

Weeds

Parkinsonia -*Parkinsonia aculeata*

Family: FABACEAE or CAESALPINIOIDEAE

The Problem

Parkinsonia is a Weed of National Significance which forms dense, shrubby impenetrable thickets.

Currently 800,000 hectares of land are infested with Parkinsonia. It has the potential to infest three quarters of mainland Australia.

Wetlands, rivers, irrigation channels and flood plains are particularly vulnerable to invasion.

In these areas Parkinsonia can block water flow, increase erosion and lower water tables.

Rangeland areas away from water are also susceptible to invasion if Parkinsonia is allowed to spread to these areas.

Thickets physically restrict access to land and waterways resulting in increased mustering costs, loss of stock access to watering points and harbouring feral animals such as pigs.

Grazing is impacted by the reduction in pasture cover. Parkinsonia replaces native species, leading to changes in the structure, appearance and habitat values of natural ecosystems.

In south west Queensland areas around springs, lakes, wetlands and rivers are at risk of invasion by Parkinsonia. Should this occur the value of these areas for conservation and tourism purposes would be lowered.

Parkinsonia is a Class 2 declared weed. Landholders must try to keep their land free of Class 2 weeds.



Above: Parkinsonia flowers consist of 4 yellow and one red petal. The leaf branches are spiny and flattened with small leaflets along each side.

Description

Parkinsonia is a many-branched, spreading shrub to small tree. It generally grows between 2-8 m in height.

It has a deep taproot and extensive surface root system.

Plants live for approximately 10 years.

Young stems are pale to dark green and hairless.

The slender zig-zag branches are photosynthetic allowing the plant to grow even when defoliated.

Leaves are pale green with a short spine-tipped stalk. Leaf branches are 20-40cm long, flattened, with small oblong leaflets up to 3mm long along each edge.

Very sharp 7-12mm spines grow from the leaf nodes.

Flowers are fragrant, up to 20mm diameter. 5 petals, mostly yellow, one petal with an orange spot.

Flowering can occur at any time of the year but mostly in Spring and Summer.

Seed pods are light brown and leathery, 5-10cm long and constricted between the 1-3 (occasionally up to 9) seeds. Pods mature in early to late Summer.

Seeds are oval, hard, olive-green to brown and 8-15mm long by 3-4mm wide.

Mature trees produce 5000 -13000 seeds per year with 90% of seeds viable.

Seed dormancy is reported at 50 years in overseas trials.

Dispersal of seed is mainly by water.

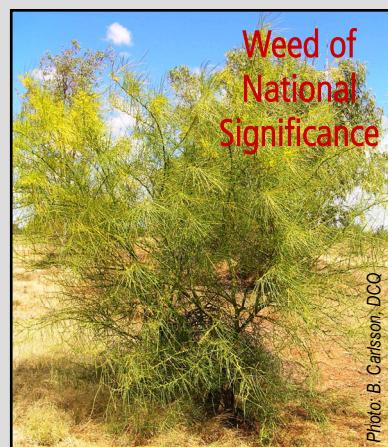


Photo: B. Carlsson, DCA



Photo: N. March, QDPI



South West NRM Ltd
Achieving sustainable landscapes
for rural communities

Controlling Parkinsonia is a Priority.

Parkinsonia has the potential to infest large areas of south west Queensland and downstream areas of the Murray-Darling Basin causing serious economic and environmental impacts. Once established it is difficult and expensive to control.

South West NRM Ltd has identified Parkinsonia as a priority weed species and is working with landholders and local and state governments to prevent further spread and control current infestations.

Control Methods

As with any weed, preventing spread and early treatment of any new or isolated infestations, is the most cost effective method of control.

If left unmanaged, Parkinsonia has the potential to greatly increase its distribution and density.

Control of infestations in upper catchment areas is critical in order to prevent seed being spread downstream. Downstream areas in the Murray- Darling basin are most at risk of invasion.

Soil or sand contaminated with Parkinsonia seed should not be removed from infested areas.

