

Medusahead: *Control Methods*

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Principles of Weed Control

- Identification
- Prevention vs control
- Invasion corridors
- Timing of control after invasion:
 - The sooner the better - effectiveness declines with time
 - Season: When most susceptible
- Plant physiology – eg phenology, seed bank viability



Toolbox for Control

Method	Timing	Outcome/ Advantages	Disadvantages
Hand pulling/ hoeing	<ul style="list-style-type: none">• When identifiable• Before seeds set	<ul style="list-style-type: none">• Remove whole plants• Effective in small patches/low density	<ul style="list-style-type: none">• Not for large/dense infestations
Mowing	<ul style="list-style-type: none">• Before seeds set	<ul style="list-style-type: none">• Removes forage and seeds• Longer window than grazing	<ul style="list-style-type: none">• Not for large areas/ rough terrain
Tillage	<ul style="list-style-type: none">• Before seed set• Ideally fall/spring	<ul style="list-style-type: none">• Kills plants• Removes thatch• Bury seeds too deep• Seedbed prep• Allows other plants to germinate	<ul style="list-style-type: none">• Rough terrain• May cause erosion

Toolbox cont...

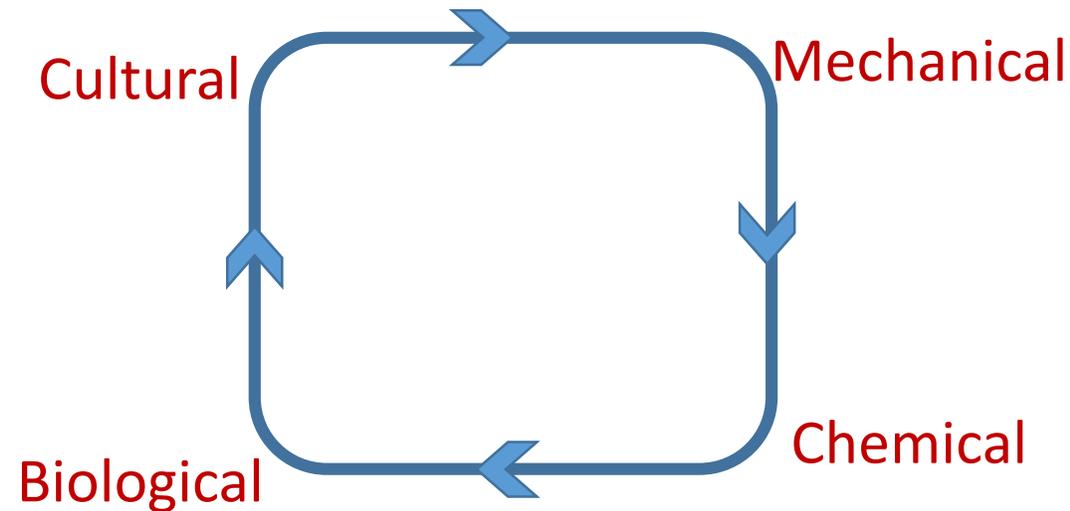
Method	Timing	Outcome/ Advantages	Disadvantages
Seeding / revegetation	<ul style="list-style-type: none"> • Early weed control • Fall seeding 	<ul style="list-style-type: none"> • Provides competition • Improves forage production • New desirable species 	<ul style="list-style-type: none"> • Expensive • Low establishment rate
Grazing	<ul style="list-style-type: none"> • Before it heads out 	<ul style="list-style-type: none"> • Removes forage and seeds • No additional equipment needed, but cows • Generates revenue in process 	<ul style="list-style-type: none"> • Narrow window • High density needed • Loss of animal condition • (stocker calendar)
Fertilizer/ molasses and grazing	<ul style="list-style-type: none"> • Before it heads out 	<ul style="list-style-type: none"> • More grazing in fertilized areas • Increases window 	<ul style="list-style-type: none"> • Costly • Short lived effects
Fire	<ul style="list-style-type: none"> • Dry to carry fire • Before seeds drop 	<ul style="list-style-type: none"> • Removes seeds and thatch • Chance for desirable species to grow 	<ul style="list-style-type: none"> • Low forage production following year • Permitting issues

