

An ounce of prevention: An accreditation scheme for ornamental plant industries

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Summary Weeds are a significant threat to the environment. While the ornamental plant trade was historically a pathway for weed introductions, there is a strong desire within the industry, in government and the community to reduce the use of weedy ornamental plants and prevent future environmental weeds. The Plant Sure initiative aims to reduce the use of high risk (weedy) ornamental plants from production, supply and trade by engaging with government, industry and the community, to develop a voluntary accreditation scheme for green life industries. The scheme is underpinned by a decision support tool that allows plants to be categorised according to risk. Plants that pose a high risk of becoming weeds can be excluded from use, while the use of environmentally-friendly plants can be encouraged. Through education and training components, the scheme will seek to elicit long-term attitudinal and behavioural change in ornamental plant suppliers and consumers

Keywords Weeds, invasive plants, weed risk, environmentally-safe, assessment, green life industry, ornamental plants, decision support tool.

INTRODUCTION

Invasive plants (weeds) are a significant threat to biodiversity and the environment. The ornamental plant trade has been a predominant pathway of weed introductions: For example, over 65% of introduced plants that have naturalised in Australia are considered garden escapes (Groves *et al.* 2005). Approximately 5% of the 25,360 plants introduced into Australia for ornamental purposes have become environmental weeds, equating to some 1366 weed introductions (Virtue *et al.* 2004).

Accordingly, there is a strong desire in industry, government and the community to reduce the use of weedy ornamental plants and prevent future environmental weeds. There are many examples of proactive initiatives to reduce the use of weedy ornamental plants, including volunteer groups such as Sustainable

Gardening Australia, and industry led initiatives such as 'Grow Me Instead' and the Invasive Plant Risk Assessment Tool, initiatives of the Nursery & Garden Industry Australia (NGIA) that aim to educate consumers about invasive plants (NGIA 2003).

To build on and progress these existing initiatives, in 2016, the New South Wales (NSW) Government through the NSW Environmental Trust provided support to develop and implement a voluntary scheme to promote the use of environmentally safe ornamental plants, as part of a 5 year project entitled 'Plant Sure'. The Plant Sure initiative aims to reduce the use of high risk (weedy) ornamental plants from production, supply and trade by engaging with government, industry and the community to develop a voluntary accreditation scheme for green life industries and other relevant ornamental plant users. The long-term vision of the project is to prevent future environmental impacts from weeds by reducing the availability of high risk (weedy) ornamental plants from supply and trade.

The project is initially being managed via a consortium led by the Nursery and Garden Industry of NSW and ACT (Australian Capital Territory) with representatives from the Australian Institute of Horticulture, the NSW Office of Environment and Heritage, and the NSW Department of Primary Industries. The consortium has a view to expanding more broadly as the project develops, to include a range of ornamental plant industry sectors. Consortium members are working in partnership with researchers, industry professionals, government and the community to co-design and develop the scheme.

While to be initially developed and trialled in NSW, the scheme will be designed to be 'National-ready' and 'sector ready', such that all relevant industries and jurisdictions can participate in future. The scheme will engage green life industries in promoting environmentally-safe plants and removing or avoiding use of plants that pose an environmental weed risk. The first phases of the project involve: a) identifying

a suitable decision support process to assess the weed risk of ornamental plants; and b) investigating appropriate accreditation mechanisms and existing schemes to inform co-design of an appropriate scheme.

BUILDING ON EXISTING RISK-BASED MODELS

To determine the weed risk of plants, the scheme will be underpinned by a robust plant risk assessment and categorisation process. A rigorous risk assessment will provide confidence for industry and consumers that their plant choices are safe for the environment. The ornamental plant industry has a strong environmental stewardship ethic, and there are numerous examples of similar initiatives to reduce the use of invasive plants. For example, the Nursery and Garden Industry Australia currently support a risk-based approach using the Invasive Plant Risk Assessment Tool (NGIA 2013), and a robust plant risk assessment process was developed by Conser *et al.* (2015) that is used in Plant Right, a similar voluntary initiative in California, United States of America (PRC 2007).

The Plant Sure initiative is building on these and other best-practice plant and weed risk assessment tools to ensure a scientifically robust approach to assessing risk. In 2017, Macquarie University researchers completed a global review of existing plant and weed assessment tools and processes, and identified best practice models for the Plant Sure project. Based on the review outcomes, they have developed and tested a rigorous ornamental plant assessment and decision support tool that is being trialled for use in the scheme (Hancock *et al.* 2018). This includes a cultivar assessment process.

The risk assessment and decision support tool will allow plants to be categorised according to risk for use in the larger scheme. Plants that pose a high risk of becoming weeds can be excluded from use, while the use of plants that pose a low risk can be encouraged and promoted. The categorisation process will be designed to account for levels of uncertainty, and prompt re-assessment of species at appropriate intervals to allow incorporation of new information (e.g. if the species is found to be naturalising, or additional information is found on propagule longevity or dispersal mechanisms, etc.).

BUILDING A VOLUNTARY SCHEME

The project is working to co-design a scheme that allows a proactive approach to assessing new plant introductions, while helping industry to maintain diversity and consumer interest in environmentally-friendly ornamental plants. The scheme will highlight the environmental credentials of green life industries in

avoiding the use of plants that pose an environmental weed risk, while promoting low-risk alternatives. The approach will support industry by showcasing their environmental stewardship and developing a strong brand to support a self-sustaining, independent scheme. It will include education and training components to elicit long-term attitudinal and behavioural change in ornamental plant suppliers and consumers, and aim to increase community knowledge of environmental weed issues.

