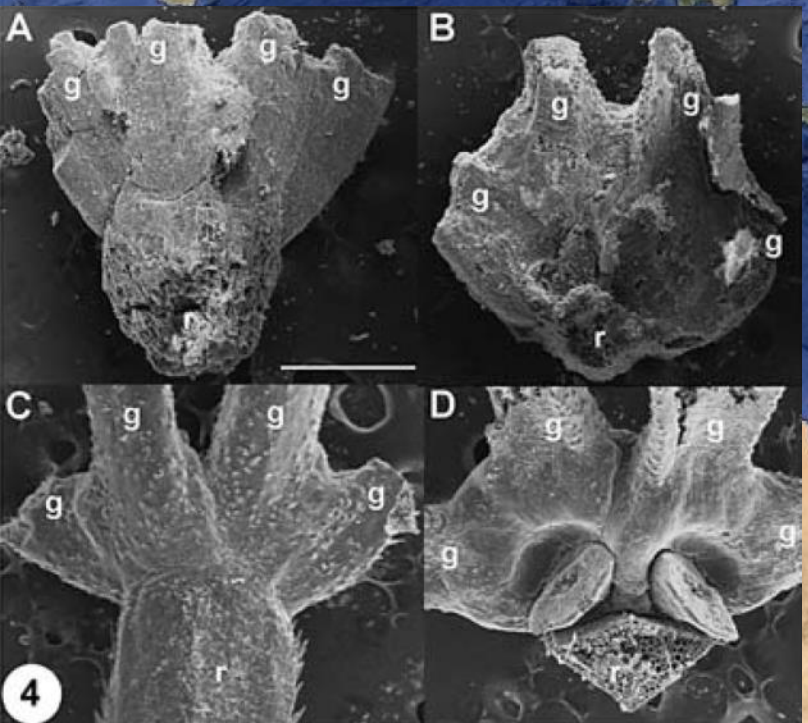
# Medusahead ecology, invasion, and impacts

