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NSW DEPARTMENT OF
PRIMARY INDUSTRIES

Mexican feather grass

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Mexican feather grass (*Nassella tenuissima*, family Poaceae), a potentially serious new weed, is closely related to serrated tussock (*Nassella trichotoma*), a major pasture and environmental weed in temperate Australia. The two species can only be distinguished from each other when flowering. Mexican feather grass is also related to Chilean needle grass (*Nassella neesiana*) which is highly invasive in native grasslands.

Considered a weed in its native range, southern USA (New Mexico and Texas), Mexico, Chile and Argentina, it is feared that if Mexican feather grass becomes naturalised it has potential to infest up to 65% of NSW.

In New Zealand and California, Mexican feather grass has spread from cultivation as a garden plant and proven difficult to control.

Mature specimens of Mexican feather grass



Mexican feather grass was initially mislabelled and marketed in some nurseries in NSW as 'elegant spear grass' a name given to the native grass *Austrostipa elegantissima*.

WEED STATUS

Mexican feather grass is a W1 noxious weed throughout NSW. W1 means that the presence of the weed on land must be notified to the local control authority and must be continuously suppressed and destroyed.

If you find this weed or something similar in your area, contact your Council Weeds Officer or NSW Department of Primary Industries **immediately**.

DISTRIBUTION

Until October 2004, Mexican feather grass had only been found in plant nurseries and all known pots and plantings were destroyed. In October and November 2004 vigilant weeds inspectors found plants in a landscaped garden in Tamworth which had reproduced from seed dropped by the parent plant. The inspectors were also able to trace further plantings in Tamworth. Garden specimens were subsequently identified at Uralla and Tenterfield. Further plants could exist in gardens and nurseries throughout the state and should be identified and destroyed as a matter of urgency.

THE PROBLEM

Mexican feather grass is a highly adaptable grass species and could spread throughout most states of Australia, causing major economic and environmental damage.

It is capable of surviving in extremely variable climates and soil types, and is able to tolerate

prolonged periods of drought, suggesting it could be more invasive than serrated tussock.

Currently there are no reports of Mexican feather grass being naturalised in NSW. Due to its similarity to other species, naturalised populations will be difficult to identify. Mexican feather grass seeds freely and establishes easily, so existing garden plants are a source for future infestations.

Mexican feather grass is often sold as a horticultural species through internet seed companies from other countries. It may have also been sold under the names:

- *Stipa tenuissima*
- Elegant spear grass

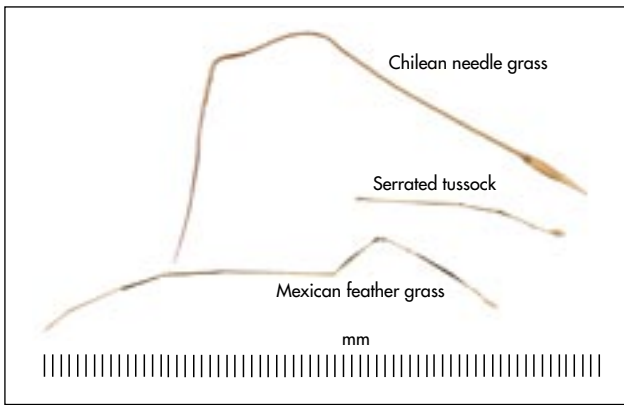
- *Stipa tenacissima*
- White tussock
- Texas tussock grass
- Ponytail grass

IDENTIFICATION

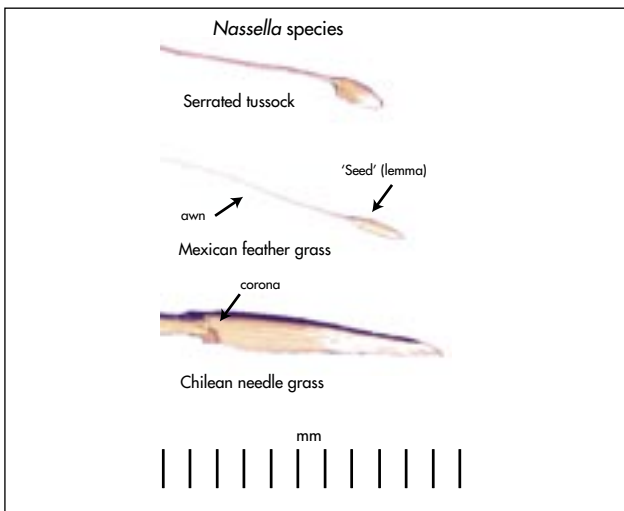
Mexican feather grass is a densely tufted perennial grass. It is almost identical to serrated tussock except when it is in seed.

