

A close-up photograph of Medusahead grass (Lepus arbuscula) against a clear blue sky. The grass has multiple upright stems, each topped with a dense, fan-shaped seed head. The seed heads are a mix of green and yellowish-brown, indicating they are mature. The background is a solid, clear blue sky.

**Medusahead
ecology, invasion,
and impacts**

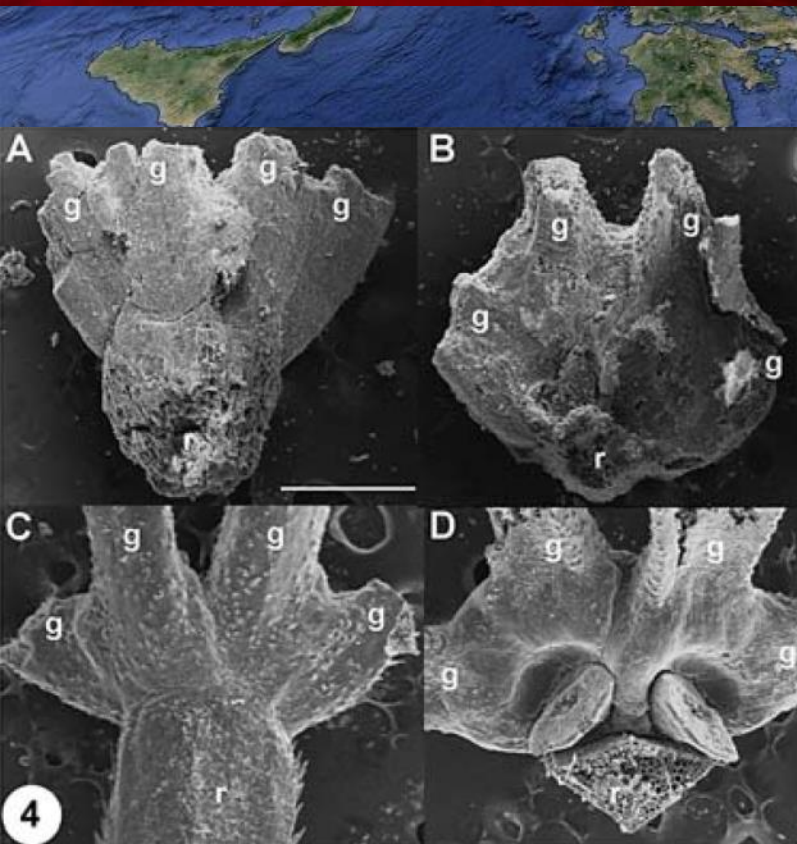
Guy Kyser, UC Davis











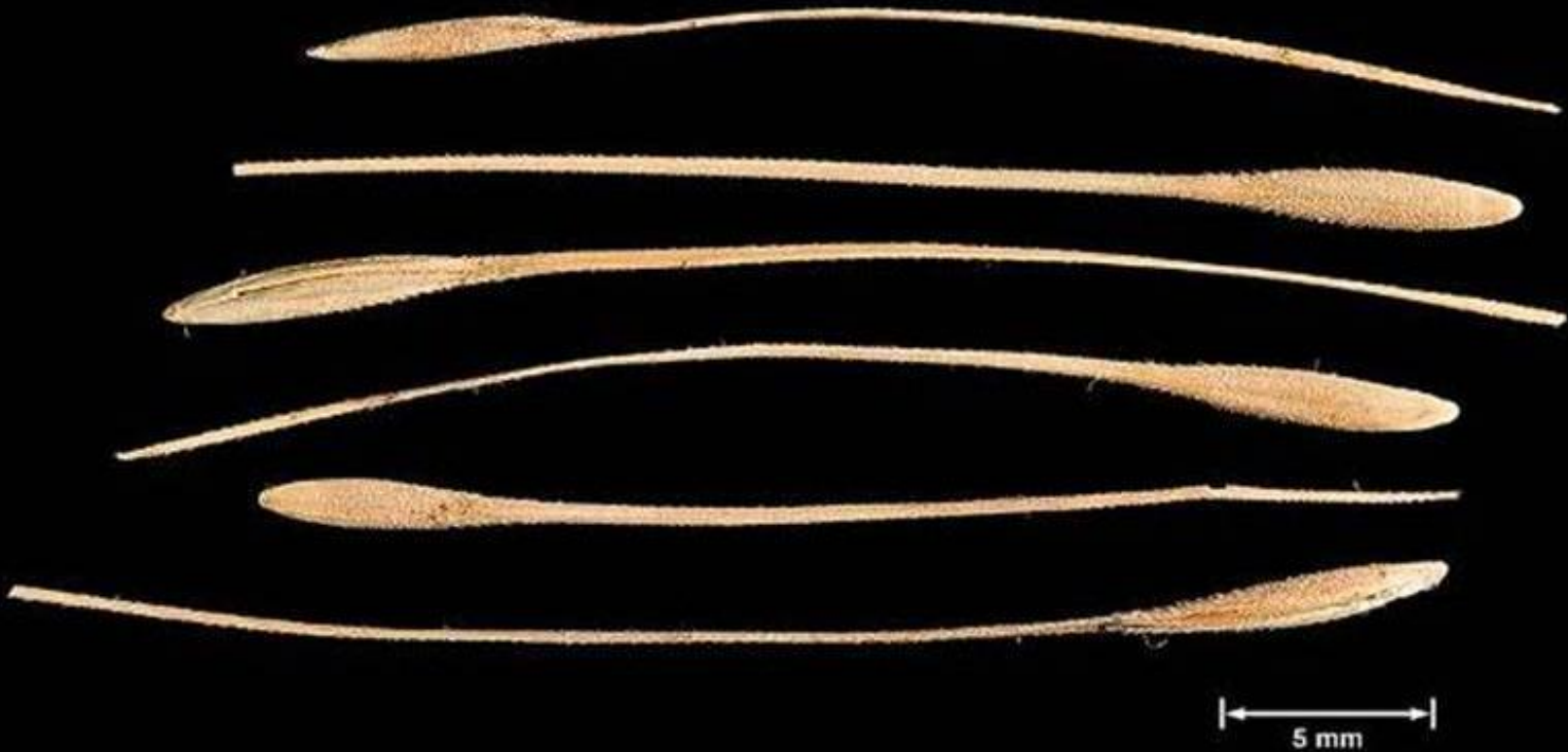






Seeds

- covered with small barbs
- not used by granivores
- 2 (5) yrs in the soil



Soil factors

- Requires more moisture than cheatgrass
- Prefers high clay soils



Soil factors

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- Prefers high clay soils
- Often found where cryptogamic crust is absent



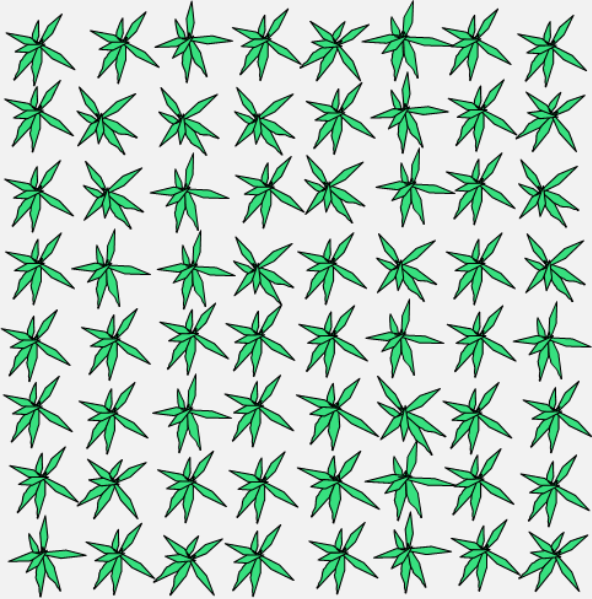
Germination

- Mostly in fall with the first rains
 - First priority: rapid root growth
 - Can also germinate in winter and spring



Establishment and Maturity

- “Plastic” late-season growth



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Establishment and Maturity

- “Plastic” late-season growth
- High silica in foliage discourages grazing



Establishment and Maturity

- “Plastic” late–season growth
- High silica in foliage discourages grazing
- Matures 2–4 weeks later than other annual grasses



Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
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Natives & forage

Growth

Senescence



Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
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Medusahead



