

Preventing the introduction of potential weeds as ornamental plants in

Lantana camara

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Australia carries out assessments of weed potential on all new plant imports. New ornamental plants in particular are assessed as they are the major source of new naturalised plants that, in time, may become weeds that impact on our environment.

Why does AQIS regulate plants?

The Australian Quarantine and Inspection Service (AQIS) is the Commonwealth agency responsible for carrying out the government's plant quarantine policies. Substantial changes have occurred in these policies in the last five years. They reflect the rising awareness of the impact weeds have in Australia, including the impact of exotic plants on non-agricultural

ecosystems, and changes in plant quarantine standards at an international level.

What is a weed?

Only plants that do not occur in Australia, and which are assessed to be quarantine pests, can be prohibited importation under international agreements. A 'quarantine pest' is defined as 'A pest of potential economic importance to the area endangered thereby and not yet present there or present but not widely distributed and being officially controlled'. The definition of a pest includes weeds.

The government now requires that (1) the potential environmental impacts of new species, varieties and lines of plants should be assessed including their propensity to become weeds, and (2) that regulations governing plant importation be based on a permitted list approach. These actions will prevent new weed introductions.

Ornamental plants as new weeds

Many of the plants introduced into

Australia over the last 200 years have been beneficial to us and ecologically benign. But a small percentage has run rampant. Gaining a foothold in areas disturbed by human activities, they have moved into natural areas where they may radically alter the ecosystems they have invaded. 65% of the plants that have naturalised in Australia over the last 25 years have been introduced deliberately for ornamental purposes (Groves 1997). The sources of these introductions include botanical gardens, government and private nurseries and private importers.

Ornamentals turned invaders

Some examples of plants imported for ornamental uses that have become or have the potential to be serious weeds are the aquatic plants hydrilla (*Hydrilla verticillata*) and water hyacinth (*Eichhornia crassipes*), creeping plants such as bridal creeper (*Myrsiphyllum asparagoides*) and rubber vine (*Cryptostegia grandiflora*), and garden plants such as Miconia (*Miconia calvescens*), brooms (*Cystisus* spp. and *Genista* spp.), blackberries (*Rubus fruticosus*) and lantana (*Lantana* spp.).

A new approach to plant imports

New legislation under the Quarantine Act, resulting from a review of quarantine in 1996, will prohibit all plants until assessed and/or permitted. The need for weed assessment relates only to new plants; all plants already growing in Australia will generally continue to be permitted. Seed imports are permitted if the species or genus is listed on the existing plant permitted list.

Live plant material, either rooted stock or tissue culture, is permitted, with conditions, if listed on the same list. All plants not on this list, however, will be prohibited until they have been assessed for weediness. The permitted list stands at over 4000 taxa and will be reviewed and added to over the next two years to make it a list of all plants naturalised in Australia.

How does AQIS assess plants?

The assessment of new plants for addition to the permitted list is a three-step process. Firstly, the taxonomic

status of a new introduction is checked. If the species is a synonym, variety or line of a permitted species it can be imported unless it has characteristics that may alter its weed potential, such as herbicide resistance. A species that is not listed proceeds to the second step, the weed risk assessment. AQIS has assessed new plants for weed potential since 1991, and the Weed Risk Assessment system (WRA) adopted in August 1997 is a measure for strengthening the pre-entry assessment of new plant imports.

The WRA system

The WRA is a question-based scoring system, in which 49 questions are asked about the new species. The questions include details of the plants climatic preferences, biological attributes, reproduction and dispersal methods. A minimum number of questions must be answered before an assessment is made. The WRA uses the responses to the questions to generate a numerical score. The numerical score determines an outcome: accept, reject or further evaluate for the species.

Species which score further evalu-

ate in the system proceed to the third tier assessment. This involves post-entry evaluation of species in greenhouses or in field studies to examine more directly the weed potential (or verify the potential benefits) of the species.

Prohibited plants may be imported for destructive analysis or research. Plants in breeding programs may have their status revised if invasive characters are removed during the program.

The bottom line

Under new legislation, all new plants imported into Australia will be assessed by AQIS for their potential to become weeds. The aim of these assessments is to reduce the number of ornamental plants that escape to become new weeds.

Further reading

Recent Incursions of Weeds to Australia 1971-1995, Groves, R. (1997).
 CRC for Weed Management Systems.
 The National Weed Strategy: A strategic approach to weed problems of national significance, (1997). Commonwealth of Australia.
 Weed assessment of new plant imports
www.dpie.gov.au/aqis/homepage/imadvice/implant/weeds1.html#21



Eichhornia crassipes

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