

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**



Weed Impacts



Annual Crop Losses in Utah Due to Agricultural Weeds

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

Based on WSSA national crop loss estimates

Impact of Noxious Weeds on Rangeland Productivity

WEED

Reduced Grazing (%)

Dyer's Woad	38
Canada Thistle	42
Dalmatian Toadflax	46
Hoary Cress	55
Leafy Spurge	59
Yellow Starthistle	65
Spotted Knapweed	80

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**
- **Silverlf 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”**

- Cullota, 1994. Science, Vol 265, 26 Aug, 1178-1179

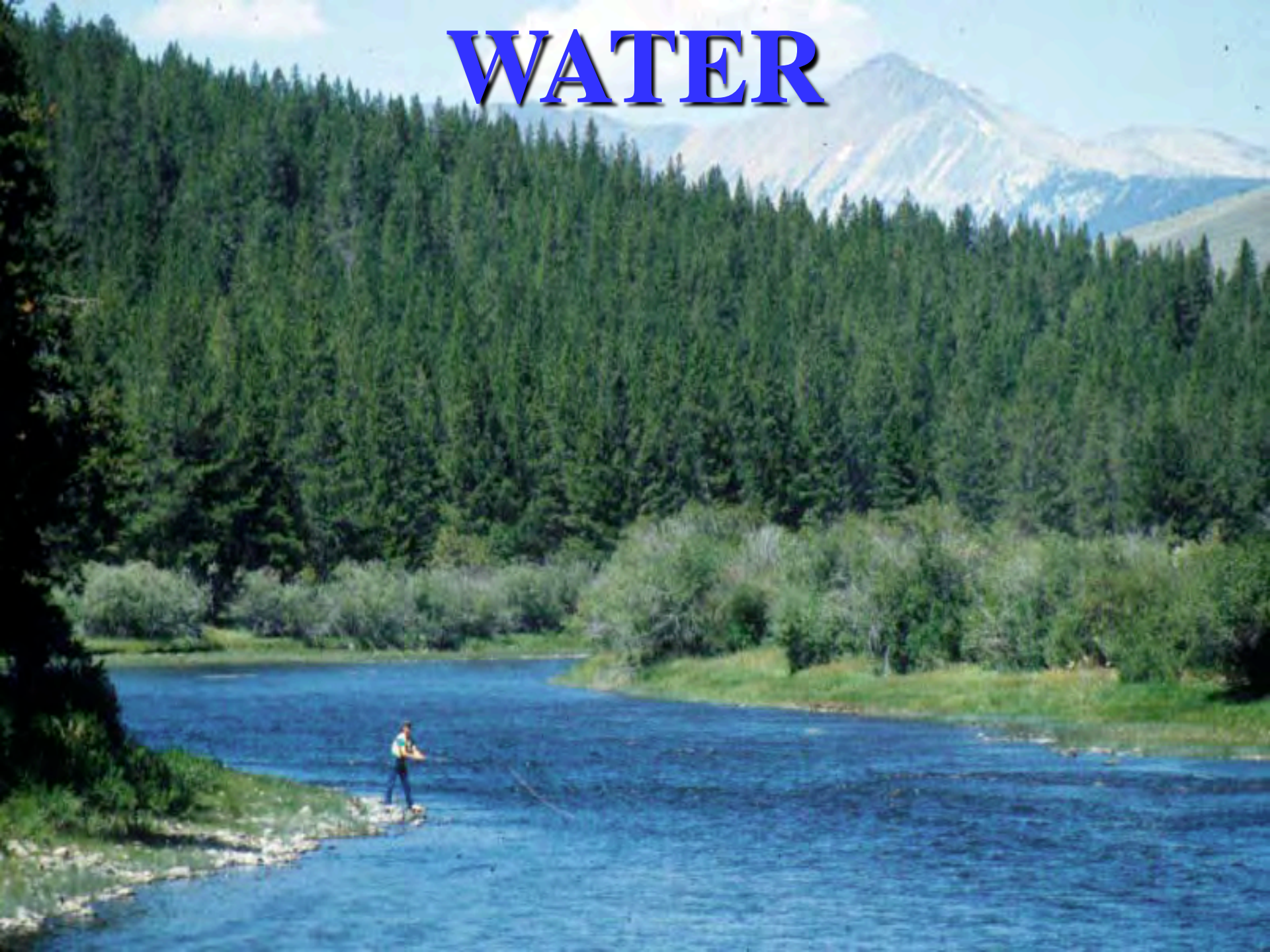
PLANT COMMUNITIES

An aerial photograph of a vast, dense field of yellow wildflowers, likely a prairie or meadow. The flowers are in full bloom, creating a bright yellow carpet across the landscape. The perspective is from a high angle, looking down on the field, which stretches towards the horizon. The overall scene is a uniform expanse of yellow with some darker green stems and leaves visible between the flowers.

