

Agroforestry

Brian Lowry (b_andg_lowry@bigpond.com) discusses the trend towards greater use of new tropical hardwoods in Australian agroforestry.

As I have not worked in forestry in Australian forestry*, comparing forestry issues in New Zealand and Australia is difficult. I did for some years, however, work as a CSIRO animal scientist in towards a new agroforestry (or sylvopastoral) system for northern Australia. For this, the species and their management are so different from New Zealand that maybe an outline would be of interest.

The salient biological fact is that there are a number of tropical tree species that produce high quality timber and also happen to have foliage of high forage quality. Thus the concept of "dual purpose" trees, grown at wide spacings in pasture, and managed for both wood and animal production.

But surely the forage value is irrelevant if it is out of reach? Not if the trees are dry-season deciduous and the fallen leaf is eaten, which it is. In some cases the feed quality is better than - and complements that of - dry-season grass.



Tropical forestry - the new horizon for forestry in Australia. (Source: Tropical Forestry Services Ltd)

Add to this fresh forage from prunings and thinnings, and maybe significant amounts of fallen flower and pod. But that's not all! Grown at wide spacings, some of the species of interest promote rather than suppress sub-canopy pasture.

Thus, after establishment, the trees could boost pastoral production for most of their growing life. The timber would go into the niche for "rain forest hardwoods", otherwise in short supply in Australia.

Such a system would be novel in Australia although not in some third-world contexts. Experimental results and other data supported the concept, as did a few visionary graziers.

But it fell squarely between scientific silos and I was never able to get significant trials started. For me there was a remarkable contrast between the kind of "fine tuning" research common in forestry, and what was required for this system. The forage value of fallen tree leaf is virtually a new research area, as is the promotion of sub-canopy vegetation by some species ("savanna effect").

One irony was that the most promising tree, *Albizia lebbbeck*, is already widely present in northern Australia, and was once believed to be exotic.

It is in fact indigenous, and is occasionally valued for its shade but is otherwise largely ignored. Sooner or later it will be recognised that northern Australia already has the resources for a more productive and sustainable system!

* Elaborated in: *On life, lignin and leucaena*. New Zealand Journal of Forestry 44 -46 (2003).



Sandalwood tree management in northern Australia. (Source: Tropical Forestry Services Ltd)