to be either anomalous or illusory, or both.

My original letter attempted to suggest that our consideration of the matter of discount rates has lacked a historical perspective. The fact that I am what Dr Fenton describes as a "zero-interest doctrinaire" neither inhibits, nor, in my own opinion, disqualifies me from an intellectual study of the methodology of discounted cash flow analysis.

He suggests that successfully addressing the "choice of discount" rate problem would warrant the award of a Nobel prize, implying, perhaps, that it is futile to make the attempt. I believe he overstates the case. There is much to be gained from a diligent study of the existing information on economic rates of return, and only modest academic abilities are required to carry out the task.

The point I wish to make is that we should not underestimate the pace of change, nor should we neglect to study its dynamics. Twenty years have elapsed since Dr Fenton's ground-breaking studies, and while his methods may remain unchallenged, new economic circumstances, new technologies, and another two decades of experience may yet point us in different silvicultural directions from those indicated in 1972.

Geoff Fischer

Irrelevant academia

Sir,

In a recent "Economist" I saw by chance an advertisement for positions, including the Chair, in the School of Forestry in Christchurch.

Much to my surprise, nowhere was there any mention of the rapidly rising economic importance of forestry in New Zealand, and of the corresponding importance of training, research and the development of a philosophy of sustainable forest practice, of the need for the stimulus of ideas.

Do I read into this a subconscious yearning for dreaming spires and knowledge gained entirely for its own sake, in brief, of the British disease of a contempt for commerce?

John Purey-Cust

CRI staffing

Sir,

In a recent issue (May 1994, p 35) Colin O'Loughlin remarked on the losses of science staff from NZFRI and Landcare Research since the formation of Crown Research Institutes (CRIs). Members of the Institute may be interested in the following data on the situation pre- and post-CRI formation for Landcare Research.

Over the five years pre-CRI formation science staff losses (researchers and technical staff) from the predecessor organisations were as shown in Table 1.

These staff losses amount to 24% of the science staff of these components of FRI and DSIR in 1987.

By research area, and by year, the staff losses were as shown in Table 2.