

Managing weed risk brings cultural change

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Plants that persist and survive drought well tend to be high on the list as perennial forage plants in dryland agriculture. Unfortunately, those very characteristics that make them attractive can also increase the risk they pose to the environment.

Environmental risk looks at what happens beyond the paddock fence if the plant or its genes escape into bushland, watercourses and roadsides. Impacts can include displacement of native flora, loss of biodiversity through hybridisation (see *Focus on Salt #41*), destruction of faunal habitat and transformation of riparian environments.

Environmental weed potential has not always been a prime consideration for researchers assessing new species for use in dryland forage systems. However that changed with the work of the *Weed and Genetic Risk* project in the CRC Salinity Biodiversity program.

Cooperative approach

Dr Lynley Stone (Department of Environment and Conservation, WA) has worked with researchers in the CRC Salinity/FFI CRC and CRC for Australian Weed Management to develop a *Weed Risk Assessment Protocol*.

"The protocol is aimed at researchers assessing forage species in field trials," Dr Stone said.

It is hard to predict what will become a weed before it becomes one, however the protocol aims to make this task easier, to prioritise plants for weed risk, and to head off any future weed problem. The *Weed Risk Assessment Protocol* is not intended for use by farmers, however weed management guidelines soon to be developed by the FFI CRC will be directed very much towards farmers.

"There is a fine line between the characteristics that make a plant attractive as a forage species and those that make it a great weed," Dr Stone said. "By assessing the weed potential, researchers can look at alternatives – plants with lower weed risk."

The protocol addresses a series of questions relating to the plant's biology and ecology. As is stated in the protocol "(all) questions require a search of scientific literature, but many of the questions are phrased such that observations from pasture field trials and unpublished information are acceptable".

Questions deal with invasiveness, impacts, and potential distribution, leading to a weed risk score.

Dr Stone believes there has been a cultural change among researchers regarding weed potential of agricultural plants.

"Researchers have cooperated in developing the protocol and are now considering weediness. They are used to assessing livestock product risk, such as wool and meat contaminants, but environmental risk is relatively new."

Assessing environmental risk also helps identify gaps in our knowledge of the plant, and demonstrates a duty-of care that is increasingly a part of the research culture.

Plants on the ground

Most of the plants that will be assessed using the protocol are already in Australia and the assessment relates to their introduction to a new area or a new use. It includes Australian native plants being used beyond their natural range.

New plants coming into Australia are assessed for weed risk by the Australian Quarantine and Inspection Service (AQIS).

For some plants, impacts and invasiveness scores are different for different States.

Dr Stone cites the example of *Acacia saligna*, which is indigenous to south-west Western Australia where it shows potential for use as a fodder species, but which is a significant weed on roadsides and bushland in the eastern states.

The protocol is based on a South Australian model but has been developed to target the CRC Salinity/FFI CRC considerations. It is intended for use across southern Australia, but could be further adapted for use in other areas.

"'Weed' is a social term, not a scientific one," Dr Stone said. "We are trying to be realistic; to take a pragmatic approach. One extreme would be to ban everything with any weed risk; the other would be to deny there is such a thing as an environmental weed. Our work aims to find an appropriate middle ground and if a plant has significant potential as a forage species but also some minor weed potential, then we can start looking at how it could be managed."

The long-term aim would be to have information on environmental weed potential included in promotional literature on plants to assist land managers in making decisions appropriate to their properties. ↓

More information

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The Weed Risk Management Protocol is available on the Biodiversity Project page on the CRC Salinity website: www.crcsalinity.com.au