

Biosecurity – Chilean Needle Grass

Guyra Bowling Club, 10/12/21

Karl Andersson
NT LLS Sustainable Agriculture
Armidale
0437 867 523

www.lls.nsw.gov.au

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LLS Teams

- Sustainable Agriculture and Plant Biosecurity – pasture, soil, weed & livestock management, farm planning
 - Animal Biosecurity
 - Travelling Stock Reserves
 - Environment
 - Pest Animals
 - Land Management
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- Staff in Armidale, Inverell, Glen Innes, Tenterfield

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Chilean Needle Grass

Weed of national significance (WoNS)

- Invasive perennial spear grass
 - Tolerates drought and seasonally waterlogged soils
 - Tolerates heavy grazing
 - Multiple types of seeds
 - 15,000 seeds/m², viable for ~12 years
- Can provide valuable feed, but decreases pasture productivity once flowering
 - Unpalatable flower stalks & little leaf material
→ ↓ summer CC
 - Animal injury
- Co-ordinated management programmes



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Chilean Needle Grass

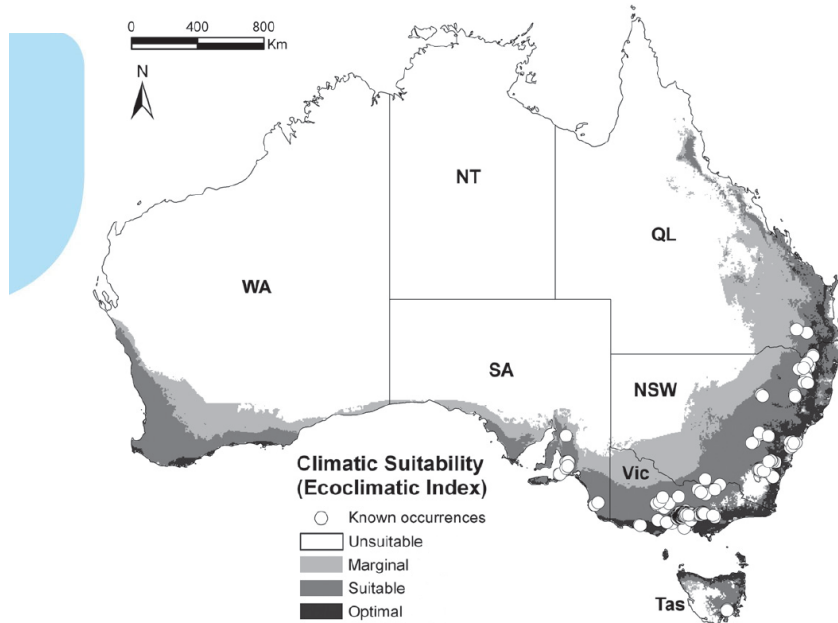
Major biosecurity concern

- Currently present on ~4% of Australia's landmass, and spreading
- Potential to spread to ~23%
 - Majority of productive ag area
 - ~180 Mha
- > 500 mm



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Current and potential distribution



(Bourdôt, Lamoureaux, Kriticos, Watt & Brown, 2010).

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General Biosecurity Duty (all weeds)

- *Any person dealing with plant matter, who knows (or ought to know) of any biosecurity risk, must take measures to prevent, minimise or eliminate the biosecurity risk as far as is reasonably practicable*

Regional Recommended Measure

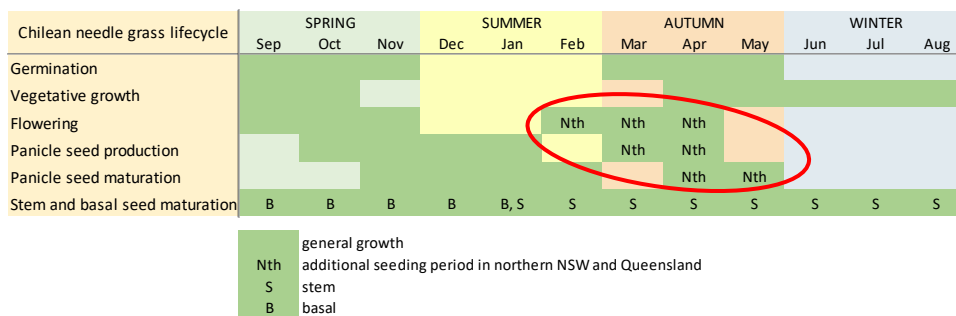
- *Land managers should mitigate:*
 - *the risk of CNG being introduced to their land*
 - *spread from their land*
- *CNG should not be bought, sold, grown, carried or released into the environment*

