

involved in any examination of a forest company's activities *whatever the ownership*". (My italics)

The Corporation's forest policy should be subject to some form of government oversight and one would expect the Ministry of Forestry to have the power and the will to do this. They appear to have neither. The Institute thus has an important role to play.

The position appears to be fairly simple.

- a) The Corporation forests are still owned by the State.
- b) The Government does not intend to sell them at present.
- c) The public thus has a right to know what is the Corporation short-, medium- and long-term cutting policy and if need be to comment on it.
- d) As the country's best informed and concerned organisation, the Institute should take a lead.

To say that the Institute should not be involved with the long-term policies of State owned forests is in effect to deny a major reason for the Institute's existence. This I most emphatically deplore. And if the Institute likes to consult its most senior members I believe it would get almost universal confirmation of this view.

The President replies

In response to Priestley's specific concerns:

1. There is little need in making a judgment on the condition of the forest, in respect of future capability to sustain a cut, to have data on the past levels of cut. Age class distribution of radiata pine and Douglas fir were given and present and projected levels were stated, albeit in general terms. These appeared to conform with the aim of maintaining rotations (for at least radiata pine) at a level not greatly different from like operations in the central North Island. That is, the trend appeared to be of a cut consistent with increment and the silvicultural aim of rotations of a length adequate for clearwood production. Therefore **quality** of the resource, based on this criterion, is not being jeopardised.
2. This has at its corollary the thought that **quantity** of cut is sustainable. It could not be a presumption of quality for clearwood being sustained if cutting exceeded increment. There is of course a more general debate on length of rotation affecting wood quality for framing timber, which is a New Zea-

land-wide concern not specific to FCNZ, and if age class distribution reflected an inability to keep rotation above a target set by density and fibre length.

3. I consider Council were given an answer on the Corporation's marketing policies, harvesting levels and the effect on future yields as commented above. We were not told the specific levels of cut planned for 1995. This is possibly commercially sensitive in the light of arbitration proceeding but it is also difficult to adhere to in practice as markets move up or down. I commented generally on the events leading to rapid reduction in production prior to November.
4. Delays. There was no desire to put the matter off and Council adopted the option of accepting an invitation to have FCNZ and Tim Cullinane meet

the full Council. Thus September was the first convenient moment to meet in Rotorua and there was no perception of the urgency requiring a prior meeting.

5. Communication. Council have adopted the policy of an information sheet after each meeting being sent to members. The most recent contains a note of the actions taken on this issue. As a reaction to Priestley Thomson's most recent comment, Council has reacted quickly on this complaint.
6. The propositions stemming from items (a)-(d) in Priestley's final paragraph are issues that we could take up after the arbitration is complete. Then Wyatt Creech's invitation could be a basis for reconsidering these issues.

P.F. Olsen
President

I have a dream. It's Jurassic Pine!

J.C.F. Walker*

"The late twentieth century has witnessed a scientific gold rush of astonishing proportions: the headlong and furious haste to commercialise genetic engineering. This enterprise has proceeded so rapidly – with so little outside commentary – that its dimensions and implications are hardly understood at all.

"Biotechnology promises the greatest revolution in human history. By the end of this decade, it will have outdistanced atomic power and computers in its effect on our everyday lives. In the words of one observer: 'Biotechnology is going to transform every aspect of human life: our medical care, our food, our health, our entertainment, our very bodies. Nothing will ever be the same again. It's literally going to change the face of the planet.'" (Jurassic Park by Michael Crichton)

It is in this context that I see much of the argument about species diversity in plantation management as irrelevant, rather than as misguided or misinformed. Soon enough we will have the opportunity to select the varying and desirable attributes of a species with all the frivolity of browsing along the supermarket shelf. It is the inevitability of the situation rather than its desirability that should be recognised.

The quest for species diversity in plantation management is primarily a philosophical and economic Progress, and like any Progress it involves the future. The future doesn't exist, never did and because

of the considerable investment in knowledge, imagination and fortitude required in developing a working perception of the future most prefer to see it merely as a straight line extrapolation of the past. A more fruitful approach is to see the future as residing only in the mind's eye. The mind first creates our reality and then we see it. Since it is inside us, we can do something about it.

Change itself has changed. It has become so rapid, so complex, so turbulent and unpredictable that it can be described as "white water" change – no time for a cuppa, Mr Lange. In the past the usual basic strategy for playing change was to minimise it, but that could be the most risky strategy in the future. The essential skill for the future will be learning how to change one's mind: to shift one's point of view, to recognise that the future is uncertain and to be comfortable with the prospect. Believe those who are seeking the truth, doubt those who find it (for those who find it see no need for further change).

Technology defines all physical resources. Land was not a physical resource until people learnt how to use or cultivate it. Today the hard truth facing foresters is the fact that the majority of fortunes will no longer be made by commandeering natural resources. Rather it will be in the development of technologies and amusements that haven't even been dreamt of. Intellectual assets, not physical assets, are the resources of industries: after all, the raw material of a silicon chip is a handful of dust. Technology feeds back on

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itself so that advances multiply upon one another. There are no historical trends to extrapolate which can guide us in the exploitation of the truly explosive developments that lie ahead. Biotechnology lies at the epicentre of these changes, involving the transformation of people, animals and plants.