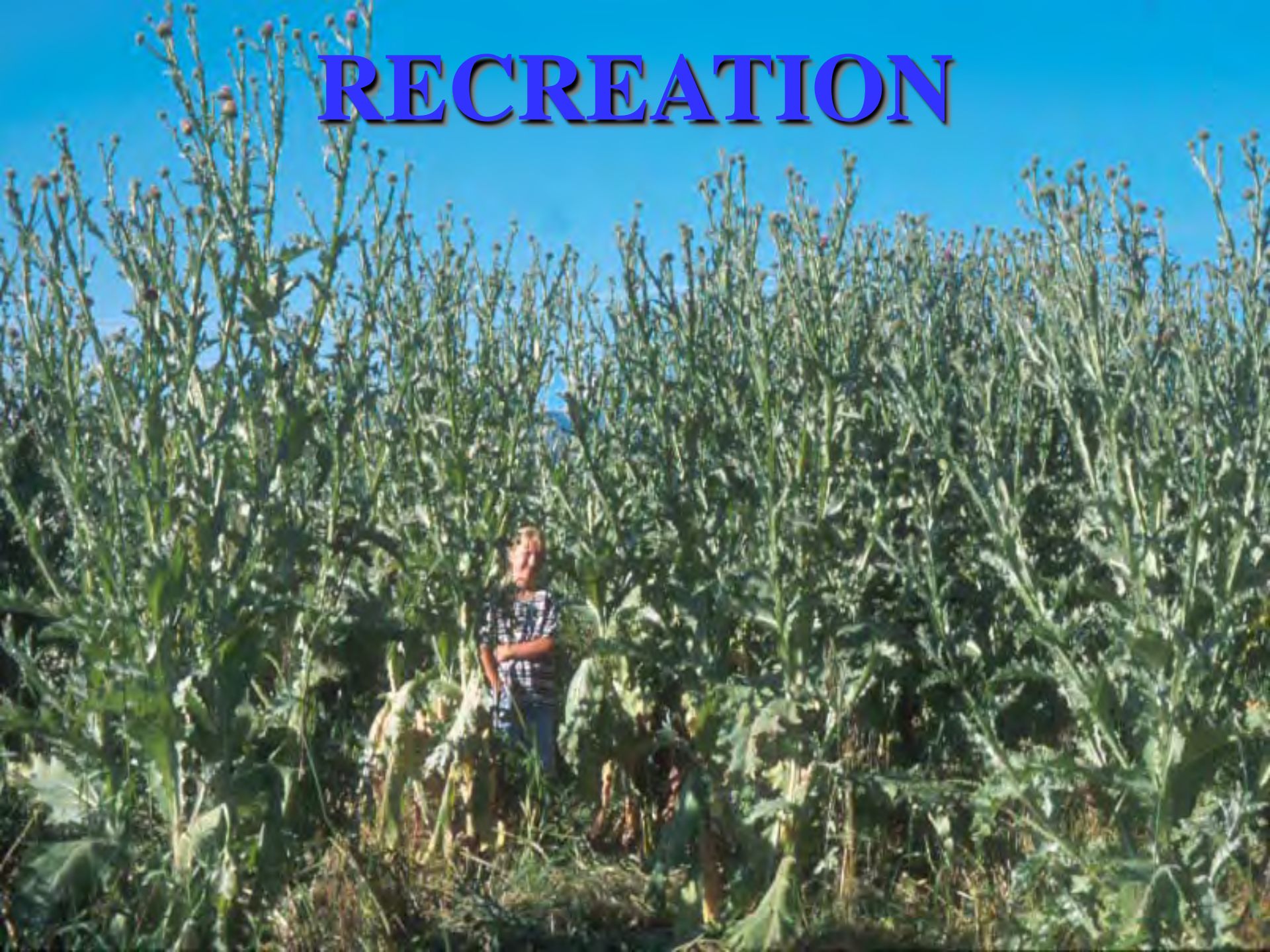
WILDLIFE



WATER



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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Spurge, Leafy
Euphorbia esula





