

## **Weeds CRC Supplementary Information for National Quarantine & Biosecurity Review**

The following supplements information presented verbally to the National Quarantine & Biosecurity Review Panel 25 June 2008, by Dr John Virtue on behalf of the CRC Australian Weed Management.

### ***Australia's border Weed Risk Assessment System (WRAS)***

- Using the original training dataset for the WRAS and taking account of uncertainty in the underlying base rate of weediness in the general plant population, Caley et al. (2006) found the current "reject" cut-off score equates to approximately 10% probability that a species will become a weed.
- Keller et al. (2007) followed on from the study of Caley et al. (2006) to show that the WRAS began accruing substantial long-term financial benefits to Australia after several decades of operation, the time lag being associated with the typical time taken for a new plant introduction to naturalise, spread and become a weed. Keller et al. (2007) were deliberately conservative in their assumptions of the cost of weed impacts and made generous assumptions of the financial benefits of ornamental plants. Therefore, the benefits from the WRAS may actually accrue much earlier.
- Weeds CRC staff participated in a national review of the WRAS (National WRAS Review Group 2005) and recommendations were made for improvements for Tiers 1 (e.g., deliberate misnaming issue), 2 and 3.
- There has been recent international collaboration on a soon-to-be-published document giving standard definitions and guidance notes for answering the WRAS questions (Gordon et al. submitted). This will reduce variability in assessments between jurisdictions. Overall there is general consensus that the WRAS is the best current system for border use, but that significant improvements in classification accuracy (i.e. accept/reject) can be made with the additional use of the Daehler et al. (2004) decision tree for "further evaluates".

### ***Post-border weed risk management***

- A national protocol for post border weed risk management (anon. 2006), developed by the Weeds CRC in conjunction with Standards Australia, is enabling a more strategic approach to the allocation of resources between species risks within States/Territories and at regional levels. The protocol has been used in the Northern Territory to review current weed declarations and revise policies for declaration.
- Over 27,000 exotic plant species have been introduced to Australia, many of which have not yet been recoded as naturalised but have a weed history overseas (Randall 2007). The majority of Australia's future weed problems are already in Australia (for example, Caley et al. 2008 estimated that only 50% of woody species likely to naturalise in South Australia have done so to date). With the permitted list in place at the national level, the greatest gains to be made from investment in weeds will be in early detection and rapid response programs. NAQS and Victoria are most advanced in this regard. The Weeds CRC piloted a weed spotter program in Queensland and is developing a guide on how to establish such a network. However, declining numbers of taxonomists in herbaria around Australia is a major constraint to an effective system for surveillance and response.
- The Weeds CRC has worked with the CRC Plant-based Management of Dryland Salinity (now Future Farming Industries CRC) to develop weed risk management procedures for new agricultural

plant introductions (Stone et al. 2008). There has also been collaboration with Australia's botanic gardens to assess and manage weed risk (Virtue et al. submitted).

- The Weeds CRC has developed a range of decision tools to assess eradication feasibility, eradication progress and surveillance strategies for weed incursions, using branched broomrape, Siam weed and the four tropical weeds national eradication programs as case studies.

## References

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