

Balancing competing interests of plants that have commercial value and weed potential

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Some introduced pasture plants have been very successful at improving Australian livestock production. For example, olive hymenachne (*Hymenachne amplexicaulis*) is used as a ponded pasture species in tropical Australia and buffel grass (*Cenchrus ciliaris*) is an important grazing resource in arid and semi-arid regions. Buffel grass can also help to control erosion.

Unfortunately, the ease with which these plants spread beyond where they are planted means that both are now major environmental weeds. Olive hymenachne is a declared weed, but remains largely uncontrolled, while policies addressing the management of buffel grass have yet to be developed.

Part of the challenge for managing these weeds is to understand people's perceptions of them, including the benefits and costs of each species, and therefore understand what can be done to encourage better management.

CSIRO researchers found that a broad spectrum of stakeholders from north Queensland, north-east South Australia, central Australia and the Pilbara shared similar views about the improved livestock production and erosion control benefits of buffel grass, despite the contrasting environmental conditions. Perceptions of costs were very different between institutional focus groups and individual landholders, and amongst regions. The costs recognised by institutional groups depended on which region they represented. The most frequently cited costs were monocultures, fire risk, biodiversity impacts and costs of control. Producers generally thought that the main cost of buffel grass was the expense of seeding and establishment.

Pastoral and conservation institutions broadly agreed on management objectives for environmental reserves and for pastoral lands of low conservation value, and agreed on management tools and strategies. The contentious issue for institutions within and between regions was deciding on management objectives for pastoral land of high conservation value. Amongst individual landholders, few aimed to keep buffel grass out of their own areas with high conservation value, but over 40% placed a high value on managing buffel grass within reserves. There seemed to be sufficient common ground for progress towards better management to be possible.

CQUniversity researchers identified significant disagreement between landholders about the impacts of olive hymenachne on production. Some viewed the plant as an important resource for grazing cattle, while others saw it as a weed. There was also disagreement about the effectiveness of control strategies. Like landholders, policy makers also appeared to share varying attitudes with respect to control efforts for olive hymenachne.



Cattle grazing on buffel grass pasture. Photo by Paul Jones, Queensland DPI.



Nevertheless, CQUniversity researchers identified several positive opportunities for improvement. For example, a number of information gaps and evaluation mechanisms could be addressed. As the costs of control were generally low, targeted incentives and encouragement mechanisms could improve rates of control activity. There was also potential for a renewed focus on managing infestations in small catchments and isolated outbreaks, and in some situations for the use of regulatory mechanisms to ensure a minimum level of compliance.

In order to achieve sustainable management of both species for production and conservation, a more coordinated approach is needed. This approach should address knowledge gaps, awareness, network mechanisms and the development of regionally appropriate controls, incentives and policies.

Actions should include:

- better documentation of local/catchment/regional management options and outcomes, including benefits and costs
- engaging landholders in identifying how different strategies may impact on participation, cooperation and cost-sharing arrangements
- better communication amongst stakeholders and recognition of existing networks
- prioritising protection of high value environmental assets
- engaging stakeholders in identifying regulatory and institutional structures and support programs to allow for different local and regional needs.

Above left: CQUniversity researchers in the field. Photo by Leo Duivenvoorden.

Above right: Hymenachne shooting from stranded debris in Ramsay Creek. Photo by Wayne Houston

Differences exist amongst interest groups on the value and impact of plants of commercial value and weed potential like buffel grass and olive hymenachne. Therefore, there is an urgent need to consider what policy and institutional settings are required for the effective management and use of these plants.



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Left: Hymenachne in Maryvale Creek, central Queensland. Photo by Leo Duivenvoorden

Right: Mulga killed by buffel grass fire in Central Australia. Photo by Dave Albrecht