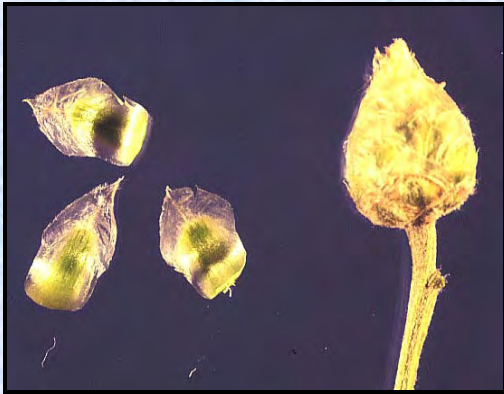
Leafy Spurge

(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





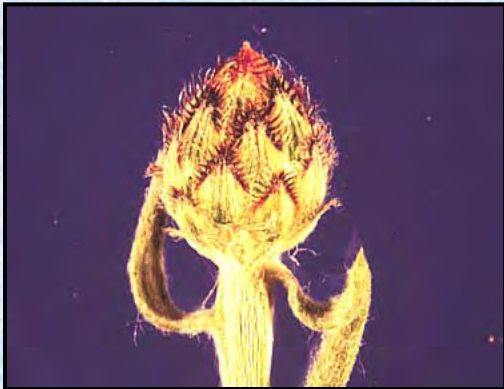
Knapweed, Diffuse
Centaurea diffusa





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.**

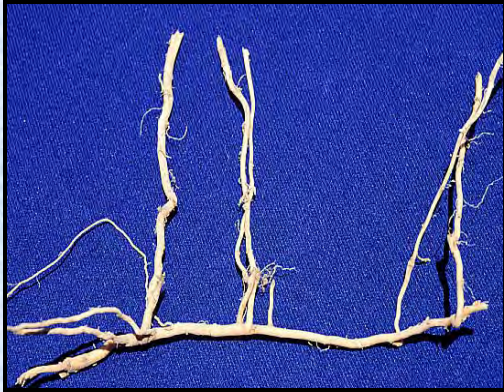
Starthistle / Knapweed

- **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*

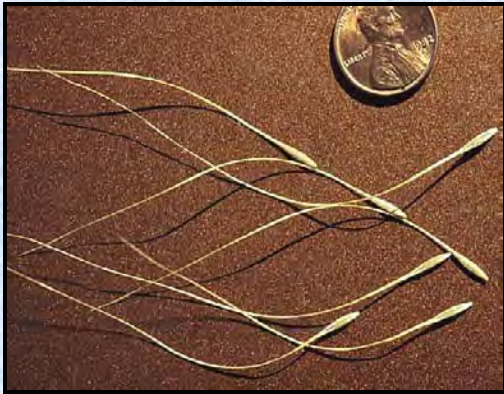


Johnsongrass

- **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**

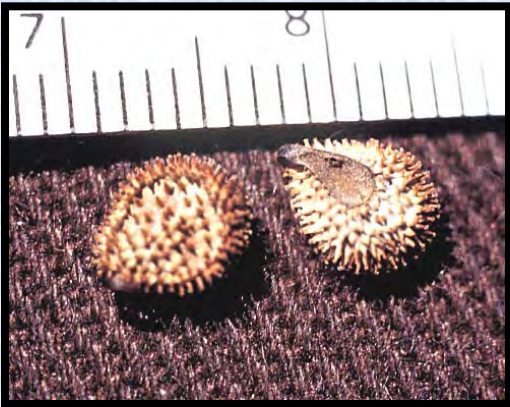
Black Henbane

(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**
- **Cummulative, 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**
- **Snakeweed**
- **St. Johnswort**
- **Leafy Spurge**
- **Milkweed**

Banvel / Clarity

- **Jimsonweed**
- **Kochia**
- **Tansymustard**
- **Leafy Spurge**
- **Black Henbane**
- **Tall Buttercup**
- **Milkweed**

Roundup / Rodeo

- **Buttercup**
- **Kochia**
- **Tansymustard**
- **Bracken Fern**
- **P. Hemlock**
- **Y. Starthistle**
- **Leafy Spurge**
- **Nightshade**
- **Milkweed**

2,4-D

- **Jimsonweed**
- **R. Knapweed**
- **Leafy Spurge**

Stinger

- **Locoweed**
- **Nightshade**
- **Y. Starthistle**

Milestone

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