Mexican feather grass differs from serrated tussock in that its seedhead is not always fully protruding from the sheath at maturity and the awns are longer (4.5–9 cm) and attach centrally to the seed while serrated tussock awns are 2–3.5 cm and are offset in their attachment to the seed.

Identifying features	Mexican feather grass	Serrated tussock
Flowering stems	Culms (stems bearing the flowers) to 70 cm high, with 2 to 3 unthickened nodes; smooth, hairless and round in cross section between the nodes. The flower head is 15 to 25 cm long and green or purplish in appearance due to the colour of the glumes (lowermost of the bracts around the flowers). A leaf-like sheath encloses the lower section. Unlike serrated tussock, the flowering stem does not break at the uppermost stem node when mature.	Much-branched, initially erect, up to 95 cm long, twice as long as leaves. Droop at maturity to touch the ground. Shallot-like bases. Usually break off at base after seed set. Purplish soon after flowering, golden when seed is ripe.
Flowering time	Mid spring–summer	Spring–early summer
Leaves	Numerous; tightly inrolled so that the edges overlap, thread-like, 0.25 to 0.5 mm wide, to about 60 cm long; the outer surface minutely roughened, with a ligule (the small appendage on the inner side of the top of that part of the leaf which sheaths the stem) 0.5 to 2.5 mm long, opaque, papery and usually smooth and hairless. Rolls smoothly between the fingers like a needle.	Numerous, narrow, 0.5 mm wide, to 50 cm long, tightly rolled, appearing circular in cross-section, with small serrations, felt by running the leaf between the fingers from the tip to the base. Green in summer, yellow-green in winter, base white. Tips of old leaves bleached, fawn in colour. Distinctive ligule – rounded, white, membranous, hairless, 0.5 to 1 mm long, protrudes vertically at the junction between leaf blade and leaf sheath, continuous with sheath margins. Similar native grasses have smaller, differently shaped or hair-fringed ligules. Leaves of serrated tussock roll smoothly, as if cylindrical.
Seeds	The awn (the long bristle-like appendage extending from the end of the seed) is 4.5 to 9 cm long and is not readily detached from the seed. The main body of the seed is 2 to 3 mm long (8 to 10 mm long in Chilean needle grass). No conspicuous corona or collar around the base of the awn.	Awn 20 to 35 mm long, attached off-centre, twisted in lower one third and rough to touch. Seed is 1.5 to 2 mm long, pale brown to purplish at maturity, basal section with 1.2 mm long white silky hairs, upper section rough; Enclosed by 2 purple or reddish-brown, 6 to 10 mm long bracts (glumes) tapering gradually to a point.



Comparison of awn on seeds of Chilean needle grass, serrated tussock and Mexican feather grass.



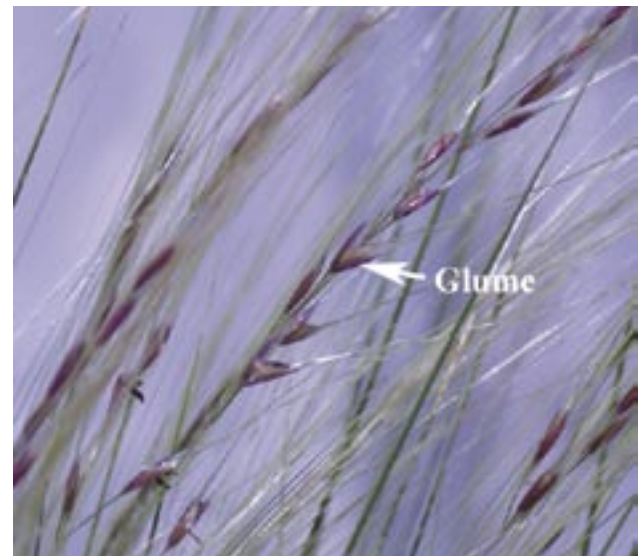
Close up of seed and awn attachment – serrated tussock, Mexican feather grass, Chilean needle grass.

PROPAGATION

Mexican feather grass propagates freely from seed on well-drained soils where competition from other vegetation has been reduced.

