**Targeted Grazing** - for vegetation management and landscape enhancement

Karen Launchbaugh

**Products of Livestock Grazing**

- Meat & Livestock Products
- Manage Plant Communities

**Products of Targeted Grazing**

- Meat & Livestock Products
- Manage Plant Communities

**Landscape Goals**

- Reduce weeds on cropland, pastures & wildlands
- Control herbaceous biomass in tree crops
- Improve wildlife habitat
- Reduce fire fuel load
- Manage watershed characteristics
- Wildland land restoration

**Targeted Grazing**

The application of a specific kind of livestock at a determined season, duration, and intensity to accomplish defined vegetation or landscape goals.

Pay attention to:

- Desired Landscape
- Grazing Animal

**Sheep Reduce Forbs**
Livestock affect Weeds

Livestock affect Weeds

Targeted Grazing for Weed Management

Keys to Targeted Grazing

Increase Spread of Weeds

Suppress Weeds

- Cause disturbance
- Transport seeds
- Reduce competition from native plants

- Stress weeds
- Reduce root biomass
- Reduce seed production
- Reduce competitive edge

Uncontrolled or Improper Grazing

Targeted Grazing in an Integrated System

“Goats enlisted in war on weeds”

“Wooly Weed Eaters”

“Only Ewes can stop wildfire”

“Ovines and Vines”

Accomplished by control of:

- Timing
  - Appropriate Season
- Herbivore
  - Species
  - Breed
  - Background
  - Condition
  - Age
- Intensity of defoliation
  - Stocking Rate
  - Frequency
Timing Matters

Spring Grazed  Fall Grazed

Timing of Grazing

Palatability

Susceptibility

Green Up  Seed Set  Senescence

Timing of Grazing

• When weeds are most susceptible and relatively palatable
• When desired species are least palatable or least susceptible

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Select and Prepare Herbivore

Concentrate Feeder (browse)

Intermediate Feeder (forbs)

Roughage Feeder (grass)
Select the Right Species

- Example: goats superior to sheep for gorse control

Consider Species and Season

Yellow Starthistle Studies
- Plant Response to Grazing in North Idaho
- Cattle, Sheep, or None
- Three Phenological Stages: Rosette, Bolting, or Flowering

4 Replications
- 27 paddocks (80 x 80 feet)

Consider Species and Season

Fall Yellow Starthistle Density

<table>
<thead>
<tr>
<th>Control</th>
<th>Rosette</th>
<th>Bolt</th>
<th>Flower</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td>Sheep</td>
<td></td>
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</tbody>
</table>

Stocking Rate and Frequency

Keys to Targeted Grazing

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Some Plants are Easier than Others
A Few Examples

- Leafy Spurge
- Cheatgrass
- Yellow Starthistle

Leafy Spurge

- Widespread
- Sheep and goats successfully used for spurge control
- Considered a “good forage” for sheep
- Some cattle producers contract sheep producers

Leafy Spurge Prior to Sheep Grazing – June 7, 2002
Deer Lodge Valley

Leafy Spurge after 1 Year – June 17, 2003
Deer Lodge Valley

Leafy Spurge after 2 Years – June 18, 2004
Deer Lodge Valley

Sheep Grazing Leafy Spurge after 1 Year – June 17, 2003
Deer Lodge Valley

Sheep Grazing Leafy Spurge after 2 Years – June 18, 2004
Deer Lodge Valley

Johnston & Peake 1960

REM 456 – University of Idaho
Sheep Grazing Leafy Spurge after 3 Years – June 20, 2005
Deer Lodge Valley

After 4 Years of Targeted Sheep Grazing

Cheatgrass or Downy Brome
• Palatable and nutritious in early spring
• Grazed by sheep and cattle
• Key is to remove livestock before perennial grasses grow significantly

Cheatgrass or Downy Brome

Yellow Starthistle Grazing
• Widely scattered throughout the U.S. -- severe problem only in the West
• Noxious in 11 states
• Grazing by cattle and sheep before flowering
• Grazing by goats throughout season

Weiser River Corridor Project
Idaho

Patrick Kane

Davison et al. 2004

Davison et al. 2004

REM 456 – University of Idaho
Targeted Goat Grazing on Yellow Starthistle on Idaho Rangeland

Ungrazed vs. Grazed Subplots
- YST plant density
- Seedhead density
- YST canopy cover in 2007 & 2008

Yellow Starthistle Response

Non-target Vegetation Response
- Grass Canopy Cover
  - No difference between grazed & ungrazed subplots

Non-Target Vegetation Response

Benefits of Targeted Grazing
- can be highly effective
- improved pasture quality
- no pesticide residue... ‘environmentally friendly’
- lower effect on non-target species
- convert weeds into a saleable product
- more sustainable control
- feasible in rough terrain
**Costs of Targeted Grazing**

- Cost of animals & potential losses
- Fencing, water, herders, trailers
- Reduced animal production
- You can’t “hang them up in the barn”

**Costs of Targeted Grazing**

- Damage to non-target species
- Spread of weed seed in feces, wool, hair, or hooves
- May be incompatible with wildlife

**It Takes Time**

- Several year commitment
- Require long-term planning
- Short-term/High-impact?

**Don’t forget Integration**

![Diagram of Grazing, Chemical, Biocontrol, and Vegetation Goal]

**Targeted Grazing**

*Depends on Skill & Knowledge!!*

[Link to website: www.cnr.uidaho.edu/rx-grazing/]