Win – win outcome from radiation research project

As pine forests replace pasture grasses on New Zealand’s formerly indigenous forest soils, the long-term effects on soil quality are becoming of increasing interest outside the scientific community.

Forestry companies have a keen interest in the effects of their operations on pasture as well as on aquatic ecosystems and are no strangers to soil research projects. However, for Carter Holt Harvey, a recently-completed research project has meant validation of some previous research, a keener understanding of soil fertility under pine, and what Bill Dyck, Carter Holt Harvey Forests General Manager of Information, Environment and Technology, terms a ‘win-win’ situation.

Postgraduate student Francis Groenendijk wanted to investigate the effects of radiata pine on soil fertility for his Master’s. Through the Graduate Research in Industry Fellowships (GRIF) programme, he received scholarship funding for the project, working on the project at Lincoln University and also at Carter Holt Harvey.

Field work was carried out at Mahurangi Forest in Northland. Various indices of soil fertility were compared under radiata pine and adjacent pasture at four selected sites.

“At is important to stress that we were looking at the effects of pine on soil fertility and nutrient status, not what soil would suit trees,” Francis said. “We did find that yes, there was a change in fertility, but it was as we expected.”

“Afforestation at present in New Zealand is largely on soils which, by pasture standards, are at the lower end of the scale and Mahurangi Forest is an example of forest established on soils of low natural fertility. Under pasture, the fertility of the soil was increased somewhat by fertiliser inputs, but still low by New Zealand standards,” he said.

One of the most significant findings was that trees were able to access nutrients from soil organic matter which are largely unavailable to pasture species; demonstrated by the consistent decline in the amounts of soil organic nitrogen and sulphur under radiata pine compared with pasture. In contrast to the pasture sites, the forest soils had a substantial accumulation of organic matter in the form of a needle layer on the soil surface.

Francis’s research also showed that, at two ‘higher fertility’ sites, available phosphorus was markedly higher under trees (35-40 ppm) than pasture (10-15 ppm) while at the two ‘lower fertility’ sites there was little difference between soil under trees and pasture (5-10 ppm). Overall, results show that effects of trees on soil fertility depend on soil type and nutrient status of the soil prior to afforestation.

Bill Dyck said the company had a philosophy of developing closer ties with universities and graduate students and the GRIF scheme had furthered this, as well as providing a bonus of solid research on a highly-focused project, at a reasonable cost to the company.

Nigel Metge, of the Foundation for another Plant Pest Risk Analysis Workshop. Hugh was involved as a lead presenter for economic impact assessment at the ASEAN funded workshop. The workshop was attended by heads of quarantine from ASEAN member countries. While in Kuala Lumpur, Hugh also gave seminars at the Faculty of Forestry at the Universiti Putra Malaysia, and visited the Forestry Research Institute of Malaysia.

Dr Bigsby and Dr Lucie Ozanne also presented papers on their recent research on product branding by sawmills in New Zealand and on environmental certification of forest products. Conferences presented papers on their recent research in Putra Malaysia, and visited the Forestry Research Institute of Malaysia.

The ANU were generous enough to ensure those of us present were lucky enough to travel to Canberra while on tour. It is hoped that this column will serve at least part of this purpose and will perhaps open a clearer line of communication between students at the School of Forestry and those already involved in the forestry industry.

Attending the ANZIF conference in Canberra was a unique opportunity to meet with forestry students from across the Tasman. However, perhaps of more importance was the opportunity to mix with people whose experience in the forestry industry far outweighed our own. In this respect the conference was excellent and I’m sure those of us present appreciated the time and experiences that were shared with us.

The ANU were generous enough to provide our accommodation. Our Australian counterparts were excellent hosts who seemed intent on giving us as little rest as possible, by ensuring that we got the full tour of the Canberra night-scene. It was interesting to compare the different attitude towards our respective futures in the forestry industry. It was obvious that our education, which gears us towards a traditional approach, differs somewhat from their more commercial-oriented future. The differences in attitude to which Chris Perley alluded in the last issue seem to filter back into their educational ideals and general approach to the future of forest-related industries.

Editor’s Note: The NZIF provided financial assistance for a number of students to attend the ANZIF Conference in Canberra earlier this year.

At the conclusion of the ANZIF conference in Canberra it was agreed that student members of the NZIF did not have an adequate medium through which to interact with people involved in the forestry industry. It is hoped that this column will serve at least part of this purpose and will perhaps open a clearer line of communication between students at the School of Forestry and those already involved in the forestry industry.

We delivered our presentation on the second day of the conference. The talk detailed a brief history of New Zealand forest management before discussing our views on the future of indigenous forest management in this country. The actual presentation, delivered by myself and Julia Simnock, ran pretty much according to plan after an initial problem with the slide projector, a good test for the group’s nervous composure. Special mention must be made of Peter Crowe’s prowess controlling the slide projection and the general all-round commitment shown by the entire travelling team. On behalf of the group of us that were lucky enough to travel to Canberra I would also like to express our thanks to Kevin Boston, a lecturer here at the School of Forestry, who spent countless hours with us in preparation and put up with our varying degrees of stupidity while on tour.

Regular Feature?

It is hoped that this column will now feature regularly in New Zealand Forestry. We are at this stage trying to keep communication lines open with the students at ANU, and hope to be able to include correspondence from them in this column also. Any feedback or questions relating to student activities within the School can be directed to myself, either via the School, or by Email tjm70@studen- cent.canterbury.ac.nz. Any correspondence would be greatly appreciated.

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Report on 1997 ANZIF Conference
The students’ perspective

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