

CASE STUDY:

MEXICAN FEATHER GRASS

UPDATED: NOVEMBER 2017

A case study of the critical importance of correct labelling and the laxness of enforcement on illegal internet sales.

Species

Mexican feather grass (*Nassella tenuissima*).

Origin

North and South America.

Australian occurrence

Imported illegally or in ignorance by the nursery trade several times and sold widely. Recorded spreading from a garden at Tamworth in 2004 but eradicated.¹ Recorded naturalised in the ACT in 2004 but eradicated.² It is highly likely to have naturalised somewhere.

Potential ecological impacts

Mexican feather grass has been described by weed experts as 'a potential disaster for the Australian environment'.³ It is a high-fibre, low-protein grass of no grazing value to livestock,⁴ which presumably also has no value for kangaroos and other native grazers. Pasture experts often talk about 'increasers' and 'decreasers', referring to the responses of plants to grazing pressure. Mexican feather grass and other *Nassella* species are classic increasers that take advantage of the grazing pressure on palatable grasses to replace them.

In South Africa Mexican feather grass has become so invasive in native grasslands it is one of seven grasses to be listed a Category 1 weed.⁵ In New Zealand it forms pure stands in low-growing plant communities, especially in harsh sites, and prevents the seedlings of native species establishing.⁶ It is listed as a noxious weed in California.⁷

In Australia Mexican feather grass is considered a threat to eucalypt woodlands and native grasslands, with modelling by the Queensland government indicating that up to 169 million hectares could be at risk,



Mexican feather grass. Photo: Stan Shebs | CC BY-SA 3.0

in a wide band extending across Queensland to include more than half of New South Wales and large areas of Victoria, South Australia and Western Australia.⁸ In its native range its habitats range from semi-arid woodlands to alpine meadows on soils and in sites of 'extreme variability' over a wide altitudinal range.⁹ It is closely related to serrated tussock (*N. trichotoma*), which is causing severe environmental damage to native grasslands in NSW.¹⁰

Pasture experts often talk about 'increasers' and 'decreasers', referring to the responses of plants to grazing pressure. Mexican feather grass and other *Nassella* species are classic increasers that take advantage of the grazing pressure on palatable grasses to replace them. Mexican feather grass is a popular ornamental grass in North America

because it is so easy to grow, but nursery websites there warn about its propensity for rapid spread. The closely related Chilean needle grass can produce more than 20 000 seeds per square metre.¹¹

Potential economic impacts

Mexican feather grass is closely related to serrated tussock and Chilean needle grass (*N. neesiana*), which were both designated Weeds of National Significance because they displace palatable grasses from pastures and have seed awns that contaminate wool.¹² A Queensland government pest plant risk assessment concluded that if Mexican feather grass spreads widely 'the impact on beef and wool production could be substantial'.¹³ Serrated tussock, which is estimated to cost NSW agriculture more



Native grasslands could be displaced by the Mexican feather grass. Photo: Native flax in the Bababi Djinanang native grassland reserve | Takver | CC BY-SA 2.0

than \$40 million annually,¹⁴ is said to be causing a greater reduction in pasture carrying capacity than any other weed in Australia,¹⁵ yet Mexican feather grass is thought to be capable of occupying an area six times larger.¹⁶ In New Zealand Mexican feather grass is banned from propagation, distribution and sale by the Waikato Regional Council because it is considered a serious threat to New Zealand's agricultural industries.¹⁷

Pathways

Mexican feather grass has been imported illegally into Australia several times under incorrect or outdated taxonomic names and sold through nurseries. The seeds can easily be bought from international online traders and imported illegally through the post.

BIOSECURITY ISSUES

Summary

Multiple illegal imports of Mexican feather grass show how easily a ban on importation can be bypassed by seeds being labelled with incorrect or out-of-date names. The demonstrated ease of buying this plant illegally from overseas through online traders exposes major enforcement weaknesses.