*Guy Kyser, UC Davis*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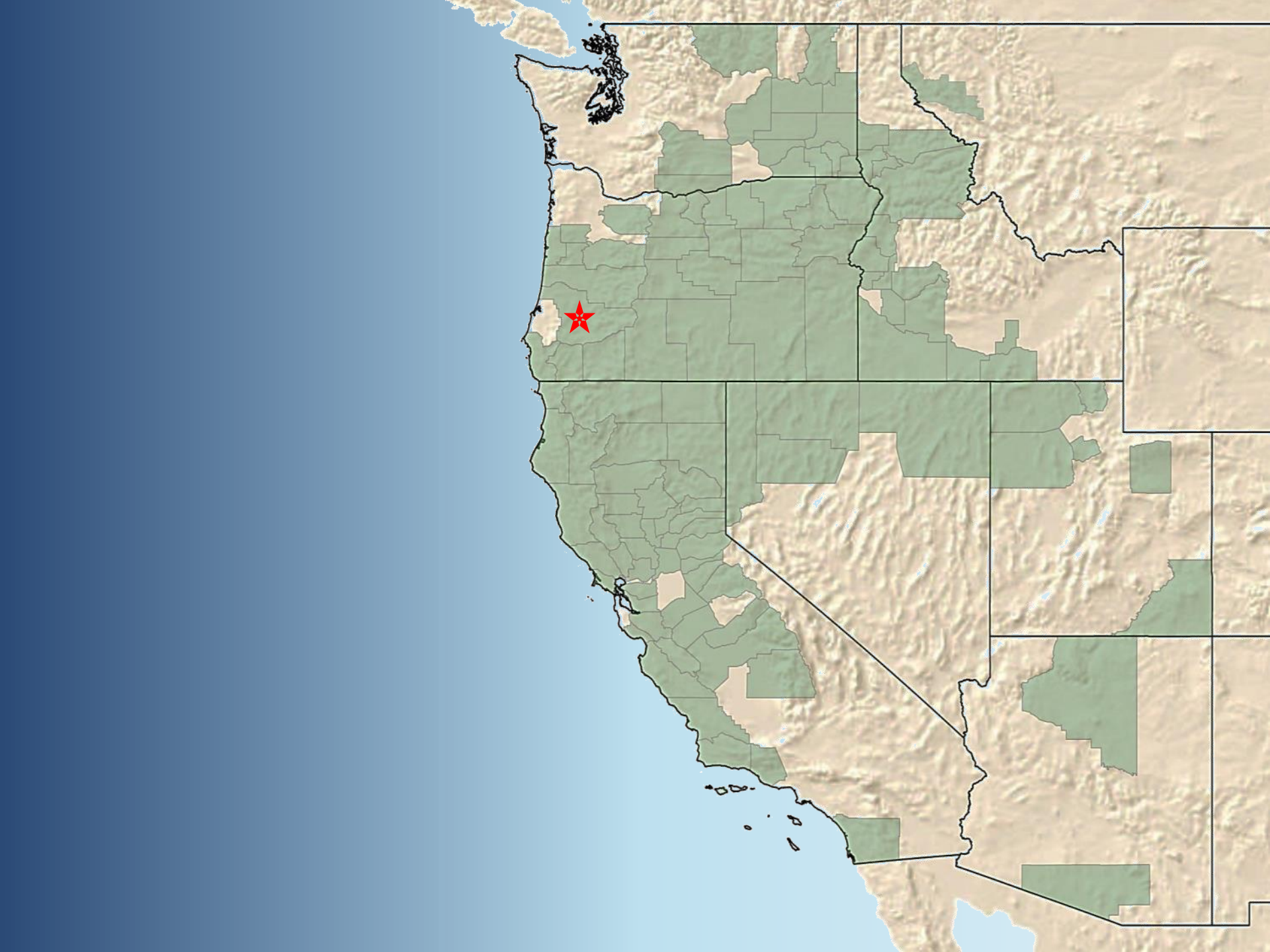
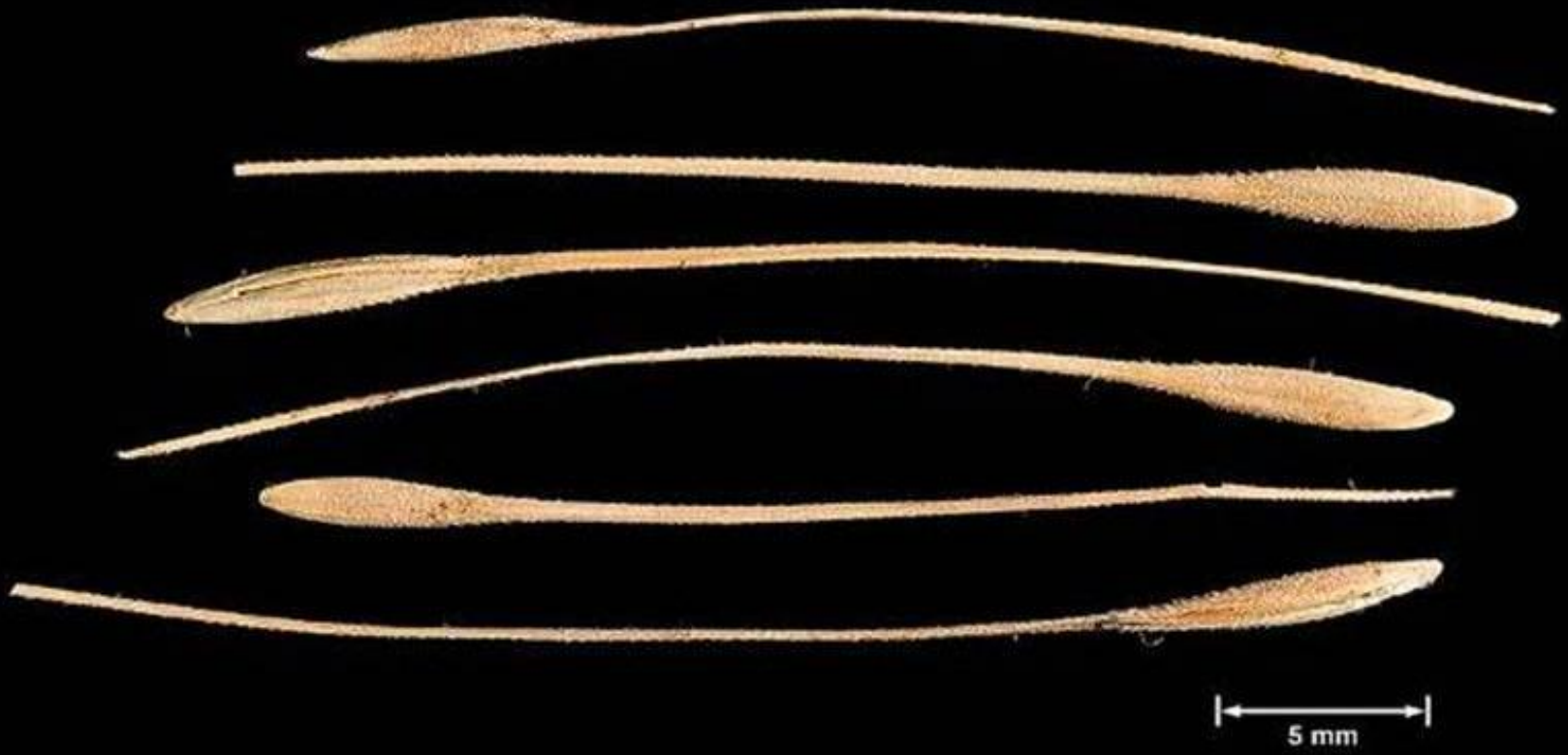