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Natives & forage

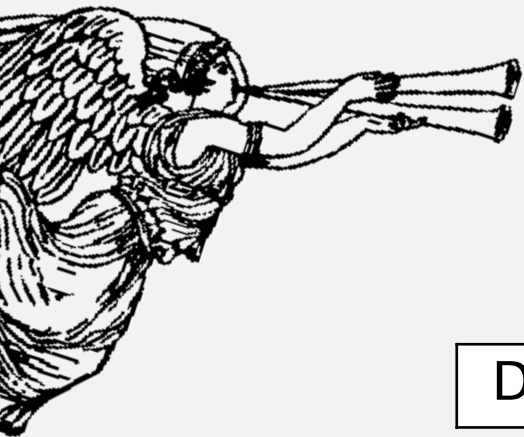
Growth

Senescence



Medusahead





Things are different in the high desert

Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
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Natives & forage

Growth



Medusahead



Maturation →





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What makes medusahead bad?



wild oat



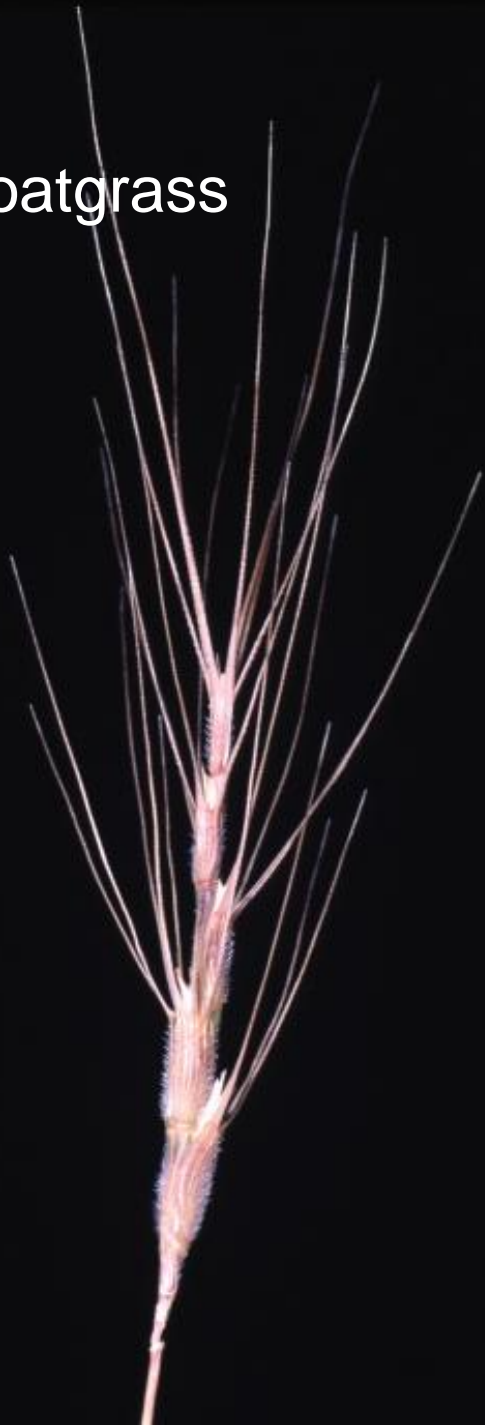
Italian
rye



soft
brome



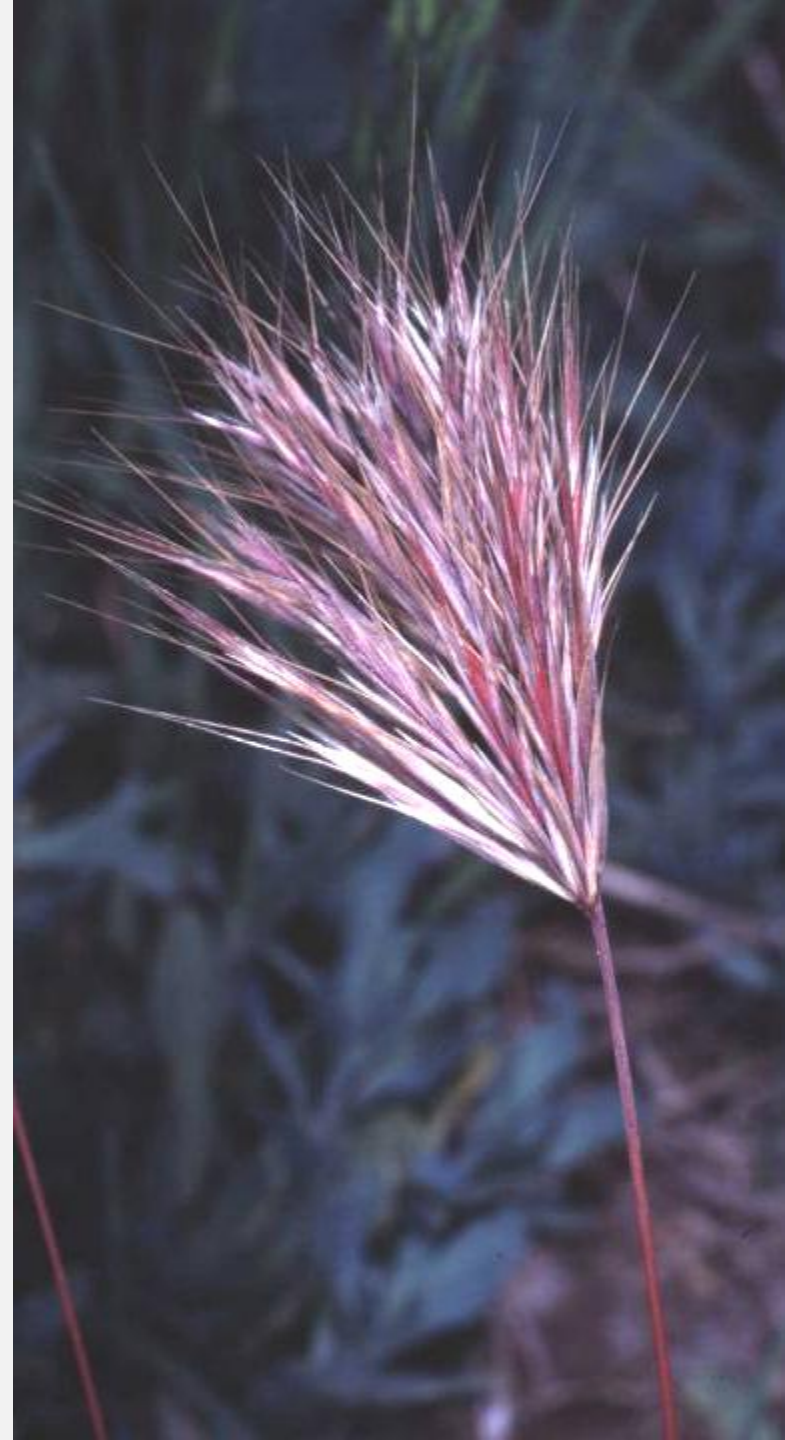
barb goatgrass



jointed goatgrass

red brome

downy brome
(cheatgrass)





Transformer species

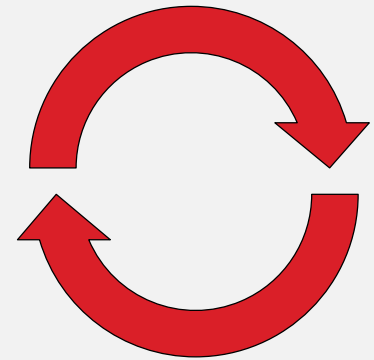
Invasive species that change the character of an ecosystem.





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- Excessive resource use
 - Light, water, CO₂ and O₂

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- **Litter accumulators**



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- Litter accumulators





Water depletion

- Interferes with establishment of perennial grasses





Fire promotion





Litter accumulation



- High-silica foliage resists grazing, decays slowly
- Builds a layer 2–5 inches thick
- Ties up nutrients

Litter accumulation

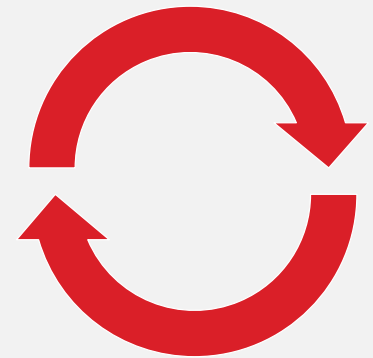


- Keeps other plant seeds off the soil
- Favors medusahead germination and survival

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Transformations

- Depletes soil moisture
- Builds thatch
- Promotes wildfires



Outcomes

- Loss of native vegetation
- Loss of up to 80% of grazing capacity
- Loss of habitat



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Weed Control in Natural Areas in the Western United States

Weed Research & Information Center • University of California



Medusahead Management Guide for the Western States

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