

Biological Control of Mimosa

January 2018

Distribution

Mimosa (*Mimosa pigra*) is a thorny shrub native to Mexico, Central and South America. It was most likely introduced to the Darwin Botanic Gardens in the late 1800s as an ornamental plant. In the 1950s it was found on the floodplains of the Adelaide River and now covers more than 140 000 ha across 15 catchments of the Northern Territory.

Impacts

Mimosa can grow up to 6 m tall and can form dense impenetrable stands on floodplains, making areas inaccessible to people, stock and wildlife. It outcompetes native plants, restricting traditional, recreational and commercial land use. Mimosa is now considered to be one of the worst weeds in Australia.

Control

It is no longer feasible to eradicate this weed where large infestations occur, focus is now on controlling growth and spread. The successful long-term management of weeds depends on a combination of biological, chemical and physical control. The release of biological control agents does not reduce the importance of controlling the weed with chemical or other methods. Successful biological control will reduce the cost of an integrated control program.

Biological Control

When an introduced weed is present in an ecosystem without any of its natural predators it has an unnatural advantage over the native vegetation. Biological control is an attempt to reduce the advantage that the weed has by introducing some of its own natural predators (agents). It is not an attempt at eradication. Biological control agents weaken target weed species and make them less competitive. Biocontrol is an extremely safe method of weed control as the predators chosen are studied

closely for many years and selected because they are specific to the weed. Agents are not capable of surviving on the native vegetation of the area, and so pose no threat to the native ecosystem. They are carefully chosen to be host-specific.

Biocontrol agents

The search for biocontrol agents for mimosa started in the 1970s. Biologists studied mimosa in its natural range and identified over 400 insects noticeably damaging mimosa. Of these, 40 potential agents were tested to see if they could survive on other plant species, and to determine the potential impact they could have. Thirteen insects and two fungal pathogens have so far been determined to be suitable for release since 1983. Of the 15 agents released in the Northern Territory nine have had success to varying degrees and in combination are noticeably damaging mimosa infestations.



Mimosa

The following factsheets are also available:

- **Neurostrota** – stem boring moth
- **Carmanta** – stem boring moth
- **Apion** – flower feeding weevil
- **Chalcodermus** – green seed weevil
- **Malacorhinus** – root feeding beetle
- **Macaria** – leaf feeding mot
- **Leuciris** – leaf feeding mot
- **Nessie** – leaf feeding flea-beetle.

The outcomes of a biological control program can be difficult to evaluate, however data collected before and after releases show a significant reduction in mimosa seed production and rate of spread.

For more information contact **Weed Management Branch**

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