Pasture Management for Drought Recovery and Invasive Weeds

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NATIVE AMERICA - NATIVE RANGELANDS

SRM

OKLAHOMA CITY 2013

Cox Conv. Ctr

Feb. 4-7
Oklahoma Range & Pasture Statistics

49.8 % of all land or 21,882,471 acres grazed.
8.4 million acres of pasture
5.5 million acres of Bermuda Grass

Beef cattle operations (2007): 47,000, #3 USA
Dairy operations (2007): 980, #17 USA

Dollar receipts on beef (2010): $2.985 Billion
Total livestock receipts (2010): $4.734 Billion
# U.S. Drought Monitor

## South

**January 8, 2013**

**Valid 7 a.m. EST**

## Drought Conditions (Percent Area)

<table>
<thead>
<tr>
<th></th>
<th>None</th>
<th>D0-D4</th>
<th>D1-D4</th>
<th>D2-D4</th>
<th>D3-D4</th>
<th>D4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current</strong></td>
<td>24.31</td>
<td>75.69</td>
<td>61.96</td>
<td>50.73</td>
<td>32.67</td>
<td>10.70</td>
</tr>
<tr>
<td><strong>Last Week</strong> (01/01/2013 map)</td>
<td>21.18</td>
<td>78.82</td>
<td>63.69</td>
<td>50.50</td>
<td>32.80</td>
<td>10.98</td>
</tr>
<tr>
<td><strong>3 Months Ago</strong> (10/09/2012 map)</td>
<td>30.52</td>
<td>69.48</td>
<td>57.14</td>
<td>37.67</td>
<td>23.10</td>
<td>6.58</td>
</tr>
<tr>
<td><strong>Start of Calendar Year</strong> (01/01/2013 map)</td>
<td>21.18</td>
<td>78.82</td>
<td>63.69</td>
<td>50.50</td>
<td>32.80</td>
<td>10.98</td>
</tr>
<tr>
<td><strong>Start of Water Year</strong> (09/25/2012 map)</td>
<td>24.13</td>
<td>75.87</td>
<td>66.61</td>
<td>51.50</td>
<td>29.86</td>
<td>9.11</td>
</tr>
<tr>
<td><strong>One Year Ago</strong> (01/03/2012 map)</td>
<td>26.47</td>
<td>73.53</td>
<td>69.01</td>
<td>54.98</td>
<td>40.06</td>
<td>17.24</td>
</tr>
</tbody>
</table>

**Intensity:**

- **D0 Abnormally Dry**
- **D1 Drought - Moderate**
- **D2 Drought - Severe**
- **D3 Drought - Extreme**
- **D4 Drought - Exceptional**

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

http://droughtmonitor.unl.edu

**Released Thursday, January 10, 2013**

David Simmeral, Western Regional Climate Center
Drought Severity Index by Division
Weekly Value for Period Ending DEC 22, 2012
Long Term Palmer

Climate Prediction Center, NOAA

-4.0 or less (Extreme Drought)
-3.0 to -3.9 (Severe Drought)
-2.0 to -2.9 (Moderate Drought)
-1.9 to +1.9 (Near Normal)
+2.0 to +2.9 (Unusual Moist Spell)
+3.0 to +3.9 (Very Moist Spell)
+4.0 and above (Extremely Moist)
When it Begins

To Rain
Rain Requirements for Forages

1.5 inches to begin growth

5-6 inches to produce adequate forage for grazing.

A ten foot tall mesquite tree uses 5-30 gallons of water per day. Root biomass is three times the size of visible growth.
Bermudagrass Pasture from Drought
Same Pasture After Recovery
Spring Weed Control:

- Critical following drought
- Bermudagrass has suffered
- A few weeds are tolerable
- You can count on a heavy infestation
Importing Hay from Other Areas to Feed Cattle
Bastard Cabbage

Perennial Ryegrass

Blessed Milk Thistle

Black Mustard
Last Winter I received some fair rain and was blessed with some good Winter forage such as Ryegrass, Little Barley, and Brome grasses.

But I noticed my Bermudagrass greenup was delayed and I didn’t seem to produce as much this past Summer.

It couldn’t just be moisture shortage could it?
The shading from the Winter forages reduced the surface soil temperature, thus delaying the dormancy break of the Summer perennial grasses, such as Bermudagrass and native grasses.

Rye grass also has a toxin, which, in heavy enough doses will inhibit the early growth and spread of Bermudagrass.
Spray or Fertilize First

Studies at Texas A & M (Bade & Baumann) show that weed control should be the first priority.

Drought conditions & Fertilizer costs REQUIRE

Good soil testing more than ever before.
## Nutrient Uptake of Coastal Bermudagrass

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>lbs/ton</th>
<th>lbs/2 tons</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nitrogen</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>Phosphorus</td>
<td>14</td>
<td>28</td>
</tr>
<tr>
<td>Potassium</td>
<td>42</td>
<td>84</td>
</tr>
<tr>
<td>Calcium</td>
<td>8</td>
<td>15</td>
</tr>
<tr>
<td>Magnesium</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Sulfur</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td><strong>Secondary</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Copper</td>
<td>0.03</td>
<td>0.05</td>
</tr>
<tr>
<td>Manganese</td>
<td>0.03</td>
<td>0.05</td>
</tr>
<tr>
<td>Zinc</td>
<td>0.05</td>
<td>0.10</td>
</tr>
<tr>
<td><strong>Micro</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Balance of Nutrition Effects
Managing for Recovery from Drought

Capture rainfall

Rest and rotate pastures

Use proper fertilization program

Timely weed control & clean hay

Balance herd numbers to forage and fences

Sacrifice or refuge a pasture if necessary
Re-establish from sprigs or seed?
Rainfall is very critical to sprigging. Kill all existing vegetation first, mechanically and chemically.

Maintain weed control until sprigs establish and provide cover.

Seeding: Seedbed is most critical factor. Native establishment may take three years from seeding operation.
Indian Grass (Sorghastrum nutans) Oklahoma State Grass
What About Native Grass Recovery?
Graze Half
Leave Half

WHY?
Has there been a shift in Species?

Mix of Bluestems, Gramas, and Yellow Indiangrass

Purple Threeawn
Weed Control Measures

Controlled Burn-Fuel
Biological-More Feed Need
Mechanical-Soil Effects & Brush Growth
Chemical-Timing Critical
Prescribed Burning as Fuel Permits
Biological Control of Brush
Mechanical Control of Weeds & Brush
Chemical Control of Weeds and Brush
Annual Broomweed Seedlings

(Ampthiachyris dracunculoides)
Woolly Croton or also
Doveweed & Goatweed
(Croton capitatus)
(Euphorbia marginata & bicolor) $\Rightarrow$ Snow on the Prairie

Snow on the Mountain
Devil’s Claw (Proboscidea louisianica)
Mare’s Tail (Conyza canadensis)  Camphorweed (Heterotheca sp.)
Western Ragweed
Antelopehorn Milkweed
Carolina Horse Nettle

Bull Nettle
Heath Aster

Baldwin’s Ironweed
Blue Wild Indigo

Baptisia genus

Wild Indigo
Velpar L for Brush
Pastora Selective Grass and Broadleaf Herbicide
Be Sure of Your Target
Take Action!
Questions?