The importance of names

Although Mexican feather grass is a prohibited import, it has been accepted into Australia labelled as other species. Quarantine officers typically place trust in the names supplied by importers rather than checking identifications. In 2009 a Victorian nursery imported Mexican feather grass seeds by labelling them as *Stipa lessingiana*, which is a permitted import.¹⁸ A similar violation had occurred in 1996 when a Victorian nursery imported the seeds labelled as *Stipa tenuissima*, an out-of-date name. The grass has also been sold by a Sydney nursery as a native grass, *Austrostipa elegantissima*,¹⁹ and it was sold widely in Queensland in 2007-2008 after being labelled as *Stipa capillata* and *Stipa capriccio* by an interstate supplier.²⁰

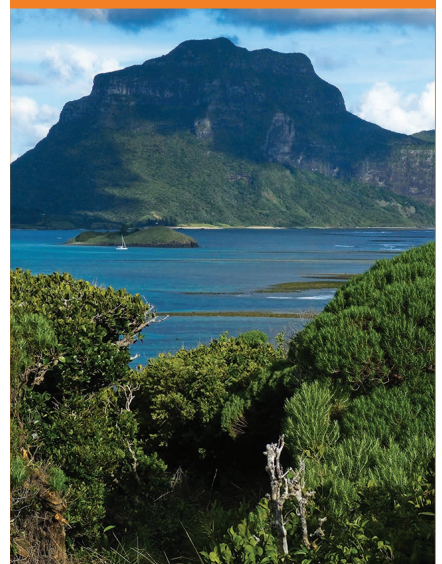
Because ornamental grasses are typically hardy, they are popular for landscaping and in gardens. The nursery trade often markets plants under the names of horticultural varieties rather than scientific names, or under incorrect scientific names, making it likely that mislabelled seeds will be imported in future. Illegal imports will continue to occur unless there is a focus on checking the accuracy of labels and sufficient taxonomic expertise to do so.

Compliance and enforcement

A Victorian seed importer and distributor,

OUR MISSION

To protect the environment from harmful new invasive species through prevention and early action.



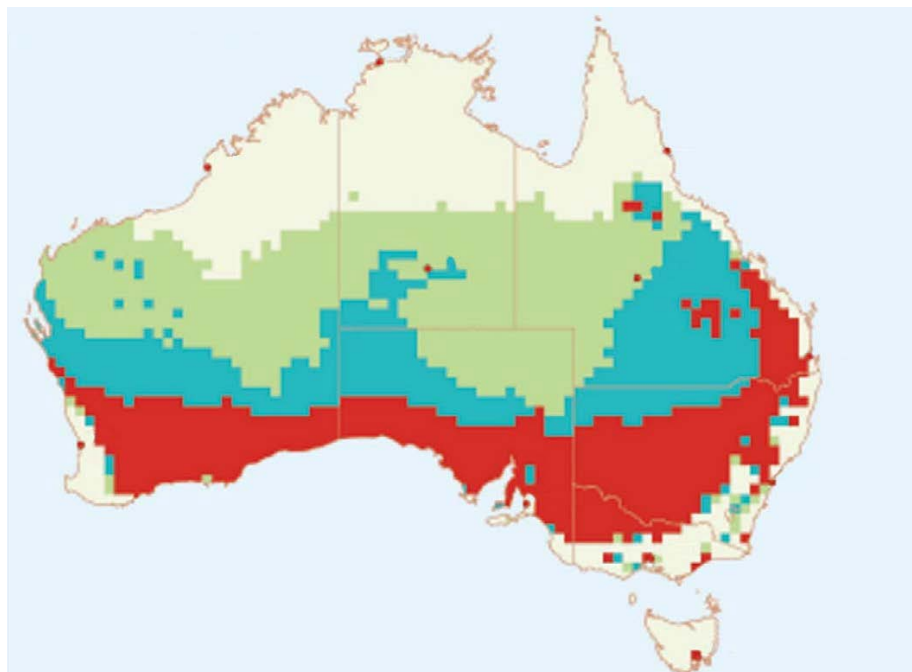
Stronger biosecurity is vital to protect the highly endemic wildlife of Australia and its many special wild places. This is Lord Howe Island, where invasive species have already caused several extinctions. Photo: Robert Whyte