If sufficient fuel exists a **fire** will destroy seedlings but not always mature plants. Research is continuing into the use of fire as a control method, particularly in regard to the optimum fire intensity and timing needed to control mature plants.

Mechanical control can be used in areas away from watercourses, although follow-up control is required to treat new seedlings.

Small plants can be hand pulled or grubbed out. Larger plants can be removed by bulldozing, stick-raking, blade-ploughing or chain pulling. Plants must be removed to a depth of 200mm to prevent regrowth. Blade-ploughing is recommended as chain-pulling may only bend over and not remove smaller trees.

The best time to conduct mechanical control is as soon as machinery access is available at the start of the dry season. Any remaining soil moisture allows easy pulling and the coming dry season prevents mass germination of seeds.

Follow-up chemical or mechanical control or cultivation and sowing with a perennial pasture is required to reduce the germination and survival of new seedlings.

Germination of seedlings after the first round of control may be prolific, depending on the soil seed-bank and presence of germination triggers such as soil moisture.

Foliar spraying on plants under 2m tall is successful, if the plants are actively growing. Near waterways, **basal bark or cut stump methods** of chemical control are appropriate.

Refer to the Department of Natural Resource and Water Pest Fact for specific information of recommended herbicides.

Right: Basal Bark treatment of Parkinsonia provides effective control of mature plants.

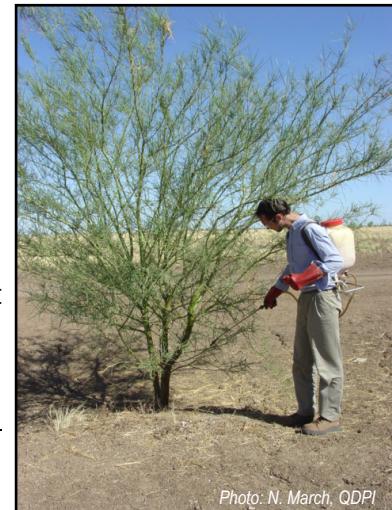
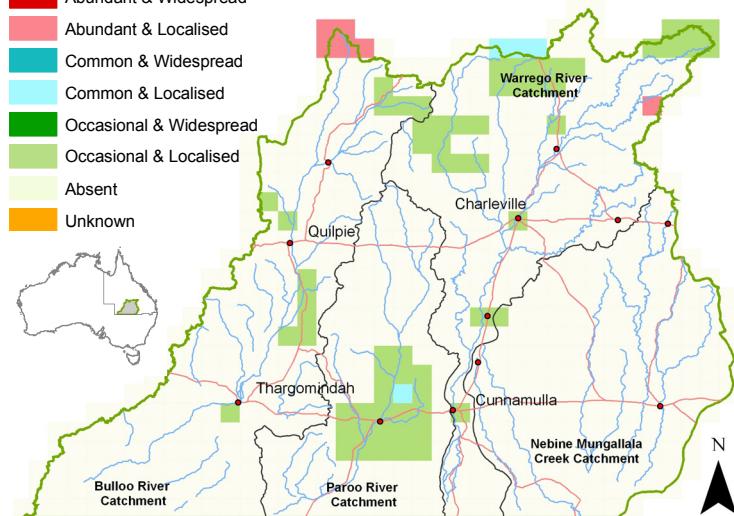


Photo: N. March, QDPI

Parkinsonia Distribution, South West NRM Ltd Region, 2006

Density & Distribution

■	Abundant & Widespread
■	Abundant & Localised
■	Common & Widespread
■	Common & Localised
■	Occasional & Widespread
■	Occasional & Localised
■	Absent
■	Unknown



Map based on 2006 Annual Pest Distribution Survey Data supplied by Department of Natural Resources and Water. Compiled on approx 17 * 17km grid squares. For further details visit <http://www.dpi.qld.gov.au>

References and further reading.

Queensland Department of Natural Resources and Mines, 2005 *PP936 Pestfact Parkinsonia*

Queensland Department of Natural Resources and Mines and Energy, 2004 *National Case Studies Manual Parkinsonia*

CRC for Australian Weed Management, 2003 *WONS Weed Management Guide Parkinsonia*