



primefacts

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SEPTEMBER 2009

PRIMEFACT 697 2ND EDITION

Pampas grass

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In many areas, pampas grass was used as a garden plant, for windbreaks and in soil stabilisation work. It has spread from these areas and become a major weed in urban areas and coastal bushland.

Impact

Pampas grass has become a major threat to national parks in and around Sydney and the Central Coast. Once established, the plant is very competitive, restricting the establishment of native trees, and can become a fire hazard and harbour vermin. Because of this, the Department of Environment, Climate Change and Water NSW has undertaken appropriate control programs in NSW.

Pampas grass is of greatest potential weed significance to forestry operations. However, it has not yet become a major problem in NSW forests.

Introduction

Pampas grass (*Cortaderia species*) belongs to the Poaceae (grass) family. There are 24 species, with most native to South America and four indigenous to New Zealand.

In NSW, only *Cortaderia selloana* (common pampas grass) and *Cortaderia jubata* (pink pampas grass) are present. *Cortaderia richardii* (New Zealand pampas grass, toe toe) has been recorded in Tasmania.



Figure 1. Pampas grass can quickly establish in disturbed urban and bushland areas. Photo: N. Monaghan

Pampas grass is not considered an agricultural weed, because young plants are readily grazed by stock and it shows no ability to establish in cropping systems.

Habitat

Pampas grass appears to have no particular habitat preference, and is found in a wide range of ecosystems. It prefers open, sunny conditions, but also does particularly well in wetter conditions, making mangrove areas along rivers and inlets and wet, disturbed heathlands especially vulnerable to infestation.

Common sites of infestation are roadsides, road cuttings, quarry faces, sand dunes, mine spoil, new forest plantations and burnt and mechanically disturbed bushland. It can thrive in low-fertility situations and also tolerate waterlogged conditions.

Distribution

In NSW pampas grass has mainly become naturalised in bushland on the Central Coast and in some areas of the Central Tablelands. In Sydney, it is considered a major environmental weed by many local councils and is subject to intensive control campaigns. Evidence suggests it is spreading quickly across land disturbed by coal mining to the west of Newcastle, with numerous small populations on the coastal plains of the north coast of NSW.

Description

Pampas grass is a robust, long-lived perennial plant. It generally takes the form of a large tussock, approximately 1–1.5 m across, with attractive, plumed flower heads carried on tall stems.

Life cycle

Pampas grasses have the ability to reproduce from seed and rhizomes (root segments).

Cortaderia selloana (common pampas grass), the most common species in NSW, is gynodioecious. That means there are separate female and hermaphrodite or bisexual plants. The two types vary slightly in their appearance. The female plants are prolific seeders if pollinated by a hermaphrodite plant.

It is commonly thought that many of the cultivated plants in Australia are female clones, and fail to produce seed because of the lack of hermaphrodite plants to pollinate them. This could be why pampas grass has failed to naturalise in many parts of Australia where only individual plants are cultivated.

Cortaderia jubata (pink pampas grass) plants are always female and apomictic. That is, they can reproduce without the need for fertilisation. It is important that this be taken into account if control programs are to be effective.

Established plants have a large root system up to 3.5 m deep, and the tussock produces large quantities of flammable material. It is very competitive with other more desirable plants. It is the more aggressive species in NSW.

Table 1: Comparison of *Cortaderia* species.

	Common pampas <i>Cortaderia selloana</i>	Pink pampas <i>Cortaderia jubata</i>	* New Zealand pampas grass <i>Cortaderia richardii</i>
Flower heads appear	Mid-March to late May	January to late March	October to January
Flower head colour	Generally white but can be pink or mauve	Always pink when young, fading to dark brown	Straw to gold
Height of tussock	2 metres	1.5–2 metres	2–3 metres
Height when in flower	Up to 6 metres	Up to 4 metres, held high above arching leaves	Up to 5 metres
Leaves	<ul style="list-style-type: none"> Erect and arching towards tip Margins finely serrated 	<ul style="list-style-type: none"> Arching with leaf tips touching the ground Margins finely serrated 	<ul style="list-style-type: none"> Arching with tips touching the ground Margins finely serrated
Leaf sheath	<ul style="list-style-type: none"> No distinctive midrib Smooth to sparsely hairy. 	<ul style="list-style-type: none"> No distinct midrib Very hairy 	<ul style="list-style-type: none"> Distinct midrib Covered with white-waxy bloom

* *Cortaderia richardii* is currently not present in NSW; however, early identification is critical for effective control.



Figure 2. Pink pampas grass (*C. jubata*). Note the pinkish flower head. Photo: Sainty and Associates.



Figure 3. Common pampas grass (*C. selloana*). Note the white flower head. Photo: M.J. Milvain.

Spread

Individual plants have the ability to produce vast quantities of windborne seed – up to 100,000 per flower head – which can infest areas within a 25 km radius. In many cases, garden plants are the seed source for infestations.

Control and management

The method of control for pampas grass depends on the site on which it occurs and the potential risk for causing new infestations. Permanent mechanical removal is recommended wherever possible.

Mechanical removal of plants (permanent removal, used in high-risk areas)

Grubbing of plants, particularly when small, is the best method of control in urban and bushland areas. This can be difficult with large plants because of their extensive root system and the abrasive nature of the leaves.