Ball Australia, was fined in May 2009 for illegally propagating and distributing Mexican feather grass. However, it was a very small fine – just \$12,000. The company also paid \$20,000 compensation to DPI to help with clean-up costs. One of the wholesale nurseries involved, Oasis Horticulture, was fined \$3000 for a similar offence and paid \$5000 for clean-up. A nationwide recall and search was carried out in an effort to locate all the plants sold, but the grass has been regularly observed in Melbourne gardens.

The fact that Mexican feather grass has been illegally (even if unintentionally) sold through nurseries on multiple occasions over periods of many months implies a lack of surveillance by biosecurity officers. The grass was reportedly sold for over a year in many Queensland nurseries before being detected in 2008.²¹

Online trading

Mexican feathergrass seeds can be bought from international online traders and imported illegally through the post. In 2014 the Invasive Species Council conducted a test to determine how easy it is to buy Mexican feather grass online from overseas. This was done after advice from a state government biosecurity officer that repeated requests to eBay to stop illegal sales of Mexican feather grass had failed and after ISC had reported illegal sellers to eBay with no action resulting. ISC was able to buy seeds (for \$4.44) reported to be those of Mexican feather grass from the United States, with the seeds arriving in the mail nine days later. The seeds of two other banned plants were also bought through eBay. A link to information on eBay about Australian quarantine regulations for postal items resulted in a 'page not found' error. Since then, eBay has improved processes to prevent the sale of prohibited species, but it is still possible to buy Mexican feather grass via eBay under the outdated name *Stipa tenuissima*, as well as from other international traders. Interception of illegal goods in the postal system is difficult given the volume of items. Australia urgently needs a strategy to reduce the risks of online selling of non-permitted organisms.



Potential distribution of Mexican feather grass in Australia (generated by CLIMEX program; red indicates areas where climate is considered to be highly suitable for growth of this species (c. 169 million ha); blue and green indicate areas where climate is considered less suitable (c. 376 million ha). Graphic based on original map published by Queensland Government in the risk assessment for Mexican feather grass | CC BY 3.0 AU

CHANGES NEEDED

Pathway risk reduction

- The flaws in biosecurity regulation and enforcement that have made it easy for nurseries to repeatedly import this prohibited plant must be identified and rectified.
- A ban on importation of grass seed should be considered given Australia's low capacity to intercept and identify invasive grass seeds.

Surveillance and enforcement

- An assessment is needed of the range of prohibited imports available for sale online and the extent of illegal online sales.
- A compliance strategy should be developed and implemented to prevent illegal internet sales of prohibited imports.
- Regular surveillance of plant nurseries should be conducted to check whether prohibited plants are being sold.

ABOUT OUR CASE STUDIES

Our case studies illustrate the need for changes in how Australia prevents the establishment of new invasive species. They were compiled using publicly available information at the time of the last update. We would welcome new information or updates to biosecurity response for inclusion in future updates.

CONTACT US

- Visit invasives.org.au for more information about the Invasive Species Council and to get in touch.

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ENDNOTES

- 1 Maguire (2005)
- 2 Csurhes (2008)
- 3 McLaren et al. (2004)
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- 5 Milton (2004)
- 6 Weedbusters (nd)
- 7 California Department of Food and Agriculture (2003)
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- 17 Waikato Regional Council (ND)
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- 19 Jacobs (1998)
- 20 Anonymous (2008a), Anonymous (2008b)
- 21 Anonymous (2008a), Anonymous (2008b)