Overcoming Stand Loss

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HOTTEST SUMMER IN 75 YEARS FOR THE U.S.

Departure from Normal Summer Temperature (°F)
Jun-Jul-Aug 2011

2nd hottest summer on record for the United States

MRCC
5th hottest summer on record for southwest Missouri…

… and hottest summer since 1980.
Departure from Normal Spring Precipitation (in.)
Mar-Apr-May

Very wet spring across southern Missouri

MRCC
Departure from Normal Summer Rainfall (in.)
Jun-Jul-Aug 2011

5-6 inches below normal
## Springfield Precipitation Record - Inches

<table>
<thead>
<tr>
<th></th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sept</th>
<th>Oct</th>
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<tbody>
<tr>
<td>2007</td>
<td>4.04</td>
<td>4.07</td>
<td>8.11</td>
<td>2.80</td>
<td>4.34</td>
<td>4.93</td>
<td>1.88</td>
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<td>2008</td>
<td>4.74</td>
<td>5.20</td>
<td>13.41</td>
<td>2.66</td>
<td>0.60</td>
<td>8.15</td>
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<td>2009</td>
<td>8.26</td>
<td>5.52</td>
<td>4.61</td>
<td>3.70</td>
<td>4.51</td>
<td>5.63</td>
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<td>2010</td>
<td>3.99</td>
<td>7.14</td>
<td>2.33</td>
<td>6.37</td>
<td>1.53</td>
<td>11.65</td>
<td>1.01</td>
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<td>2011</td>
<td>7.89</td>
<td>5.92</td>
<td>0.82</td>
<td>1.71</td>
<td>2.88</td>
<td>4.05</td>
<td>1.28</td>
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<tr>
<td>Average</td>
<td>5.78</td>
<td>5.57</td>
<td>5.86</td>
<td>3.45</td>
<td>2.77</td>
<td>6.88</td>
<td>3.39</td>
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</table>
Drought Outlook for Mar-Apr-May

Issued: March 1, 2012
Climate Prediction Center
Drought Effect on Forages

• Short forage inventory
• Weakened stands
• Thin pastures
• Weeds next year

✔ Many “dead” pastures recover
• Drought effect is a function of:
  - Intensity and duration of the drought
  - Health and vigor of the stand prior to the drought
• Plants with healthy root systems and good carbohydrate reserves fare the best
• This can be traced to:
  - Soil type
  - Fertility levels
  - The intensity of grazing or haying pressure
Orchardgrass Grazing Response

University of Kentucky Study
Dr. Ray Smith
Laura Schwer
Tom Keene
Methods

• Two similar orchardgrass plants were chosen from greenhouse.

• Both were managed the same for 6 months:
  – Clipped ~once per month
  – Supplied with good fertility (N,P, K) and water
Methods

• Left plant simulates continuous grazing.
  - Initially clipped to a 1 inch height
  - Then clipped weekly for the next 4 weeks at a 1 inch height

• Right plant simulates rotational grazing.
  - Initially clipped to a 3.5 inch height
  - Then clipped again at 3.5 inches 4 weeks later

• Time lapse photography started at the beginning of the fifth week (day 29) for both plants.
Day 1
(24 hours after clipping)
1” Continuous  3.5” Rotational
Day 2

1” Continuous  3.5” Rotational
Day 3

1” Continuous    3.5” Rotational
Day 5

1” Continuous  3.5” Rotational
Day 6

1” Continuous  3.5” Rotational
Opportunities Brought on by a Drought

• Thicken up a stand with desirable forages
• Include more legumes in pastures
• Convert about 10-25% of acres to a warm-season grass
• Develop a simple rotational grazing program
• Purchase (or keep) a reserve supply of feed when prices are favorable
Short-Term Drought Response

- Plant an emergency crop in the fall
  - Turnips
  - Wheat, Triticale, Rye, Ryegrass
Turnips, Radishes, Swedes, Kale
Short-Term Drought Response

- Plant an emergency crop in the fall
  - Turnips
  - Wheat, Triticale, Rye, Ryegrass

- Plant an emergency crop in the spring
  - Spring Oats
  - Cereal Rye
Spring Oats

• Last-ditch attempt to get some spring forage out of a failed perennial field

• Spring oats are typically 10 days – 2 weeks later in maturity than winter wheat.