Toolkit cont

Method	Timing	Effects/ Advantages	Disadvantages
Herbicide : Milestone (Aminopyralid)	<ul style="list-style-type: none"> Fall: preemergent 	<ul style="list-style-type: none"> Prevents germination Selective effect 	<ul style="list-style-type: none"> Higher rates (7-14oz/ac) Short term effects on some desirable plants Less forage production following year
	<ul style="list-style-type: none"> Spring 	<ul style="list-style-type: none"> Reduces seed viability Low rates of application 3oz/acre 	<ul style="list-style-type: none"> Narrow window
Herbicide: Glyphosate	<ul style="list-style-type: none"> Spring application 	<ul style="list-style-type: none"> Kills all herbaceous plants Maybe used to prepare for seeding 	<ul style="list-style-type: none"> Non-selective Lower production following year

Integrated Weed Management (IWM)

- IWM – weed management that used a combination of management strategies → tends to increase effectiveness and lower costs
- Takes into consideration available resources, capabilities, and ecological conditions (ADAPTIVE)



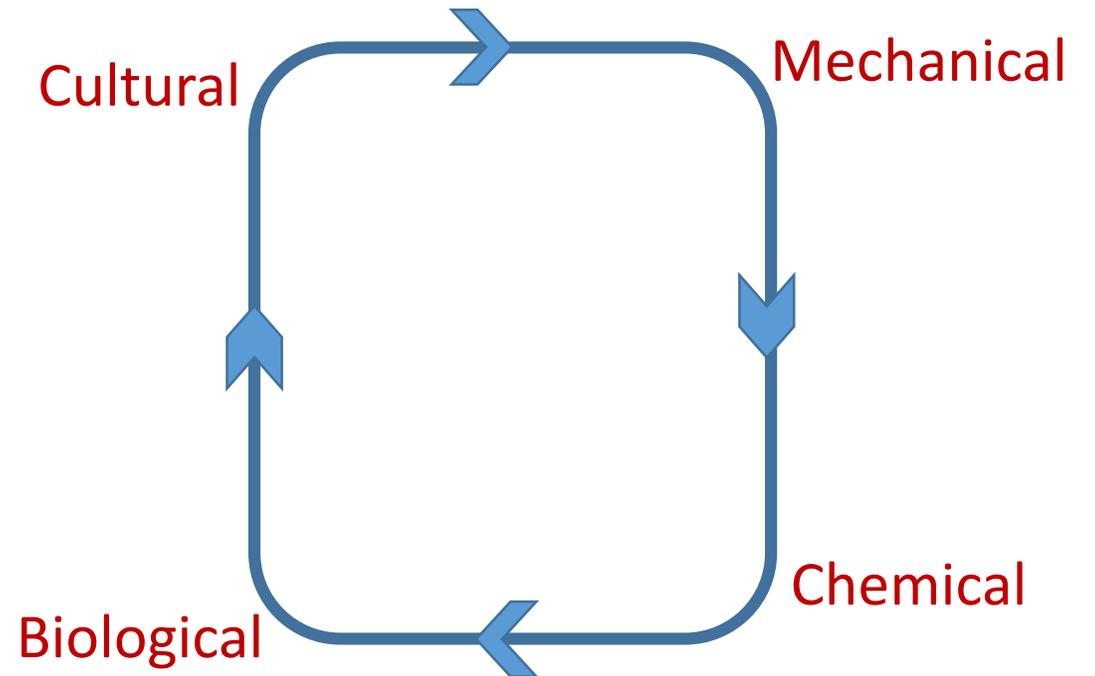
IWM cont....

- Start with preventing infestation
 - Identification
 - Invasion corridors – monitor and control
 - Limit seed dispersal
 - Reduces ecosystem susceptibility
 - Proper grazing
 - Revegetation
 - Education



Examples of IWM strategies

- Fire → Herbicide → Grazing
- Tillage → Seeding → Grazing
- Fertilizer → grazing → Herbicide



- http://wric.ucdavis.edu/publications/MedusaheadManagementGuide_pub_2014.pdf

Questions?