Agriculture WESTERN AUSTRALIA

Farm Forestry Advisory Service

DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT

TreeNote

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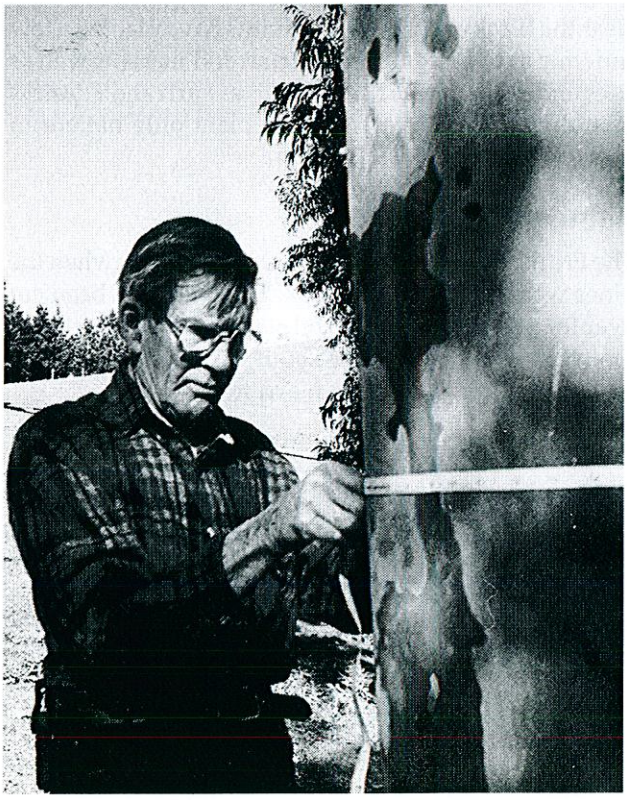
Farmer experiences in farm forestry

Jim and Mary Frith, Bridgetown

Over the past 10 years Jim and Mary Frith have progressively integrated trees into their farming system. They were the first farm to participate in the CALM pine sharefarming scheme in 1987 and have funded their own agroforestry developments using several eucalypt species. They plan to progressively integrate agroforestry over the whole farm to complement their Merino enterprise. Jim is also involved in the development of a farmer controlled tree growers' cooperative.



Jim Frith measures the diameter of a 17-year-old specimen of Corymbia maculata *(spotted gum) – a forerunner of the Friths' later plantings in farm forestry.*

Starting in farm forestry

The mid 1980s was a key time for the Friths in their deciding to integrate trees into their farming system. Jim had been impressed with several papers written on the economics of tree farming in the south-west of Western Australia, and particularly with the conclusions of Anderson and Moore who showed that the total productivity of agroforestry systems was greater than that of either trees or pasture alone.

The Friths' readiness to start in farm forestry coincided with CALM developing a sharefarming scheme for pines in the mid 1980s. Recognising that the southern slopes of their farm would be good for growing pine trees, but not able to afford to plant on their own, the Friths entered into a pine sharefarming arrangement with CALM. Pines were planted on their property in 1987. Through this agreement the Friths became the first pine sharefarmers with CALM in Western Australia.

Pine sharefarming

Pines were planted on 150 ha. Spacings were first planned at 3 m by 2 m (1650/ha) but ended up closer to 4 m by 2 m (1100/ha). Some areas failed because of the competition from bracken. Five years later (1992) with the availability of Brushoff®, for bracken control, 3 ha were replanted on a steep southern slope.

When the plantation was five years old the Friths were contracted to low-prune all the trees on the half of the plantation that was ex-pasture. That half had experienced a good history of superphospate. The other half, on steeper country facing south with bracken and phalaris, had a slower growth rate and was pruned on the outer three rows only. CALM's initial plan was to thin to waste at year five, but an expansion in the Wesfi particle board plant in the early 1990s produced an increased demand for pine chip log. CALM therefore reasoned that leaving the plantation unthinned to year 11 would produce a better chip log yield and reduce the need for later higher pruning.

Developing an agroforestry system

While all this was happening, the Friths were watching the agroforestry developments on David and Dianne Jenkins' farm next door. In 1992 they established a system which was in a similar pattern to the Jenkins, but with a wider spacing between belts (40 or 50 m), and carefully surveyed on the contour (which fortunately happened to be close to a north-south orientation).

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The tree species established were *E. regnans* (mountain ash), *E. grandis* (rose gum), *E. globulus* (Tasmanian bluegum) and *E. saligna* (Sydney bluegum) planted in three-row belts. Species were planted in blocks about 20 m long. The lowest belt was planted to *Corymbia maculata* (spotted gum) and this was fenced so that the rest of the area could be grazed in the third year. (Fencing of the *C. maculata* was necessary because it is slow growing.) The plan for this agroforestry system is to produce eucalypt sawlogs at about 18 years of age while grazing Merino sheep among the trees for wool production.

Using an adapted farm loader, Jim Frith gathers up pulplogs thinned from belts of mixed eucalypts planted in 1992. (Photographed in 1998.)

Because all the planted eucalypts other than *E. globulus* are susceptible to damage by sheep until two years old, the grass was slashed for the first two years. This caused a decline in clover content.

About half of the *E. regnans* were lost in dry years. The main problem with mountain ash is its intolerance of drought and high temperatures. The Tasmanian bluegums have grown the fastest but are not as straight as the Sydney bluegums. Other plantings on the farm include poplars and blackwood to stabilise a developing gully (in 1986) and a 1989 planting of Tasmanian bluegum and Sydney bluegum on a hilltop. About two-thirds of these bluegums were recently harvested at 8 years old as thinnings so that the remainder could be grown on for sawlogs. These thinnings yielded 200 t from 3 ha and were sold for $4400.

Future plans

Jim and Mary plan to cover the rest of the farm with an agroforestry system. They have yet to decide whether it will be pines or bluegums. The spacings will be increased to about 60 m and two or three rows of trees will be used. Jim is also interested in the 'fat eucalypt' concept developed by Andrew Thamo from Balingup. This involves early and intensive thinning and pruning of the trees to low density, encouraging 'short, fat trees' for high quality, strong timber.

Near the Blackwood River, the Friths have planted a few endemic native trees such as jarrah and marri as well as trees endemic to areas nearby such as karri and *E. patens* (blackbutt). Their intention is to plant only natives in the river reserve.

Remnant vegetation

The Friths fenced 40 ha of remnant vegetation when the pines were established in 1987. This area had been cut over for posts, piles, poles and sleepers and was grazed by livestock off and on for about 100 years. In spite of this it still looks like jarrah-marri forest.

Further information

Contact your local Department of Conservation and Land Management or Agriculture Western Australia office for the name of your nearest adviser representing the Farm Forestry Advisory Service. Other *TreeNote* titles are available from these offices in the higher rainfall area of southern Western Australia.

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