Pasture Weed Control

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Ways to Control Weeds

1. Cultural Control
2. Mechanical Control
3. Biological Control
4. Chemical Control

"That's your idea of weed control?"
Weed Control

- Biological
- Cultural
- Mechanical
- Chemical
Spotted Knapweed

- Biennial
- Allelopathic (Catechin)
- Prolific Seed Production
- An 63% reduction in cattle grazing (Butcher, 1984)
Replacement of Grass by Spotted Knapweed Over Time

Spotted Knapweed Control

- **CHEMICAL**
  - 1 pt/A Tordon 22K
  - 5 oz/A Milestone
  - Apply at late bud or rosette stage

- **BIOLOGICAL**
  - Knapweed Weevils
  - UV Knapweed Fly

- **CULTURAL**
  - Fertility
  - Irrigation
  - Grazing
  - Mowing
  - Hand Digging
Thistles & Thistle-Like Plants

- Biennial or Perennial
- Rosettes
  - 90% of life span
- Spines deter grazing
- Reduces pasture yield by 23% if left uncontrolled
Chemical Control

- Best results during the rosette stage (fall or early spring)
  - Weedmaster/ Rangestar (a.i. 2,4-D + Dicamba)
  - Grazon P+D (Picloram + 2,4-D)
  - Milestone (Aminopyralid)
  - GrazonNext (Aminopyralid + 2,4-D)
  - PastureGard (Triclopyr + Fluoxypyr)
  - Surmount (Picloram + Fluoxypyr)
  - Trodon 22K (Picloram)
Mechanical Control

• Multiple mowings will be necessary
  – 11% killed by a single mowing at late bud stage
  – 79% killed by second mowing 4 weeks later

• Least destructive to musk thistle weevils in July

• Problem
  – Flowers over a 7-9 week period
  – Seed begins to spread about 10 days after first bloom
Biological Control of Musk Thistle

• Scout for weevil eggs on outside of flower bracts
• 3 weevils per bloom will eat 100% of the seed
• Black, drooping flowers also indicates weevil feeding
An Integrated Approach for Musk Thistle

- Spray in the fall or early spring
- Mow in late summer
- Let weevils do the rest!
Thistle Chemical Control

Too late to spray

Treat at this stage
Blackberries *(Rubus spp.)*

- Management for all *Rubus* spp. is the same
  - Blackberries
  - Dewberries
  - Himalayan Blackberries

- Spray in **Fall** before the leaves fall off (October)
  - Metsulfuron, Cimarron Max, Surmount, or Remedy
Influence of Herbicides & Application Timings on Dewberry Control 1 Year After Treatment (Salem, MO 2009)

<table>
<thead>
<tr>
<th>Application Timing</th>
<th>Dewberry Control Across All Herbicide Treatments</th>
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<tbody>
<tr>
<td></td>
<td>--- # Stems/Plot 1 YAT ---</td>
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<tr>
<td>Full Bloom</td>
<td>76</td>
</tr>
<tr>
<td>Fall</td>
<td>27</td>
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</table>
Influence of Herbicides & Application Timings on Dewberry Control 1 Year After Treatment

(Salem, MO 2009)

Untreated
96 Stems/Plot

0.4 ozs Cimarron/Acre
Full Bloom Application Timing
89 Stems/Plot

0.4 ozs Cimarron/Acre
Fall Application Timing
16 Stems/Plot

Source: Dr. Kevin Bradley, MU
Rubus spp.

- Do not mow during the year of herbicide application
- Plan on a follow up treatment the next year to control escape canes
Horsenettle/Bullnettle
(*Solanum carolinense* L.)

- Perennial
- Resistant to grazing spines present
- Fertility
- Frequent mowing
- Herbicides
Horsenettle

- Grazon P+D, GrazonNext, Forefront, Milestone, Surmount, or Tordon 22K
- Apply at mid-bloom through fruiting
- Control will take multiple years due to prolific seed production.
- Spray for 3 consecutive years to achieve 90 – 100% control.
Perilla Mint

*(Perilla frutescens (L.) Britton)*

- Poisonous
- Found in moist areas along streams or wooded areas
- Mint odor
- Mow
- 2, 4-D, Grazon P+D, or Remedy when plant is actively growing, late April to early June
Perilla Mint

(*Perilla frutescens* (L.) Britton)
Poison Hemlock  
*Conium maculatum* L.

- All parts poisonous  
  - Affects reproduction and central nervous system
- Commonly confused with other plants
- 2,4-D + Dicamba
- Remedy (a.i. Triclopyr)
- Grazon P+D
- Grazon Next
- Hand weeding, tillage,
Spurges
(Euphorbiaceae Family)

- Nodding Spurge
- Spotted Spurge
- Tropic Croton
- Wooly Croton
- Snow on the Mountain
- Others

#1 pasture weed complaint throughout the “fescue belt” in late summer 2010
- Kevin Bradley State Weed Scientist
Spurges
(Commolintaaceae Family)

- Nodding Spurge (*Chamaesyce nutans* (Lag.) Small)
Spurred Spurge (Spurred Spurge) (Chamaesyce maculata (L.) Small)
Spurges
(Euphorbiaceae Family)

• Tropic Croton
(Croton glandulosus var. septentrionalis Müll. Arg.)
Spurges (Euphorbiaceae Family)

• Wooly Croton (*Croton capitatus* Michx.)
Spurges
(Euphorbiaceae Family)

- Snow on the Mountain (*Euphorbia marginata* Pursh)
Spurges
(Euphorbiaceae Family)

- Poisonous
- Most contain milky sap
  - All sap is poisonous when ingested
  - Large quantities must be consumed
  - Pain and swelling of the oral mucosa, blistering and open sores may be present
- Toxin is present even in hay
• Frequent Mowing
• Fertility
• Cimarron, Cimarron Max, Chaparral, Grazon P+D, GrazonNext, or Dicamba mixed with 2,4-D
• Spray timing is important
  – summer annual – late summer
Honey Locust
(*Gleditsia triacanthos* L.)

- Multiple mowings
- Small sprouts
  - Grazon P+D
  - Total coverage of the leaves is needed
- Large trees
  - Basal Bark treatment with Pathfinder II
  - Cut Stump treatment with Tordon RTU
Hemp Dogbane
(*Apocynum cannabinum* L.)

- Perennial
- White milky sap – toxic to livestock
  - Poisonous green or dry
  - 15-30 grams will kill adult horse or cow
- Very tough to control
Hemp Dogbane
(*Apocynum cannabinum* L.)

- Repeated mowing
- Planting a smother crop – small grains
- Tillage of seedlings 6 wk. after emergence
  - Tillage of established plants spreads rootstock

**Milky juice**
Hemp Dogbane
(Apocynum cannabinum L.)

- GrazonNext, Grazon P+D, Tordon, or Surmount
- Apply herbicide at the late bud to flower stage

Milky juice
Keys to Pesticide Use

• Identify pest
• Select the right product
• Time the application correctly
• Apply accurately
• Follow grazing and haying restrictions
• ALWAYS READ THE LABEL
Pesticide Applicator License

- Toxic to people, animals, or other plants
- Oncogenicity - tumors in laboratory animals
- Ground water concerns
- Grazon P+D
- Surmount
- Tordon
- Weedmaster
Questions?