



Manuka is the predominant species in this 'frost flat' in forests west of Lake Taupo

diately behind Te Araroa on the East Cape. Large kanuka trees are a component of a mixed forest there. I measured a single stemmed specimen to be 94 centimetres diameter, and estimated its height at 25 metres — a great forest tree laden with perching lilies, orchids and other epiphytes. By comparison with nearby kanuka, known to post-date 1857, I estimate these larger kanuka trees to be 300-400 years old.

So while some people see all kanuka vegetation as scrub, I cannot accept this. Kanuka and manuka are 'seral' or successional species, which dominate key parts in the series or succession of vegetation types which follow the colonizing of a new site. Here size really does matter. Kanuka grows en masse to form dense scrub; then, as the dominant stems grow and the others are suppressed and die, it matures to form a kanuka forest. This will generally diversify to a mixed forest and ultimately be replaced in a natural succession — if we wait long enough.

Hill country farmers are very familiar with the most basic ecological feature of kanuka and manuka — their ability to colonize the smallest of bare patches in sparse pasture. Those tiny airborne seeds get around, and the essentially unpalatable seedlings do well in full-light conditions. They may also colonize extensive bare sites after fires or on slips.

Kanuka grows well on soils of middling-to-good natural fertility and drainage. Manuka by contrast favours wetter soils and low-fertility leached soils. It is not so much an active preference for poor conditions;

rather, that with competition between the two, kanuka fails in such circumstances. In contrast, manuka often establishes with kanuka on the average or better sites but is suppressed by the faster-growing kanuka and dies out within 10-20 years, after being overtopped.

'We wouldn't touch the native.

It's only scrub we're cutting!'

The net result is that kanuka dominates in some areas, such as most of the Gisborne District. Manuka persistently dominates on wetland margins, and on some particularly hard, 'bony' or burnt sites. It also flourishes in areas with consistently high annual rainfall, and at higher altitudes.

The different lifespans of manuka and kanuka is the basis of another important distinction between them. Manuka is comparatively short-lived — generally to about 60 years. As a stand approaches this age,

there is a progressive breakdown of the canopy as individual manuka die or fall. This allows seedlings or saplings of other species to come through. Now there is an early succession to forests dominated by broadleaved species such as rewarewa or kamahi. In some cases, where browsing by stock or wild animals is excessive, this natural succession may fail — then the manuka may be replaced by mingimingi and bracken, in patches, or a second generation of manuka establishes itself.

Kanuka by contrast is long-lived. Stands dating from the abandonment of land during the economic depression of the 1930s, or before, are widespread. Whether the plants beneath them are heavily browsed by animals or not is to some extent immaterial as far as survival of kanuka forest is concerned. The kanuka will still be there at the end of another century. Removing browsing animals from the understorey would, however, allow a diverse forest to establish and eventually succeed the kanuka.

Manuka and kanuka have other values, too. While some iwi leaders have declared that manuka (including kanuka) have no worth, others consider that its former use for prized tools and weapons represents a cultural value of high importance.

On the utilitarian front, perhaps the best known value, for kanuka especially, is as a source of firewood. Alas, in the absence of sustainable management systems, this use tends to be an opportunistic 'mining' of the resource.

The quality of kanuka timber also suits it to machining for tool handles, with far higher value-added potential. While there have been encouraging thoughts of harvest-

Extensive kanuka forests flourish on Great Barrier Island, following forest clearance and fire.