Control of large plants is easier and more effective if any seed heads are removed first and the plant is slashed before grubbing the crown and roots. Seed heads should be placed in a plastic bag and destroyed in an appropriate way.

The best conditions for grubbing are when the soil is moist so removal is easier. The crown and roots must be completely removed from contact with the soil. Suitable disposal methods for plant material are necessary to prevent re-establishment.

Pampas grass is known to be an important summer egg-laying site for wildlife such as the diamond python. Timing of control methods such as slashing should be considered carefully to avoid the destruction of important habitats at critical times.

Use of herbicides (low-risk areas)

Only a registered herbicide used according to the direction on the label should be used to control a weed. Refer to *Noxious and Environmental Weed Control Handbook* (available from Industry & Investment NSW) for registered herbicides to control pampas grass.

Smaller plants (less than 40 cm) can be controlled using a wiper applicator with the recommended herbicide. For larger plants, slash the plant to reduce the foliage, taking care to dispose of any plant material in the appropriate way to prevent re-establishment, and then spray with the recommended herbicide.

Alternatively, the plant can be burnt (if local conditions allow), allowed to recover, and any new growth sprayed with the recommended herbicide.

Do not spray plants stressed by drought or frost, and ensure there is thorough wetting of larger plants with the herbicide. Follow-up treatment may be required if regrowth occurs.

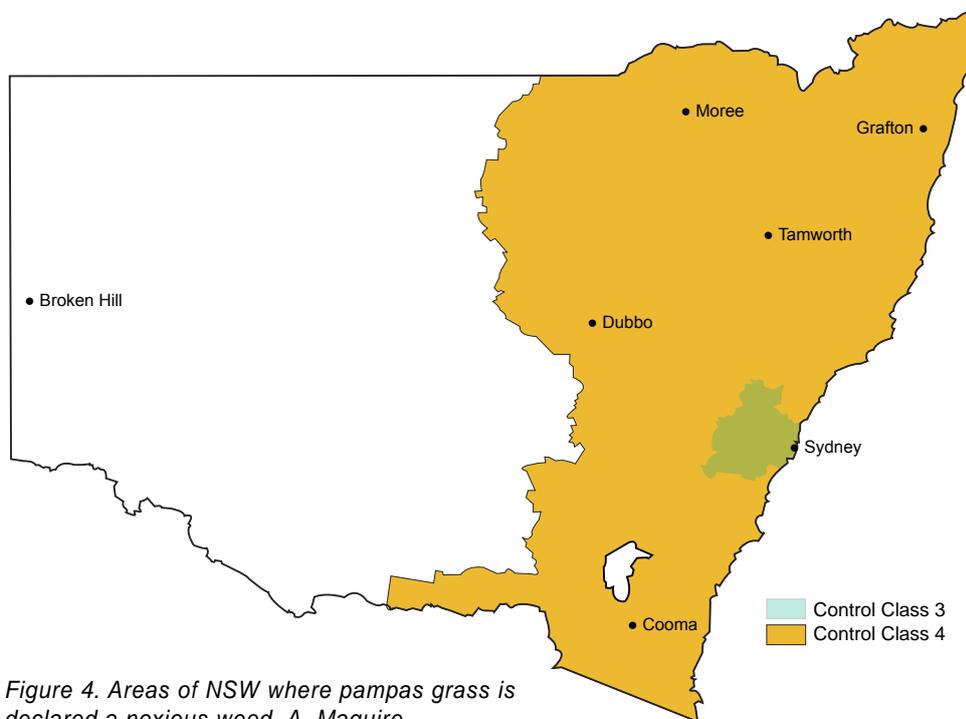


Figure 4. Areas of NSW where pampas grass is declared a noxious weed. A. Maguire.

Prevention of seeding (temporary, used in low-risk areas)

Pampas grass is a prolific seeder. Its potential spread can be prevented by removing the flowering plumes before the pollen and seeds develop and are dispersed by the wind.

If removal is left until after the seed has developed, the seed head should be handled with care to prevent the seed shaking out. Any seed head containing viable seed should be burnt or rendered non-viable before discarding.

Grazing (temporary, used in low-risk areas)

Pampas grass is readily grazed by stock when it is young, before it becomes too abrasive. This prevents the development of flowers and seed set.

Legislation

Pampas grass is a noxious weed under the *NSW Noxious Weeds Act 1993* in many areas of NSW (Figure 4).

Class 3 control requirements are that 'the plant must be fully and continuously suppressed and destroyed'.

Class 4 control requirements are that 'the growth and spread of the plant must be controlled according to the measures specified in a management plan published by the Local Control Authority'.

The responsibility for the control of noxious weeds on private land rests with the owner or occupier of the land.

A full list of noxious weeds and requirements under the *NSW Noxious Weeds Act 1993* can be found at www.dpi.nsw.gov.au/weeds

Acknowledgements

Information for this Primefact was taken from:

Dellow, J. and McCaffery, A. (2003) Pampas Grass. *Agfact P7.6.40*. NSW DPI, Orange.

Parsons, W.T. and Cuthbertson, E.G. (1992) *Noxious Weeds of Australia*, 2nd ed. CSIRO publishing.

Publication prepared by Annie Johnson and Annette McCaffery.

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ISSN 1832-6668

Replaces Primefact 697 1st edition

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Job number 9610