We live on the threshold of a new age but we need the vision and energy to recognise it. The elucidation of DNA in 1953 was an academic *tour de force*. The mapping of the human genome was first recognised as possible in 1978, but only in the last few years has direct study of human DNA been actively undertaken. Already the gene sequence responsible for Huntington's disease has been located. Once mapped, any genetic aberration could eventually be prevented by the manipulation of the structure of DNA. Swinburne's final haunting refrain in his Hymn of Man, "Glory to man in the highest! for man is the master of things", is at least more literally plausible at the end of the twentieth century – although the blasphemy is not lessened by the passage of time!

Molecular biology research by New Zealand industry and corporations overseas has the potential to create whatever is desired: Jurassic Pine is merely a fun label suggesting the truly enormous opportunities that lie ahead. Furthermore such research is not prohibitively expensive. There are literally thousands of laboratories spending billions of dollars in the quest of the mundane. The fact that there is a CBOE Bio-Tech stock index demonstrates its financial viability, and it is from this sector that the IBMs and Microsoft Corporations of the future will come. The only emphatic point to make is that this is not idle speculation. Few could bridge the conceptual gap between the Wright brothers' flimsy plane and the modern jumbo jet. The type of innovations that we can conceive will hardly power the economy over the next 30 years, so it is in the realm of the improbable and inconceivable that new technologies will arise. Slowly at first and then with increasing pace. The telephone needed a network before it could be of any real value to the subscriber, but subscribers are needed to build a network: economic constrictions are greatest in the early stages of any Progress. Science fiction writers have had more acute vision of the future than any politician or scientist.

And what visions? The Progress is sufficient to corrupt the noblest dreams. A Californian engineer says that he has fallen in love with his virtual reality female facsimile whom he designed to his own specifications. "She is more beautiful, exciting and stimulating than any woman I've ever known. My imagination

is the only limitation to what she will do." I blush to suggest the possibility, but perhaps this is the Last Frontier to which the urban halitosed and brain-dead will trek to be refreshed – recreational therapy for Grey Wolves? It gives new promise (ersatz?) to the pleas of Nan Fairbrother (New Lives, New Landscapes) and we won't even have to plant a single tree! Progress is frivolous as well as profound.

It is in this context that I see the advocacy of growing *Robinia pseudoacacia* for ground-durable posts as offering the solutions of the nineteenth century for the neuroses of the twenty-first century. This doesn't acknowledge the future, it ignores it. In a similar vein the case for growing Douglas fir has never been objectively argued. Many years ago the NZ Forest Service noted that there was little difference in the mechanical properties of New Zealand-grown Douglas fir and radiata pine. Neither does second-growth Douglas fir on the West Coast of the United States share the pre-eminent position enjoyed by old-growth Douglas fir. The only desirable characteristics of old-growth Douglas fir were that the trees had enormous girth, the timber was often free of any defect, and the wood was close-grained and stable (to which one might add that it was sold cheap). It was well suited for a basic commodity such as plywood: incidentally, kauri could have done

that job just as well. None of these characteristics of Douglas fir carry over into second-growth and new plantations. It is at the very least questionable whether 50 years hence the American consumer will continue to pay a premium for an imported reminder of a fading slice of their cultural heritage – which is after all the *raison d'être* for growing the stuff. Heaven forbid – for the validity of my argument – there is always the possibility that someone will prefer to grow Jurassic Fir, by pinching the most endearing characteristics of radiata pine and switching these on in Douglas fir! More likely the most desired characteristic will be something totally different – the ability to coppice? There the problem is that one looks into the genetic gain of yesteryear just when technological change is accelerating!

One can cavil at the details of the science, but never forget that it is our conventional time-frame that becomes less relevant when confronted with non-linear change. Huxley nailed it when he said of time "there seems to be plenty of it" (The Doors of Perception), which is something all foresters should appreciate. In case you are appalled, be consoled by the fact that some things will not change. People will still fall in and out of love, poets will tilt at windmills and farm foresters will beautify their land with trees.

Health of Forestry Research in New Zealand

Colin O'Loughlin

On January 10, 1994 The Dominion (Wellington) carried an article about the CRIs titled "Science institutes can't survive says report". The article supposedly reported the contents of Ministry of Agriculture and Fisheries briefing papers and indicates that it was unlikely that the current ten Crown Research Institutes will be viable in the long term. The problems associated with being a viable business, while at the same time maintaining core competencies in science, limited client bases which restrict support for the CRIs, inability to act in a real company mode and an expected loss of key research competencies in the near future, are some of the reasons presented for the rather bleak outlook for the CRIs. This article prompted several people with interests in forestry to enquire about the present and likely future health of the New Zealand Forest Research Institute Limited, the forestry CRI that presently carries out about 90 per cent of New Zealand's total

effort in forestry and wood products research and development.

The newspaper article followed shortly after the release of the NZFRI's financial and science reports for 1992-93 at the end of 1993. The financial report indicates that despite the adverse effects of restructuring during the first six months of the CRI's operation, the operating profit for 1992-93 approximated \$1.5 million and exceeded budget. The FRI earned \$17.3 million from the Public Good Science Fund administered by the Foundation for Research, Science and Technology and \$11.5 million from non-PGSF sources (industry, central and local government agencies, private organisations, overseas organisations, technology licensing and product sales). The Chairman's and the Chief Executive's reports in the financial report suggest that the restructured FRI, with its strengthened business development and commercialisation skills, strengthened relationships with the fores-