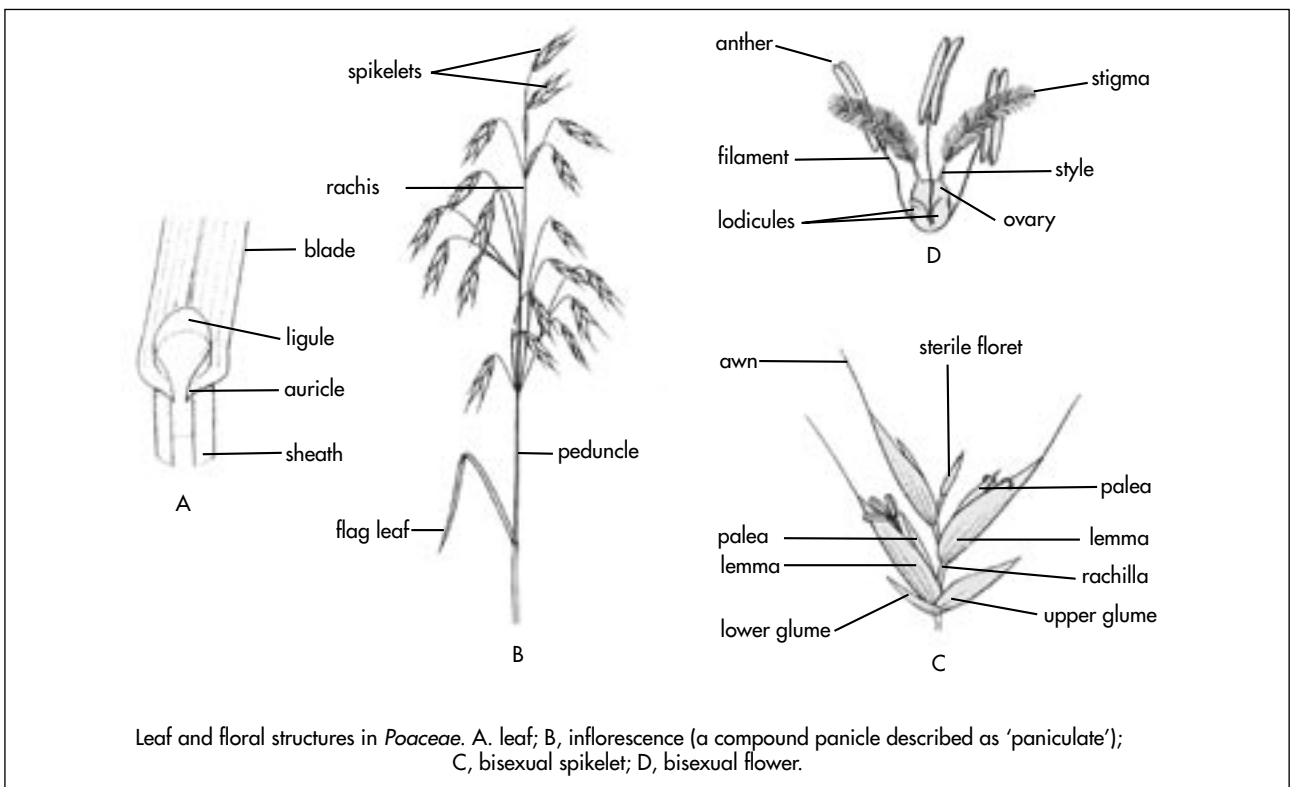
CONTROL

Suspect plants should be immediately reported to your local weeds officer for identification and to determine the best form of destruction. Mexican feather grass should not be cultivated. There are no registered herbicides for Mexican feather grass control.



Mexican feather grass seed head and glume encasing the seed.

Leaf and floral structures in Poaceae



Leaf and floral structures in *Poaceae*. A, leaf; B, inflorescence (a compound panicle described as 'paniculate'); C, bisexual spikelet; D, bisexual flower.

SOURCES OF INFORMATION

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Photos

Photos by Alan Maguire.

DISCLAIMER

The information contained in this publication is based on knowledge and understanding at the time of writing (February 2005). However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of the NSW Department of Primary Industries or the user's independent adviser.

ALWAYS READ THE LABEL

Users of agricultural or veterinary chemical products must always read the label and any permit, before using the product, and strictly comply with the directions on the label and the conditions of any permit. Users are not absolved from compliance with the directions on the label or the conditions of the permit by reason of any statement made or not made in this publication.

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