Advances in plant conservation biology:

Implications for flora management and restoration

Symposium program and abstracts

Perth, Western Australia
25-27 October 2005

RDENS
HORITY

Advances in plant conservation biology
Symposium, Perth

RISK ASSESSMENT FOR *ACACIA SALIGNA* AGROFORESTRY

Millar M.

Science Division, Department of Conservation and Land Management, Locked Bag 104, Bentley Delivery Centre, Bentley, Western Australia, Australia 6983
The University of Adelaide, South Australia, Australia 5005.
CRC for Plant-Based Management of Dryland Salinity (www.crcsalinity.com.au)

The native Western Australian species *Acacia saligna* has been selected as a priority for further development as a perennial agroforestry crop. It is likely to be used for wide-scale revegetation in southern agricultural areas of Australia to mitigate the effects of dryland salinity. However, the use of native perennial species for revegetation may pose risks to the maintenance of natural biodiversity in these areas. Sustainable use of natives such as *A. saligna* will require comprehensive risk assessment covering aspects of both genetic and weed risk. In Western Australia, the likelihood and predicted impacts of genetic contamination via pollen flow into remnant populations from domesticated populations of *A. saligna* must be assessed. This will require measurement of the levels and distances of gene flow possible between genetically divergent populations and assessment of the relative fitness of hybrids compared to parental genotypes. Such information will aid the development of guidelines for plantings including suitable isolation distances for large domestic populations. In South Australia where *A. saligna* has become naturalised and presents a weed risk, its evaluation will include assessment of which of the four recently described variants is predominant and whether the principal means of reproduction is sexual or asexual. This will provide guidelines for the use of *A. saligna* in non-native areas where it may present a weed risk. Collectively the work will aid the conservation of remnant vegetation and its genetic diversity both within and beyond the species natural range.