# Seeds

- 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

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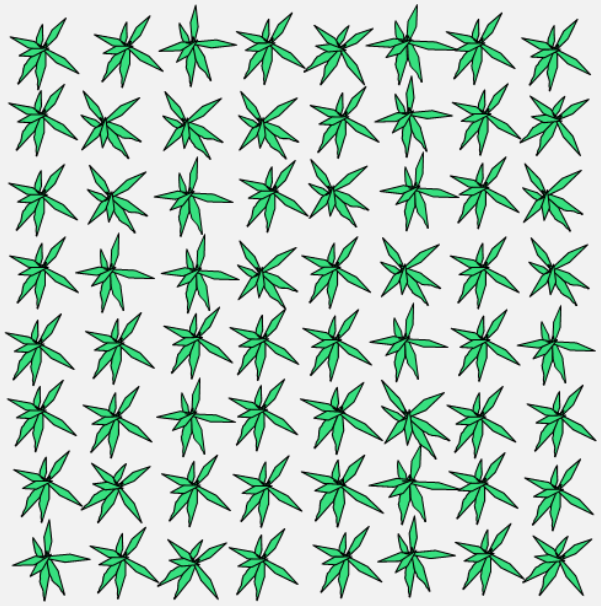
- Often found where cryptogamic crust is absent

# 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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- "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 |
|---|---|---|---|---|---|---|---|---|---|

Natives & forage *Growth* *Senescence*

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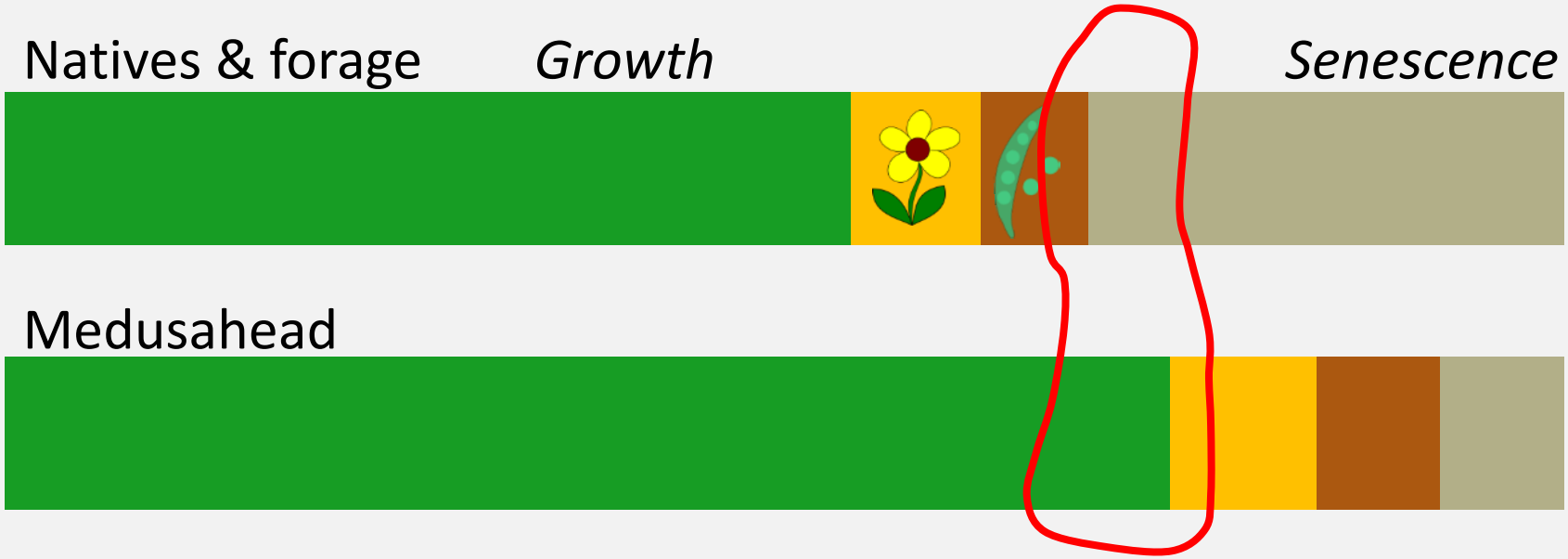