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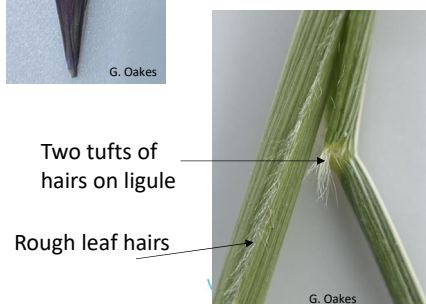
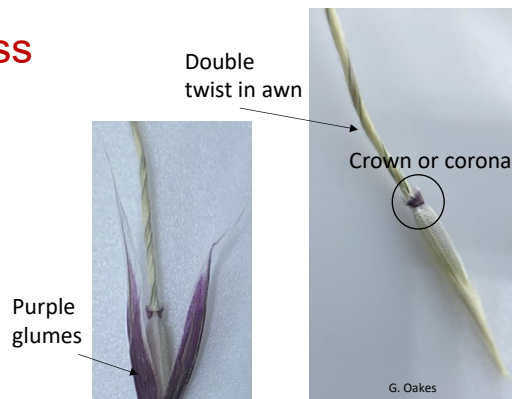
Establishment

- Wide range of soil and climates
- Can germinate on hard disturbed ground
- Gaps (>~1 m) enable establishment in grasslands
 - Slower spread where infestations are bound by grasslands in good condition
- Use more water in spring than native C4 spp e.g. *Themeda* → consolidation



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Chilean Needle Grass



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Presence

- Often undetected until populations established and then difficult to control
- Can be difficult to distinguish when not flowering or seeding
 - Similar to native spear grasses (*Austrostipa* spp.), other winter green grasses such as wallaby, fescue and brome
 - Upper side of leaves veined and rough, underside softer
 - Large tussocks, 1-1.5 m tall, rough leaf edges, smooth membranous ligule to 3 mm long bordered by two small tufts of erect hairs on either side



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Considerations for CNG control

- More cost-effective to manage earlier rather than later
- Adult plants are hardy and long-lived
- Flowers in the first season
- Prevent seeding, reduce soil seed bank
- Double panicle flowering period here in the north
- Wide germination window
- Seedlings grow slowly but most survive
- Seeds buried deep remain viable for longer than those near the surface



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General plant biosecurity

- Avoid moving through long seeding grasses
- Stick to tracks
- Wash down vehicles with pressure washer/air
 - Seeds in mud, under rims and plates
- Soft brush down of boots
- Double-check to be sure of what you are dealing with
 - Take lots of photos - whole plant, close-ups of the flower, seeds, leaves
 - If you sample the plant use a sealed container/zip-lock bag
 - Send asap for ID – don't leave lying on the dash for days

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Biosecurity planning

Assess, Plan, Implement, Monitor

- Prevent
 - Holding paddocks
 - Tracks
 - Clean down sites, disposal
 - Slash before seeding
- Eradicate and Contain
 - Address areas that can spread
 - Control small areas
 - Protect high value areas
 - Manage areas with several problems or opportunities
 - Other weeds
 - Waterways
- Be consistent
 - Drought
 - What is practicable



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Integrate control options

- Physical removal
- Herbicides
 - Options – spot/boom/wick, flupropanate and/or glyphosate
 - Timing – desirable spp C3 or C4
 - Livestock
- Crop phases
- Pasture establishment } competition
- Grazing management
 - Phase II: ↑ palatability and ↓ panicle seeding
 - Strategic grazing → shift to more cocksfoot and tall fescue
- Slashing
 - Flowering, not seeding (short window)
- Fire
 - Reduce bulk, will need IWM
- Biocontrol... not yet successful

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Summary

- CNG can be managed
- Needs to be managed
- Talk to neighbours, contractors, agents, visitors
- Integrated and consistent approach is key

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