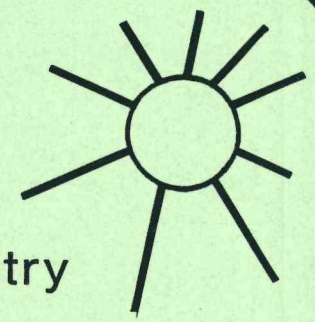
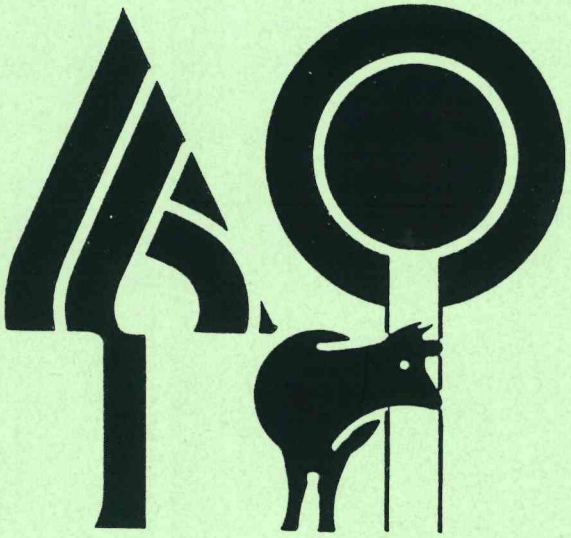
Agroforestry Update



Newsletter for Agroforestry Researchers and Practitioners



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EUCALYPT AGROFORESTRY TRIALS IN WESTERN AUSTRALIA

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Research being carried out from Busselton, Western Australia into the combination of widely - spaced eucalypts and pasture could lead to the development of economic farming systems to control salinity. In this type of agroforestry trees are managed to produce high quality sawlogs in conjunction with pasture for cropping or grazing.

Trials with eucalypts at wide-spacing commenced in Western Australia in the late seventies. In 1981 a trial with Eucalyptus diversicolor, E. maculata, E. globulus, E. paniculata, E. oreades and E. muellerana was established. At this stage these studies show that eucalypts can be pruned with no apparent adverse effects and that pasture grows beneath the trees.

In 1987, a new series of eucalypt agroforestry trials was established. Three locations were chosen to cover a wide range of site types in the South west. The sites and their main features are:

(1) Busselton - sandy soil, 800 mm rain per year
(2) Dinninup - sandy loam, 550 mm rain per year
(3) Manjimup - loamy soil, 1,100 mm rain per year.

Three species were selected, E. saligna, E. maculata and E. microcorys and three provenances of each were planted. These species were chosen because they have performed well in Western Australia in terms of growth rate and tree form. They are also recognized timber species and as a group they cover a range of timber densities from relatively low density for E. saligna to high density for E. microcorys.

Trees were planted in lines 15 metres apart. Along the lines the trees were two metres apart, giving a total of 333 trees per hectare. The plan is to cull three out of four trees during the first five to six years to leave a final crop of 83 trees per hectare. Thus, a selection ratio of 1:4 is being used. Crop trees will be pruned to eight to ten metres. Agricultural production is expected to be reasonable for much of the rotation at this spacing and density. Anecdotal information suggests that some species of eucalypts have an inhibiting effect on pasture growth. This aspect will be monitored.

One of the main uncertainties of fast grown eucalypt sawlogs is their marketability. Part of the problem is that techniques for sawing and drying the timber need to be developed. However, this aspect is being studied by other researchers (see Agroforestry Update No. 7). Meanwhile, the trials which have been establsihed should enable methods of management to be developed and provide data about tree growth. With this information the practicability and economics of farming with widely-spaced eucalypts can be determined.