• Quality is comparable to wheat

• Tonnage is about 2/3 of wheat

• Seed 2.5-3 bu/ac for a solid stand
  ➢ Cost - $14-23/acre

• Drill February - early March

• Producers often have trouble getting adequate growth when no-tilled into an existing cool season sod
No-tilling a cereal grain crop into a good stand of fescue is challenging at best!
Long-Term Drought Response

- Overseed clover or lespedeza
- Thicken up the stand in the spring or next fall (cool season grasses)
- Later in season (May) plant annual sudan or millet, then address a permanent stand in the fall
- Convert to a warm season grass
- Insure fertility is up to par
- Controlled grazing
Clover

- Of 37 pasture systems compared, 7 of the 10 most profitable systems involved legumes. (Alburn Univ. Study)
- Cheaper than topdressing Nitrogen
- For each pound of N fertilizer, 3-5 pounds of lime is needed to offset the acidity created.

Goal → 25-30% legume component in pastures
Annual Lespedeza

- Tolerates low pH & drought
- Most growth after late June
- Must reseed itself
- Mixes well with cool season grasses
- Less N fixation than clovers
• Spring is second-best time
  - 5-6 months behind fall seedings
  - Dry season ahead
  - Weed competition is great
• Drill February - early March
  – Avoid tillage
• Can sow with spring oats
Fall Cool Season Grass Establishment

- **Best time**
  - True beginning of the CSG growing season
  - Roots get well established before the dry summer
- **Drill late August – early September**
Fall Grass Options

- KY 31 Fescue
- Friendly Endophyte Fescue
- Orchardgrass
- Annual Ryegrass
Annual Ryegrass

• A good fit for thin fescue
• Rapid fall growth
• Retains green tissue nearly all winter
• Remains vegetative through May
• Reproduces by seed
Annual Ryegrass Cultivars

- **Diploid**
  - Most common
  - May be more winter-hardy than tetraploids
- **Tetraploid**
  - Wider leaves, more robust
- **Italian**
  - Requires chilling to seed
- **Westervold**
  - Does not require chilling to seed
Annual Ryegrass Cultivars

- Marshall (Westervold Diploid)
- DH3 (Italian Tetraploid)
- Passerel (Westervold Diploid)
- Abundant (Tetraploid)
- Tetrastar (Tetraploid)
Grass Establishment Techniques

Method 1: overgraze → fertilize without N → seed early → flash graze early grass growth

Method 2: retard or kill pasture growth with chemicals (Gramoxone or glyphosate) → fertilize without N → seed early
Controlling Competition

Grazing can be useful or detrimental
No-till – A Reliable Choice

- Able to keep existing sod
- Conserves moisture
- Sod competes against weeds
- Greater success than broadcasting
- Less cost and erosion than conventional tillage
- Don’t plant too deep
Many Seeds Planted Too Deep

- Most small seeded grasses and legumes should be planted at 1/8-1/4 inch below the soil surface
- Depth control on many no-till drills is poor
- Seeds planted too shallow have a better chance than those planted too deeply
Rental Drills
# Recommended Seeding Rates

<table>
<thead>
<tr>
<th>Forage</th>
<th>Renovation (lbs PLS / Ac)</th>
<th>Typical Cost / Acre For Interseeding ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Interseeding into Grass Pastures</td>
<td>Solid Stand Rates No-till Drilled</td>
</tr>
<tr>
<td>Fescue / Orchardgrass</td>
<td>6-12</td>
<td>15</td>
</tr>
<tr>
<td>Ann. Ryegrass</td>
<td>10-15</td>
<td>25-30</td>
</tr>
<tr>
<td>Cereal Rye</td>
<td>30-60</td>
<td>110-140</td>
</tr>
<tr>
<td>Wheat</td>
<td>30-60</td>
<td>100-130</td>
</tr>
<tr>
<td>Turnips</td>
<td>2</td>
<td>2-4</td>
</tr>
</tbody>
</table>
Alternative Establishment Methods
General Weed Control
Spring/Summer

• 2,4-D
  - Ragweed, Thistles, Plaintain, Croton, Perilla Mint, Spiny Pigweed

• Grazon P+D/Hired Hand/Gunslinger
  - Ragweed, Thistles, Horsenettle, Knapweed, Poison Hemlock, Perilla Mint, Spiny Pigweed

• Remedy Ultra/Relegate/Clear Pasture
  - S. Lespedeza, Ironweed, Blackberries

• GrazonNext
  - Ragweed, Thistles, Horsenettle, Mullein, Dock, Chickory, Nightshade, Locust, Croton, Knapweed, Wild Carrot, Plaintain
Caution
Herbicides Used Before or After Establishment

• Before Establishment – Beware of pasture herbicide residual
  - Burndown herbicide options – Glyphosate, Gramoxone, 2,4-D
  - Residual of Grazon, Grazonnext, 2,4-D can kill new stands of grass and legumes

• After Establishment – Grasses should be well tillered and established before using common pasture herbicides
Questions?

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