Identification and Control of Noxious & Poisonous Range Weeds

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Weed

An unwanted plant
Weed

A plant out of place
Weed

A plant growing where it is not desired
Weed

A plant whose virtues have not yet been discovered
Weed

An unloved flower
Weed

Any plant that someone will spend time or money to kill
* Weed *

Any plant that interferes with the management objectives for a given area of land (or body of water) at a given point in time
## Annual Crop Losses in Utah Due to Agricultural Weeds

<table>
<thead>
<tr>
<th>CROP</th>
<th>Yield Loss</th>
<th>$ Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hay</td>
<td>11 %</td>
<td>19,115,694</td>
</tr>
<tr>
<td>Corn</td>
<td>13 %</td>
<td>5,242,735</td>
</tr>
<tr>
<td>Barley</td>
<td>12 %</td>
<td>3,877,772</td>
</tr>
<tr>
<td>Wheat</td>
<td>13 %</td>
<td>4,170,011</td>
</tr>
<tr>
<td>Oats</td>
<td>16 %</td>
<td>323,429</td>
</tr>
<tr>
<td>Dry Beans</td>
<td>14 %</td>
<td>167,023</td>
</tr>
<tr>
<td>Potatoes</td>
<td>7 %</td>
<td>611,333</td>
</tr>
<tr>
<td>Onions</td>
<td>16 %</td>
<td>576,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>$ 34,083,997</strong></td>
</tr>
</tbody>
</table>

Based on WSSA national crop loss estimates
## Impact of Noxious Weeds on Rangeland Productivity

<table>
<thead>
<tr>
<th>WEED</th>
<th>Reduced Grazing (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dyer’s Woad</td>
<td>38</td>
</tr>
<tr>
<td>Canada Thistle</td>
<td>42</td>
</tr>
<tr>
<td>Dalmatian Toadflax</td>
<td>46</td>
</tr>
<tr>
<td>Hoary Cress</td>
<td>55</td>
</tr>
<tr>
<td>Leafy Spurge</td>
<td>59</td>
</tr>
<tr>
<td>Yellow Starthistle</td>
<td>65</td>
</tr>
<tr>
<td>Spotted Knapweed</td>
<td>80</td>
</tr>
</tbody>
</table>
Poisonous Range Weeds

- Wild onion
- Field Horsetail
- Tall Fescue
- Johnsongrass
- Arrowgrass
- Deathcamas
- Whorled Milkweed
- Yellow Starthistle
- Leafy Spurge
- Snakeweed
- Halogeton
- Houndstongue
- Dogbane
- Swamp Milkweed
- Russian Knapweed
- Coast Fiddleneck
## Poisonous Range Weeds

- Kochia
- Curly Dock
- Bouncingbet
- Silverleaf nightshade
- Field Pennycress
- Showy Milkweed
- Jimsonweed
- Black Henbane
- St. Johnswort
- Hairy Nightshade
- False Hellebore
- Cocklebur
- Monkshood
- Larkspurs
- Charlock Mustard
- Buttercups
Poisonous Range Weeds

- Buffalobur
- Cutleaf Nightshade
- Water Hemlock
- Poison Hemlock
- Lupine
- Mt. Thermopsis
- Locoweeds
- Puncturevine
- Spring Parsley
- Tansymustard
- Bracken Fern
- Tansy Ragwort
- Ponderosa Pine
- Chokecherry
- Oak
- Greasewood
Poisonous Weeds in Hay

- Dogbane
- Milkweed
- Mustards
- R. Knapweed
- Y. Starthistle
- Houndstongue
- Jimsonweed
- Field Horesetail
- Leafy Spurge
- Sweetclover
- Nightshades
- Poison Hemlock
- Fiddleneck
- Johnsongrass
“Invasive Noxious Weeds Are Proving To Be The Single Greatest Threat To Natural Ecosystems In The West”

PLANT COMMUNITIES
RECREATION
IMPACTS

• 7 Rare Plant Species Eliminated in 3 Years by Spotted Knapweed in Glacier National Park
• 97 % Reduction in Elk Grazing on Land Invaded by Spotted Knapweed
• 56 % Increase in Water Runoff and 192 % Increase in Soil Erosion on Land Invaded by Spotted Knapweed
• $2.9 Million Annual Loss in Wildlife-Related Recreation in South Dakota from Leafy Spurge
Weed Categories

- Noxious
- Invasive
- Exotic
Exotic

Not native to North America or to a local region.
Of foreign origin. Alien.

(most weeds and crops are exotics)
Invasive

Aggressive plants that spread into sites and take over, displacing other plants
Noxious

A plant designated by law as undesirable and requiring control

(usually non-native and invasive)
Utah Noxious Weeds

- Bermudagrass
- Bindweed, Field
- Cress, Hoary
- Johnsongrass
- Knapweed, Diffuse
- Knapweed, Russian
- Knapweed, Spotted
- Knapweed, Squarrose
- Loosestrife, Purple
- Medusahead
- Pepperweed, Perennial
- Quackgrass
- Spurge, Leafy
- Starthistle, Yellow
- Thistle, Canada
- Thistle, Musk
- Thistle, Scotch
- Woad, Dyer’s
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- Quackgrass
- Spurge, Leafy
- Starthistle, Yellow
- Thistle, Canada
- Thistle, Musk
- Thistle, Scotch
- Woad, Dyer’s
Spurge, Leafy
*Euphorbia esula*
Leafy Spurge (Poisoning)

