

Understanding the invader

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Summary This poster presents results of preliminary feedback from stakeholders and demonstrates how a well designed education resource can meet the needs of teachers and students and provide a user friendly resource to raise awareness of lantana and weeds in general in the next generation.

It is widely recognised that weed awareness is low, compared to other environmental threats such as climate change and drought, so there is an urgent need to educate the next generation to understand weedy invaders. With this in mind, the Lantana Education Resource was designed as a catalyst to encourage environmental education within the Queensland and New South Wales education systems.

The resource was developed in consultation with education experts who highlighted the need to address the concerns of teachers who felt ill-equipped to teach science topics and the growing need for Information Communication Technologies (ICTs) to engage students in the difficult middle schooling phase of learning.

Keywords Lantana, *Lantana camara*, environmental, behaviour change, education, awareness, communication.

INTRODUCTION

Lantana (*Lantana camara* L.) has been listed as one of Australia's Weeds of National Significance (WoNS), due to the detriment it causes to agricultural, environmental and social aspects of Australia.

One goal of the Lantana WoNS Project centres on awareness and behaviour change, with a view to raising the level of awareness of lantana in the wider community.

The aim of the Lantana Education Resource is to engage the next generation of the community in environmental issues, particularly raising their awareness of weed identification and impacts – specifically those relating to lantana.

AUDIENCE

Geographic location The core infestation of lantana stretches from far north Queensland to the south of New South Wales and generally east of the Great Dividing Range. To ensure a most effective adoption of the resource, the curriculum details of both the

Queensland and New South Wales education systems have been integrated with the lesson plans.

Teachers The primary audience for this resource is the teachers – the gatekeepers who determine which information is delivered to students. Therefore, to encourage adoption it was necessary to ensure the resource is both relevant and user-friendly. As a result it was critical the resource could be easily applied with very little preparation (if the teacher was stretched for time) or, at the other end of the spectrum, could be adapted to suit individual needs (including editable work-sheets and resources). All lessons were curriculum-linked with key learning areas clearly laid out.

A great deal of effort also went into ensuring a full range of background information for the lessons was provided to build the teachers' knowledge base and confidence in the science topics they'll be required to present.

Students The next step is to ensure students will be effectively engaged so as to develop an awareness of lantana and general weed problems that will guide their decision making and actions into the future. To support the principles of 'life-long learning', lesson plans were designed to include practical components and elements that allowed the students to take personal responsibility and an active role in the solution of a localised weed management problem.

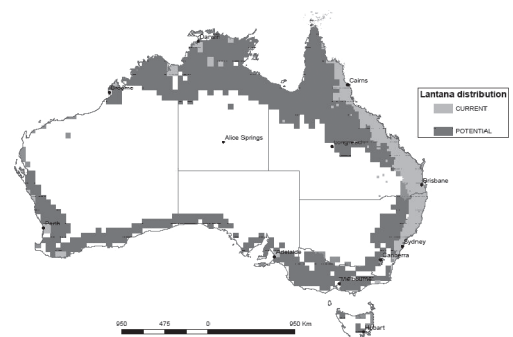


Figure 1. Current and potential distribution of *Lantana camara* (Van Oosterhout *et al.* 2004).

CONSULTATION

Education profession consultation The Department of Natural Resources and Water's Weed and Pest Education Officer acted as the conduit to contacts in environmental education in the Queensland and New South Wales education systems. This collaborative work has helped progress the education resource toward its final stages.

Feedback from middle school teachers was used to refine the resource. Research indicates many primary school teachers are reluctant to explore scientific topics because of a lack of background knowledge. This point was borne out by responses from educational professionals in support of the comprehensive background information provided in the resource.

Resources The latest publications from various agencies were also researched to determine what was available to, and preferred by education professionals. By building on the strengths of each of these publications, in regards to the media, format and content, it was more likely the Lantana Education Resource would reach its intended audience.

Publications used in this process included: the Australian Academy of Science's 'Plants in Action'; websites of the 'Weed Warriors' program; the Great Barrier Reef Marine Park Authority's Reef Ed website; the Natural Resources and Water Weedbuster activity booklets; and various other environmental educational documents. All of these publications were well known as superior community education publications.

TOOLS

Information communication technologies The main tool differentiating this resource from others in the Lantana WoNS Program is the incorporation of electronic based media (Information Communication Technologies ICTs) with print media. These ICTs used include CD-ROMs, PowerPoint presentation and web-based activities and lesson plans.

By utilising the classroom, the field and cyberspace during the education process, we hope to engage a higher number of teachers with varying teaching practices over a wider range of year levels across the middle schooling phase.

Field research A formidable tool for developing this resource has been the research gained in the field from other facets of the Lantana WoNS Project. Information from various activities, including the integrated management trials, biocontrol agent studies, and remote sensing mapping has provided the most recent content available for the education resource.

DISCUSSION

The major strengths of this resource lie in the combination of ICTs with lantana management research.

ICTs give education professionals the ability to access the most relevant information and latest research on topics such as best practice management and biocontrol agent rearing. The most current information can then be passed on to students.

Lesson plans, activities and presentations can be stored online, easily accessible by teachers. This enables the content to be updated immediately and controlled centrally by officers of the Lantana WoNS project, to avoid outdated or incorrect information being propagated into classrooms.

In a dynamic field, where knowledge is constantly being built upon and updated, ICTs help to deliver information quickly and effectively.

A small downside to the resource is the inability to determine exact Key Learning Areas of the Queensland and New South Wales curriculum applying to various lessons. These are fluid concepts, constantly in the process of change as political and academic debate continues.

Although ICTs are best to maintain the relevance of documents, the popularity of tangible products must also be recognised.

Printed publications can quite quickly become outdated. It is hoped that by keeping the latest version online this will be avoided.

In combining the positives of both ICT and print media, the resource will reach a wider audience for environmental awareness – which is one of the key priorities of this education process.

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