The scheme will use a voluntary compliance approach; thus, it will need to create and promote a strong brand awareness to get the uptake required to achieve the desired result. While voluntary, it is being designed to complement existing government biosecurity regulation by providing the green life industry with mechanisms to demonstrate compliance with biosecurity obligations (for example, to comply with the General Biosecurity Duty under the NSW *Biosecurity Act 2015*). This can occur if green life entities are documented through the scheme as reducing or removing from sale plants that are assessed as having a weed risk. The project will work with government regulatory agency representatives to design a scheme that can be adapted to all Australian jurisdictions, and allow industry to pro-actively reduce weed-related biosecurity risks.

To develop a framework for designing the scheme, researchers at the University of Wollongong reviewed existing voluntary accreditation and certification programs, as well as other initiatives and standards for similar type projects (e.g. invasive species, sustainability, etc.) to determine what components should be included in the scheme and what type of scheme would be most suitable (Curtis *et al.* 2018).

Examples of two schemes that were reviewed include Plant Right California (PRC 2007) and the University of Florida, Institute of Food and Agriculture Sciences 'Assessment of Non-native Plants in Florida's Natural Areas' (UF/IFAS 2017). These two models are underpinned by robust plant risk assessment processes, and have successfully created linkages with industry and plant consumers to reduce the use of high-risk weedy ornamental plants. While these models have used different approaches, and have individual strengths and weaknesses, they demonstrate the need for broad cross-sectoral engagement, collaboration and co-design to ensure uptake. The Plant Right initiative, while created and managed through a non-government organisation, has been adopted by nursery industry professionals and the community (PRC 2007).

Based on the reviews of similar schemes, the report made several recommendations regarding set up, structure and development of the scheme. These

included that scheme development consider the following components:

1. an educational and outreach program to educate green life industries on the problems associated with invasive (high risk) species, and mechanisms to promote the use of alternative plants;
2. a training program for green life organisations that enables them to effectively participate in the scheme and understand the key issues surrounding sale of invasive (high risk) plants;
3. a document (commitment) that a green life organisation signs that spells out its obligations in signing up as a scheme member;
4. sensitive recognition and acknowledgment of participating green life organisations, e.g. by allowing them to display the scheme's brand and logo on their promotional platforms;
5. a monitoring and evaluation system that enables the scheme to identify non-complying organisations, and to evaluate the success of the program;
6. a Charter or Standards document that spells out the approach of removing invasive (high risk) plants from sale and use, based on risk assessment;
7. a fee structure based on a business planning process that ensures that the scheme is self-supporting and inclusive of relevant businesses regardless of size, type, industry sector or location; and
8. a technical panel or panels encompassing independent expertise that undertakes the plant risk assessment process, identifies the plants that should not be sold, alternative plants, those that should be monitored, and those that have been successfully eliminated from sale.

In addition, the scheme must also: a) develop associated communication and engagement platforms, 'branding' and promotion campaigns; b) develop and implement behaviour change and public awareness campaigns to encourage consumer and industry uptake; and c) establish scheme governance, auditing and compliance protocols.

Model schemes and scheme components that could achieve project objectives are now being considered, and project partners will work together to co-design and trial a fit for purpose scheme that will achieve project objectives and be agreeable (and useful) for all stakeholders.

PARTNERSHIPS CRITICAL TO SUCCESS

The success of the Plant Sure project depends on extensive, cross-sector engagement and participation to enable a co-designed scheme that is appealing to industry, and respected by government and the community, while achieving the aim of reducing use of 'weedy' ornamental plants. This requires input from all affected

sectors, and participation in scheme development to ensure the scheme is fit for each sector's purposes.

In early 2018, preliminary workshops were held with current partners to trial the plant assessment process and modify as necessary to develop a process that is suitable for a wide range of ornamental plant users. In addition, potential scheme components and 'model' schemes were discussed and options considered. All work to date has strongly recommended the need for more extensive, cross-industry and cross-sector stakeholder engagement and participation to increase the ability for robust co-design of the scheme for use by all sectors.

The project team is now focused on further engaging across multiple green life industry sectors (e.g. groups that recommend ornamental plants, such as landscape designers and other plant user groups, such as local government) to ensure scheme relevance for various sectors. We are also engaging with stakeholders from other States and Territories to build a scheme that is 'National ready' and adaptable for use by all jurisdictions and industries. With the appropriate stakeholders, we will co-design and develop the scheme. Once developed, we will pilot test the scheme, initially this is proposed to be within one industry sector (e.g. the nursery industry) in NSW, as a trial for broader implementation in future.

Current partners include representatives from the Australian Association of Bushland Regenerators, Local Government NSW, NSW Local Land Services, NSW Weed Officers Association, Royal Botanic Gardens and Centennial Parklands, Biosecurity SA (South Australia), ACT Parks and Conservation, and the Invasive Species Council. Additional partners are being sought from across green life industry sectors, the community and government (including other jurisdictions), to ensure wide consultation and participation.

Plant Sure project partners are keen to work with the community and all green-life industry groups across Australia that have an interest in the responsible use of ornamental plants, to ensure the plant assessment process and the scheme are relevant, user-friendly and available to everyone.

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