It has been mentioned many times that New Zealanders tend to diversify too much. It was perhaps with this in mind that the former NZ Forest Service produced in 1981 a list of forestry trees called "special purpose species". The trees on this list included five eucalypt species, two cypresses, Tasmanian blackwood and black walnut. They all received a planting subsidy from Government as an incentive for land owners to plant them. It was intended that this policy should be reviewed in five years and in 1986 the Minister of Forests, through the New Zealand Forestry Council, called together a new committee to consider, among other matters, "specifically the end-use and potential overseas markets for special purpose species", and to "consider the suitability . . . and potential . . . for growing species to meet these end-use needs." It was found that while the eucalypts had received widespread acceptance, there had been too little planting of the other species.

The undoubted success of *Pinus radiata* had no doubt influenced the thinking of all forestry projections. In fact, one forestry official once said to me: "If we did what was best for the New Zealand taxpayer we would plant pines from one end of the country to the other." As opposed to this type of thinking, A.N. Haslett in his FRI Bulletin No. 119, "Properties and utilisation of exotic speciality timbers grown in New Zealand", states: "However, despite receiving a wide degree of acceptance, radiata pine has several properties which detract from its suitability in some speciality uses - namely, uneven texture, poor surface hardness and dimensional stability, and low toughness values . . . It is obvious that, because of past over-cutting and present conservation pressures, future supplies of indigenous timber will be limited, and the timber which is available is becoming increasingly expensive. A similar concern is occurring world-wide with speciality hardwood timbers."

Add to this two further quotes from the proceedings of this committee. S.D. Richardson contributed: "In this perspective New Zealand's contribution to the world timber needs is nugatory . . . Production is expected to double by the year 2000 but even if the whole of this production is exported, it is a very small drop in a large bucket of the international timber economy." And from Ian Armitage, N.Z. Forest Service: "Although asked to do so, we cannot reliably provide the working party with information on overseas demand for wood having special purpose values. I am inclined to agree with Dr Richardson that demand will be very large indeed and probably larger than could be satisfied from South Pacific (including Australia and New Zealand) forest resources."

I was privileged to be a member of this committee representing the New Zealand Tree Crops Association. Also represented on this committee were the Farm Forestry Association, the Furniture Manufacturers Federation, the Crafts Council as well as Forestry Council, Department of Trade and Industry, NZ Forest Service and NZ Forest Products. Although only meeting three times before being disbanded because the Forestry Council was wiped out by a political pen, we managed to produce a report that was published and, I hope, not forgotten.

As stated earlier, many people feel that we New Zealanders dabble in too many options and we should concentrate on the few things that we know we can do well. Hence the question . . . "Hickory Timber - Who needs it?". Another question is: "If it is so good, why has it not been done before?" The answer to that is that it has been done many times before but only in isolated plantings of a few trees. The answer to the first question is simply that there is a demand for hickory timber and the price being paid is not too bad either.

Let us look for a moment at the current supply situation for hickory. As far as the writer has been able to find out, there are no new plantings of hickory trees anywhere in the world. In 1981 the US Forest Service and the Texas A. & M. University told me that there was no need to plant these trees for timber as there was at least 800,000 acres of "native" stands in East Texas alone without counting the large areas also in Louisiana. Correspondence with Dr Loy Shreve of Uvalde, Texas tells me that much of this native timber is old pecan trees which are of course a member of the hickory family. These native stands have had practically no care or silviculture, with the result that most of the trees have poor form. As they clear land at some expense for other uses many of the

![Hickory trees at Percy Ryburn's, Pokenero, planted in 1981 and pictured after leaf fall to show tree form.](image-url)
These land owners want the trees removed and the stumps eliminated. Despite the poor form, there are still furniture manufacturers, tool handle makers and fuel merchants who want this timber. It struck me forcibly that we know that we can grow these trees well here and we are told that there is much land in New Zealand which needs to be used profitably but is not really good enough for horticulture, nor even sometimes for pasture farming.

The proof that we can grow hickories in general and pecan trees in particular over a wide range of our soils can be seen in the trees that grow in diverse conditions where salt water is close to the root zone, or there is sloping land of a heavy clay structure, as well as the more traditional deep alluvial soils. These have all produced healthy trees in this country. Apparently the only soils to be avoided are the Blue-grey soils of swamps. This family of trees needs air to be able to get to the roots along with moisture. However, floods that lap around the trunks and leave quantities of silt do not harm them at all. Wind is a problem and possums can also be a nuisance on the new spring growth. Most of the pests and diseases found in North America are not in this country, nor are they in Australia.