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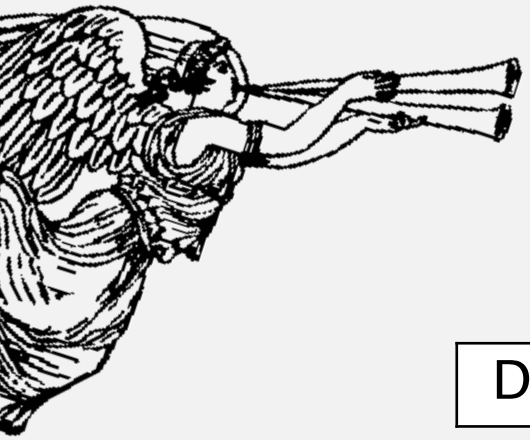
Natives & forage *Growth* *Senescence*

Medusahead

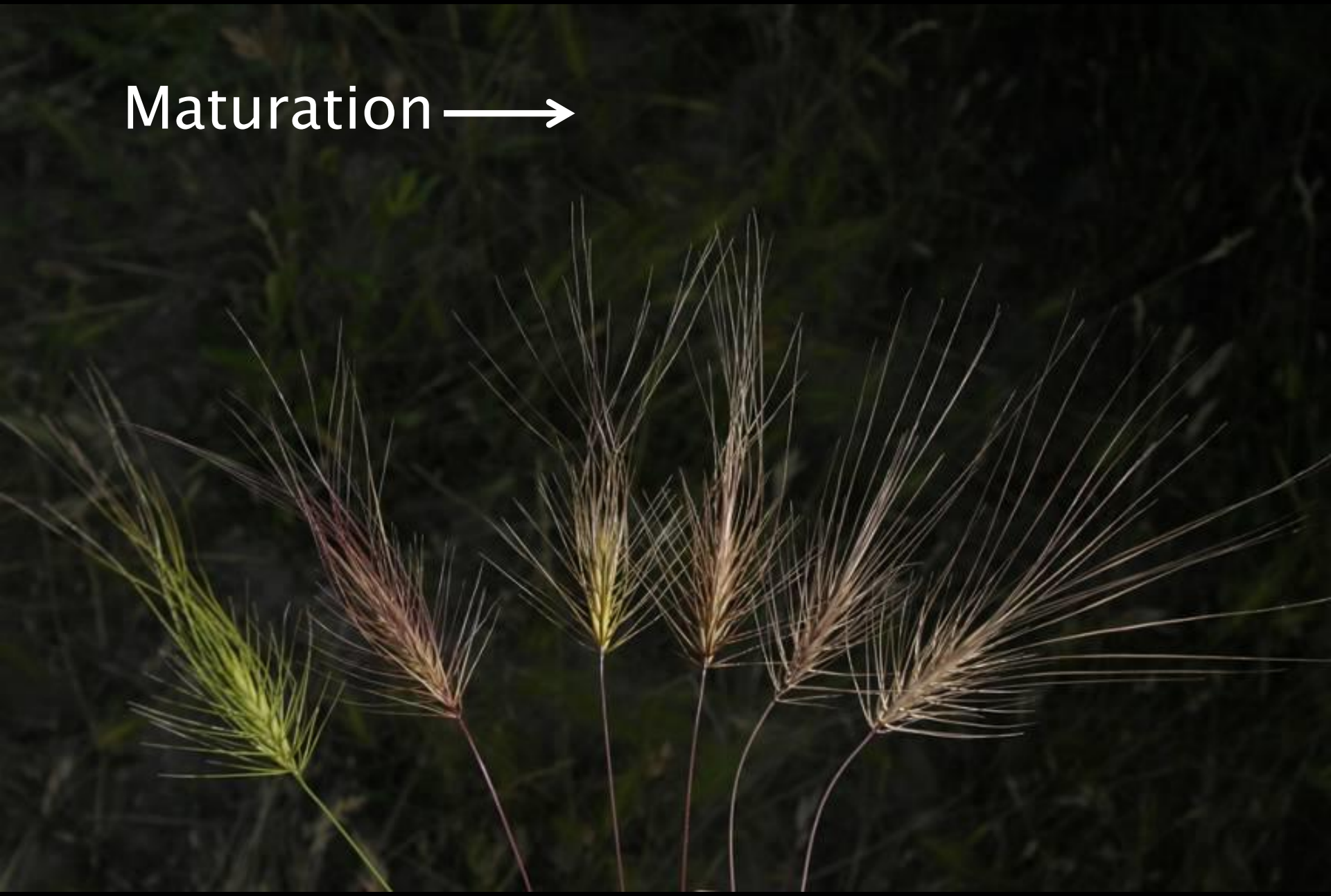
# Things are different in the high desert

