Biological Control of Salvinia

January 2018

Distribution

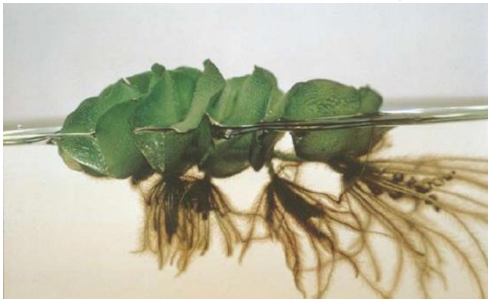
A native of Southern Brazil and Paraguay, salvinia (*Salvinia molesta*) is thought to have been introduced to Australia by the aquarium trade. It is now found in the NT, Western Australia, New South Wales, South Australia and Queensland. It has the potential to grow in water bodies in every Australian state and territory.

Background

Salvinia is a floating, aquatic fern that forms mats over water surfaces. The stems float just below the water surface while the leaves are covered in water-repelling, waxy hairs that allow them to float.

Impact

Infestations of Salvinia cover waterways and block the sunlight, reducing oxygen levels, restricting water flow, causing stagnation and blocking access to animals. It also creates favourable conditions for mosquito breeding.



Salvinia plant

Spread

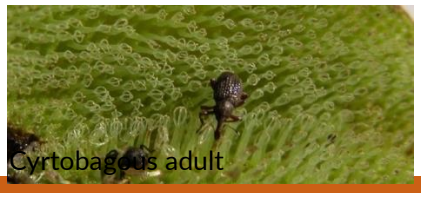
Salvinia does not produce flowers or fruit, but reproduces vegetatively. Spread is usually via moving water. Overflowing ponds in the wet season can contaminate other waterways, and the dumping of unwanted pond and aquarium contents is a major cause of spread. Plants can also be spread by boats and animals when stem fragments are carried between waterways.

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.

Cyrtobagous

Cyrtobagous (*Cyrtobagous salviniae*) is a tiny weevil native to Brazil. It was introduced into the Northern Territory in 1981, after thorough testing to ensure it can only survive on salvinia. Mature weevils are about 3 mm long and dark brown. Immature adults are light brown and very hard to see. Adult weevils make feeding holes in the leaves. This is usually the only sign that cyrtobagous is present. The feeding of the adults on the leaves, as well as the grubs on the stems weakens plants and makes them sink. Large numbers of weevils are usually present late in the dry season and their effect on salvinia is quite noticeable as the damaged plants sink, leaving clear water. Sometimes when the weevils are very effective they kill so much of their food source (salvinia) that their population suffers and they have to be re-introduced.



Cyrtobagous adult

For more information contact **Weed Management Branch**

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