There are two examples of pecan trees that I would like to illustrate. In the Auckland suburb of Avondale there is a 40-year-old self-sown seeding from a neighbouring pecan tree. The photo shown of this tree was taken when it was less than 40-years-old. The current size is about as follows: height to first limb, six metres; diameter breast height, 160 cm. The soil is a first-class deep alluvial one.

A few miles south of the Bombay Hills in Serpell Road off State Highway 2 there lives a farmer and race horse breeder by the name of Percy Ryburn. The soil here has about 50cm of top soil over clay. In 1981 he was offered a number of very young seedling pecan trees. He planted 87 of these close to his house just because he liked the look of them. He contacted me a few years ago to try to get them grafted to named varieties but they were already quite tall and he did not want them cut back. He is now very pleased with his trees, as some are starting to produce a few nuts, but he particularly likes them for the beauty and shade. He tells me that if he was younger he would plant them "all over the farm", even if it meant fencing off each one to keep the animals from eating the leaves.

The question as to whether the tree is worth growing is best answered from the assistance that I have received from Mr Ian Nicholas and I hope he will not mind me quoting him here. In an effort to find out how good New Zealand grown pecan timber is for strength and density I provided Ian with the trunk of a 12-year-old seedling pecan tree from my home in Mount Albert, Auckland. This was carefully dried at FRI, Rotorua and tested against the US Wood Handbook standards for what is described as "true hickory". The last sentence of the report states: "It must be concluded that NZ grown pecan hickory, as represented here, has the potential to produce high-quality impact handles."

I am told that hickory clean white sapwood is sometimes imported into this country at a price of $1800/m³ for the manufacture of sulkies for harness racing. This I concede would use a very small quantity and certainly comes under the heading of specialised end-use, but this is not the only end-use for this beautiful timber. Visitors to North America may already have seen fine furniture made from both pecan solids and veneers. (There are several fine examples of this furniture in New Zealand.) We have mentioned the use as tool handles and few people need to be told that hickory handles are still rated the best on the international scene. It is used also in North America to make charcoal for barbecue fuel and has also been used as firewood over many years and appreciated for its great heat while burning. It is also a beautiful amenity tree. Please note that pecan nuts are not generally very good from ungrafted trees and any usable crop should be regarded as a bonus.

There seems to be a situation where no one is planting pecan or other hickory trees for future timber use but relying entirely on the seemingly inexhaustible supply in North America. Such countries as Japan and Taiwan are listed as importing hickory timber from USA and I understand that it is being imported by Great Britain and Europe. If I read the signs correctly there will be a need for pecan/hickory timber at about the time that trees planted now will be ready for milling. The question now is do we take advantage of a potential situation or do we wait for the shortage to be here and then rue the day that we did nothing about it? There is no disputing the fact that the world wants hickory timber. The real question is what do we do about it?

Perhaps the final argument, very relevant at this time, is for erosion control with a potential income. Here is a species of tree that we know grows well in many parts of New Zealand and that has an extremely robust and deep-rooting system. This includes both widespread feeder roots and a very deep tap root. The tree also lends itself to coppicing, which means that after felling, new shoots from the stump can be selected to grow new trees without having to disturb the fragile soil just to remove the stumps. It is believed that this new growth from a coppice will produce new strong trunks with two to three times faster growth than the original tree. I am told by FRI people that hickory (Carya spp.) trees are one of a small group in which the faster the growth the stronger the timber.

It seems logical therefore that if a cut was made for tool handles at about year 20 and the new coppiced growth selected and trained upwards, the grower of pecan trees should have a continuing income from his woodlot for many years to come. Progressively, if the trees were planted very close together to force the trunks up towards the sunlight, perhaps the first cut for thinning could be made for firewood at about year ten, the second cut for coppicing at about year 20 with some trees deliberately left for furniture at about year 35 to 40.

A hickory tree in Avondale, Auckland, just under 40 years old - a straight tall tree suitable for milling.

Forest Service memoirs to be published

A book containing a mix of historical chronology and informal anecdotal reminiscences as well as a pictorial record of the Forest Service is scheduled for publication early in the new year. The book utilises anecdotal material