| Dec | Jan | Feb | Mar | Apr | May | Jun | Jul |
|---|---|---|---|---|---|---|---|

Natives & forage

*Growth*

Medusahead


Maturation ⟶

# 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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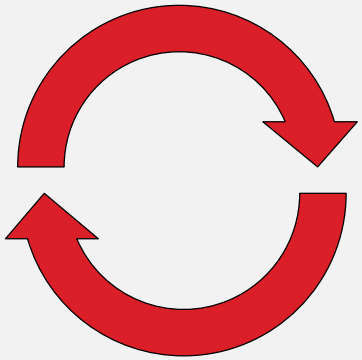



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# Water depletion

- 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

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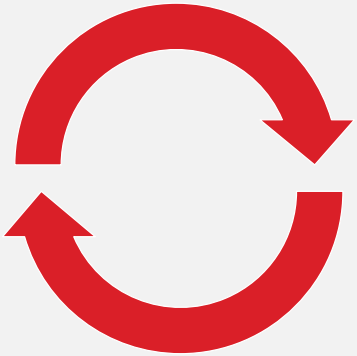
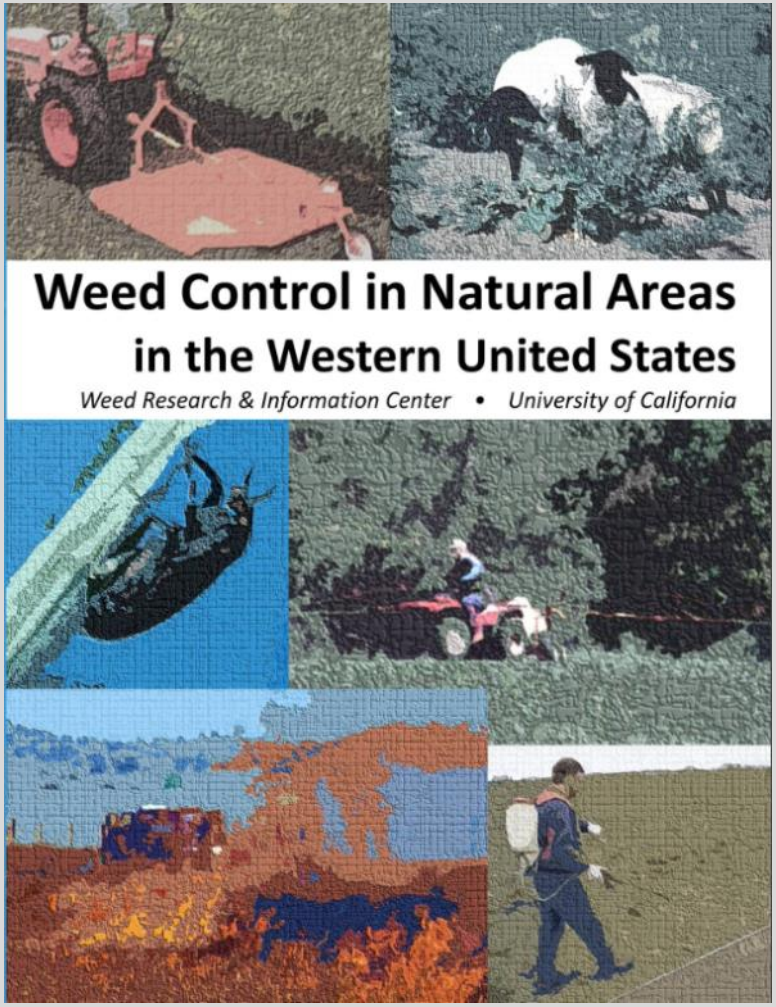


# Transformations

- 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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