- Cattle and horses affected
- Sheep / goats used to control
- Swelling
- Blistering
- Skin lesions on face
- Vomiting
- GI pain, diarrhea
- Severe gastroenteritis can kill
Knapweed, Russian
Centaurea repens
Knapweed, Spotted
Centaurea maculosa
Starthistle, Yellow
*Centaurea solstitialis*
Yellow Starthistle
Russian Knapweed

• Horses susceptible
• “Chewing disease” caused by brain damage
• 1 to 2 months, 60 % body wt.
Starthistle / Knapweed

- Inability to chew or use lips
- Standing with head down
- Yawning, head pressing
- Aimless walking
- Difficulty breathing, trembling
- Death: starvation / dehydration
Starthistle / Knapweed

• Avoid grazing or feeding contaminated hay to horses
• Pre-graze w/ cattle or sheep
• Curtail, Transline, Grazon, Tordon, Milestone, Banvel, or 2,4-D
Cress, Hoary
Cardaria draba
Pepperweed, Perennial
*Lepidium latifolium*
Woad, Dyer’s
*Isatis tinctoria*
Brassicaceae

- Glucosinolates and sulfur-containing amino acids
- Goiter, hypothyroidism, poor growth rates, reproductive failure, photosensitization, pulmonary emphysema, edema, blindness, death
Johnsongrass
Sorghum halepense
Johnsongrass

- Cyanogenic glycosides
- Nitrates
- Tannins
Medusahead
*Taeniatherum caput-medusae*
Thistle, Canada

*Cirsium arvense*
Thistle, Musk
Carduus nutans
Thistle, Scotch
*Onopordum acanthium*
Other Invasive Poisonous Rangeland Weeds
Goatsrue
Galega officinalis
Black Henbane

*Hyoscyamus niger*
Black Henbane

- Roadsides, pasture, rangeland
- Pigs, cattle, humans
- Unpalatable, avoided fresh
- All parts toxic, fresh or dry
Black Henbane
(Symptoms)

- Vision problems, dilated pupils
- Delirium, violent behavior
- Excessive thirst
- Appetite and weight loss
- Rapid heart and breathing
- Diarrhea, excessive urination
Black Henbane
(Management)

• Avoid contaminated hay

• Digging / pulling

• Escort / Ally, Tordon, Banvel, 2,4-D
Houndstongue
*Cynoglossum officinale*
Houndstongue

- Foothills, pastures, roadsides
- Horses, cattle, sheep
- Fresh (unpalatable) or in hay
- Cumulative, may taint milk
Houndstongue
(Symptoms)

- Dullness, wandering
- Increased pulse and respiration
- Weakness, nervousness
- Constipation or diarrhea
- Death by liver hemorrhage
Houndstongue (Management)

- Avoid contaminated hay
- Digging / pulling
- Escort / Ally, Tordon, Banvel, 2,4-D
Poison Hemlock
Conium maculatum
Poison Hemlock

- Wet areas, disturbed sites
- Sheep, cattle, horses, humans
- Coniine and other alkaloids
- 4 to 8 oz sheep, 10 to 16 oz cow
Poison Hemlock
(Symptoms)

• Salivation, nervous trembling
• Bloating, lack coordination
• Pupil dialation, rapid pulse
• Blue mouth lining
• Respiratory paralysis, coma
Poison Hemlock
(Symptoms - cont.)

• Abortion
• Crooked calf disease
  (same timing and effect as lupine)
• Death in 2 to 3 hours
• Confused with wild edibles, has caused death of children
Poison Hemlock
(Management)

- Animals normally avoid (fresh)
- Do not cut in hay
- 2,4-D, Ally, Escort, digging
Water Hemlock
*Cicuta maculata*
Water Hemlock

• Wetlands, seeps, stream banks
• All classes of animals, humans
• Cicutoxin (unsaturated alcohol)
• Most poisonous plant in U.S.
Water Hemlock (Symptoms)

- Muscle twitching, tremors
- Rapid pulse and breathing
- Pupil dialation
- Salivation, frothing at mouth
- Convulsions, coma
Water Hemlock
(Management)

• Animals seldom eat if other forage is present
• Most losses after plants sprayed with 2,4-D (allow 3 weeks) or after plowing (roots exposed)
• 2,4-D, Rodeo, digging
Halogeton

*Halogeton glomeratus*
Rangeland Herbicides

- Ally / Escort
- Banvel / Clarity
- Crossbow
- Curtail
- 2,4-D / MCPA
- Garlon / Remedy
- Grazon P+D
- Redeem
- Roundup
- Transline / Reclaim
- Tordon
- Weedmaster
Escort / Ally

- Black Henbane
- Arrowgrass
- F. Hellebore
- Halogeton
- Greasewood
- Houndstongue
- P. Hemlock
- Lupine
Tordon 22K

- Bracken Fern
- Black Henbane
- R. Knapweed
- Y. Starthistle
- Larkspur
- Locoweed

- Lupine
- Snakeweeds
- St. Johnswort
- Leafy Spurge
- Milkweed
Banvel / Clarity

- Jimsonweed
- Kochia
- Tansymustard
- Leafy Spurge
- Black Henbane
- Tall Buttercup
- Milkweed
2,4-D

- Jimsonweed
- Leafy Spurge
- R. Knapweed
Stinger

- Locoweed
- Nightshade

- Y. Starthistle
Milestone

- R. Knapweed
- Sp. Knapweed
- Y. Starthistle
- Canada thistle
- Musk thistle
- Scotch thistle