

THE MULGA LANDS SYMPOSIUM: AN EVALUATION

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This symposium set out to collate the most recent research results on mulga lands and their dynamics. It became apparent that the following uncharted areas of knowledge within the highly variable mulga ecosystem warrant further investigation:

- clarification of nomenclature within the *Acacia aneura* taxon requiring a thorough taxonomic study of related *Acacia* types
- better understanding of plant/habitat relations through broad based survey data
- meaningful extrapolation of germination data to field situations aimed at more dependable regeneration predictions for both topseed and ground layer species
- investigation of mineral cycling in mulga communities and the concept of woody plants acting as mineral pumps on poor soils
- autecological studies of important woody plants and perennial grasses aimed at exposing the reasons for the differential competitive ability of associated species in a community
- information on the comparative reactions of plants in mulga lands to defoliation and fire
- investigation of the effect of man-induced changes in ground cover on the role and habits of harvester termites
- broad-based studies on the productivity and nutritive value of individual plant species, emphasising the potential role of perennial grasses in stabilising the production system
- examination of the mulga land ecosystem as harvested, and apparently maintained, by native animals before the introduction of domestic stock
- a more serious investigation of the management possibilities for mulga lands in an attempt to reach a compromise satisfying the maintenance and growth requirements of both animals and plants
- an economic and biological survey of the strategies applied by successful mulga landholders, aimed at determining the reasons for such success and the processes involved.

There is a need at this stage for developing a broad perspective towards integrating what may otherwise be sterile fragments of knowledge. This is apparent from the difficulties which are presently met with when attempting to synthesise management principles from existing results of mulga land research. What is required is thus, not simply more research, but a serious effort by research planners to ask the right questions, and then to set about answering these in a logical sequence. In doing this, even crude modelling of mulga production systems could be fruitful.

The future research programme can be broken down into answering four central questions:

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1. What physiognomy and floristic composition is likely to yield the best long term production from each type of mulga land?
2. What manipulation, if any, is required to develop and maintain this desired state?
3. What combination of type and number of animals can be safely used in the ecosystem envisaged?
4. What size of holdings are required to achieve ecological and economic feasibility for such production systems?

Finally, this symposium highlighted the need in Australia for the training of field ecologists who have sufficient empathy with semi-arid ecosystems to generate an Australian philosophy on which the maintenance and use of the greater portion of this country may be centralised.