

ACACIA SPECIES AS LARGE SCALE CROP PLANTS IN THE AUSTRALIAN WHEATBELT

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Revegetation with perennial plants is a well-accepted tool in salinity control across the agricultural regions of southern Australia. However, the scale on which revegetation must be undertaken in order to have significant impact on salinity has only recently become clear. This scale is so large that revegetation for salinity control will only be viable if it is undertaken as a change in the commercial plant base of agriculture. Hence we need an array of profitable perennial plants to complement the traditional annual species.

Apart from their role in salinity control, new perennial plant crops can bring a range of other benefits to agricultural areas, including improved erosion control, protection and enhancement of biodiversity, diversification of farm incomes, and regional development resulting from local processing of perennial plant products.

This paper reviews several desirable attributes for new woody perennial crop plants, including rotation length, scale of markets, whole plant utilisation (multiple products), the desirability of deriving new crops from native species and the concepts and practice of temporal and spatial integration of perennial crops into agriculture. These attributes provide the foundation for objective selection of potential new commercial crop species. From this foundation, a selection and development project called 'Search' has evolved, to systematically assess new large-scale tree crops and processing industries based on native species, select those with high potential for commercial development, and take the first steps towards their development.

The genus *Acacia* provides considerable potential for the development of new commercial perennial plants. It appears to be especially prospective for use as a phase crop in rotation with conventional annual crops. A large number of *Acacia* species occur naturally in the Western Australian Wheatbelt, and several have attributes that may make them suitable for commercial development. Some have useful wood for use in solid wood products, some may be suited to panel board or paper manufacture, others produce gums or tannins, some have foliage that may be suitable as fodder, while several have potential as edible seed crops. Large-scale generic products for which acacias are likely to be suitable include solid fuels for electricity production, liquid transport fuels and charcoal products.

Work on *Acacia* is presented here in the context of a review of progress in the Search Project.