



Shoalhaven City Council Weed Management Plan – Coolatai grass

Common name: Coolatai grass

Botanic name: *Hyparrhenia hirta*

South East Regional Priority Weed Objective

Exclusion Zone: *The plant should be eradicated from the land and the land kept free of the plant.*

Coolatai grass readily invades pastures and dominates them, particularly where ground cover is low (less than 70%) due to the grazing regime (set stocking) and low soil fertility. Failure to appropriately manage a Coolatai grass dominated pasture will see a monoculture of tall rank growth of low digestibility (<40%) and protein (<7%). Sheep production will be poor and cattle will need supplementary nitrogen or protein to be able to utilise the feed.

Coolatai grass is an invasive drought, fire and herbicide tolerant tussock forming perennial grass. It has become a major invasive species in northern New South Wales (NSW) and southern Queensland, dominating pastures over a range of soil types and conditions. It is also one of the few perennial grasses capable of invading undisturbed natural ecosystems and is a major threat to natural biodiversity in stock routes, nature reserves and National Parks. Pasture dominated by Coolatai grass can be productive, although the management requirements are higher than that commonly employed.

Coolatai grass poses a huge risk to the biodiversity of the fragmented areas of native ecosystems remaining across NSW as it easily invades relatively undisturbed ecosystems. The mechanisms of how this occurs are still not fully understood but Coolatai grass has a number of characteristics that allow it to invade a range of ecosystems:

- plants are long lived
- able to produce fertile seed from a single plant
- seed is mobile – wind, water, animals, vehicles
- seed will germinate over a wide range of temperatures
- seeds are able to germinate and establish at the soil surface in the presence of leaf litter
- established plants are tolerant of drought, fire and herbicides Studies in northern NSW have shown that Coolatai grass infestations have reduced the number of plant, invertebrate and frog species in threatened white box, yellow box and Blakeley's red gum communities.

General Biosecurity Duty

*All plants are regulated with a **general biosecurity duty** to prevent, eliminate or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated or minimised, so far as is reasonably practicable*

Exclusion zone: The whole of the Shoalhaven Local Government Area

The **Biosecurity Act 2015** and the **Biosecurity Regulation 2017** set out a range of penalties for non-compliance with the provisions of the legislation. Penalties range from \$1,000.00 on the spot fines, through to court imposed penalties of up to a maximum of \$220,000 for individuals or \$440,000 for corporations for failing to discharge a biosecurity duty.

If an offence is proven to have been committed negligently, the court may impose a penalty of a maximum of \$1,100,000 for an individual and \$2,200,000 for a corporation.

Chemical control calendar											
January	February	March	April	May	June	July	August	September	October	November	December
Glyphosate 360 g/L (Roundup®) Spot Spraying Withholding period: NIL								Glyphosate 360 g/L (Roundup®) Spot Spraying Withholding period: NIL			
						Glyphosate 360 g/L with Flupropanate 745 g/L (Various products) Only use tank mix once per season Spot Spraying Withholding period: NIL					
						Flupropanate 745 g/L (Tussock®) DO NOT graze cows or goats that are being milked on treated areas Boom Spraying 120 days withholding period Spot Spraying grazing or cut feed 14 days DO NOT graze stock on treated areas 14 days prior to slaughter					

Herbicides are a safe and effective method of control as part of an integrated Coolatai grass management plan. Use of herbicides does not stop the need to maintain or establish a competitive pasture. The aim of herbicide treatment is to minimise the establishment of a large population of Coolatai grass. The longer that Coolatai grass plants live, the more seed they produce, and large amounts of seed lead to heavy infestations. A well-timed herbicide application can be very effective in reducing the density of Coolatai grass infestation for more than a year.

ALWAYS READ THE LABEL AND USE CHEMICALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS

Refer to NSW DPI Weedwise website: <http://weeds.dpi.nsw.gov.au/WeedBiosecurities?Areald=114>

Coolatai grass page: <http://weeds.dpi.nsw.gov.au/Weeds/Details/179>



Prevention – quarantine: Coolatai grass is easily spread by stock, machinery, fodder and seed. Land managers must ensure stock, fodder, grain and machinery coming onto their land has not come from a Coolatai grass infested area. New or stock returning from agistment must be quarantined in a small paddock for at least a week. This quarantine paddock needs to be monitored for Coolatai grass establishment for the next 2 summers. Also stock grazed on Coolatai grass during flowering and seed set should not be moved to ‘clean’ paddocks without some quarantine period.

Early detection and control: Coolatai grass will usually start from one or two plants near the front gate, driveway, track or farm buildings. These plants must be identified and removed before viable seed has been set. Remove plants, bag and burn, try to stop seed being dropped in the process. It may be useful to sow some replacement competitive pasture species in disturbed areas to compete with new germination of Coolatai grass. Spot spraying with knockdown herbicides will require 2-3 applications for complete control.

Grazing management Coolatai grass seedlings are small and weak, and plants produce relatively smaller quantities of seed compared to many other invasive perennial grasses. These characteristics highlight that competitive pastures (where ground cover is maintained at >70%) will resist Coolatai grass invasion. Rotational grazing is also important. Research conducted in northern NSW has shown that pastures that are rotationally grazed have higher ground cover and litter, more soil organisms, more pasture growth, reduced runoff and evaporation all with less supplementary feeding compared with ‘year-long’ grazed pastures. Where 90% groundcover was maintained there was little runoff, summer soil temperatures and evaporation were lower, all leading to higher pasture growth. Maintaining adequate levels of soil nutrients for your level of stocking will be essential to maintain competitive pastures.

Control with herbicides Coolatai grass is tolerant of most commonly used herbicides and suppression of growth is the most likely outcome. Research has shown that pre-treatments of burning and slashing can reduce control as it suppresses the active growth of Coolatai grass which should have sufficient green leaf and be actively growing for the highest levels of control. Regardless of application method, up to three applications of glyphosate in the same growing season will be required. The repeat application timed for when there is sufficient regrowth of fresh leaves.

Cropping In areas suitable for cropping, 2 - 3 years of crop will control Coolatai grass. A competitive pasture should then be re-established.

Useful references:

NSW Weedwise: <http://weeds.dpi.nsw.gov.au/WeedBiosecurities?Areald=114>

Biosecurity Act 2015: <https://www.legislation.nsw.gov.au/acts/2015-24.pdf>

Biosecurity Regulation 2017: <https://www.legislation.nsw.gov.au/regulations/2017-232.pdf>

South East Regional Strategic Weed Management Plan: http://southeast.lis.nsw.gov.au/_data/assets/pdf_file/0006/722706/South-East-Regional-Weed-Mgmt-Plan.pdf

Disclaimer: This document has been prepared by Shoalhaven City Council in good faith and based on available information. You should seek your own advice and conduct your own investigations and assessments according to your circumstances