Cow/calf Management Winter and Spring

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University of Nebraska

100 Years of Weather in the U.S.

Estimated Percent of Beef Cow Herd Impacted by Drought 2000-2012

Source: http://droughtmonitor.unl.edu & USDA

U.S. Hay Production

Source: USDA

Northern Nebraska Rates for Pasture ($/Cow-Calf pair per Month, 1986-2012)

Source: Johnson et al.
**Top 10 Beef Cow States - January 2013 Numbers**

1. Texas - 4.015 Million
2. Nebraska - 1.805 M
3. Missouri - 1.757 M
4. Oklahoma - 1.745 M
5. S. Dakota - 1.688 M (+)
6. Montana - 1.506 M (+)
7. Kansas - 1.328 M
8. Kentucky - 1.028 M (+)
9. Iowa - 0.925 M
10. N. Dakota - 0.922 M (+)

Top 10 = 17.232 M

US = 29.229 million

Down 3% from 2012

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(+) = increase from January 2012

Tennessee and Arkansas dropped of "Top" 10
The 19lb increase offset nearly 700,000 head fed cattle slaughter in 2012.

Source: USDA/ERS, CF Forecasts

Global population and incomes will continue to grow creating more demand for protein!
Low Beef Cow Numbers:

Low beef cow numbers:

- Not good for Nebraska:
  - Beef is a primary economic driver.
  - Cow/calf, Feedlot, Corn, Processing
- Not good Nationally
  - Increased beef prices for consumer
  - At what price will they stop buying our protein?
- Drought
  - Will not build cow herd until it ends
  - Even if it ends this year = long process

Hay Wastage When Fed with and Without Racks

<table>
<thead>
<tr>
<th>Feeder Type</th>
<th>Percent Wasted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Round bale w/o rack(^1)</td>
<td>45</td>
</tr>
<tr>
<td>Round bale with rack(^1)</td>
<td>9</td>
</tr>
<tr>
<td>Ring feeder with skirt(^2)</td>
<td>5.9</td>
</tr>
<tr>
<td>Cone feeder(^2)</td>
<td>3.3</td>
</tr>
<tr>
<td>Cradle feeder(^2)</td>
<td>14.2</td>
</tr>
<tr>
<td>Trailer feeder(^2)</td>
<td>11.1</td>
</tr>
</tbody>
</table>

\(^{1}\)Anderson University of Nebraska
\(^{2}\)Buskerk, Michigan State University

Hay Wasted by Cows When Amount Fed Was Controlled

<table>
<thead>
<tr>
<th>Feeding system</th>
<th>Hay per cow per feeding, lb</th>
<th>Hay refused or wasted, %</th>
<th>Hay required over rack feeding, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rack feeding on pasture</td>
<td>----</td>
<td>5</td>
<td>----</td>
</tr>
<tr>
<td>No rack feeding on pasture</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 day supply</td>
<td>20</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td>2 day supply</td>
<td>40</td>
<td>25</td>
<td>33</td>
</tr>
<tr>
<td>4 day supply</td>
<td>80</td>
<td>31</td>
<td>45</td>
</tr>
</tbody>
</table>

Forage Feeding Systems

<table>
<thead>
<tr>
<th>Hay Value, $/ton</th>
<th>$70</th>
<th>$80</th>
<th>$90</th>
<th>$100</th>
<th>$110</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5%</td>
<td>200</td>
<td>229</td>
<td>257</td>
<td>286</td>
<td>314</td>
</tr>
<tr>
<td>10%</td>
<td>400</td>
<td>457</td>
<td>515</td>
<td>572</td>
<td>629</td>
</tr>
<tr>
<td>15%</td>
<td>600</td>
<td>686</td>
<td>772</td>
<td>858</td>
<td>943</td>
</tr>
<tr>
<td>20%</td>
<td>800</td>
<td>915</td>
<td>1,029</td>
<td>1,144</td>
<td>1,258</td>
</tr>
<tr>
<td>25%</td>
<td>1,001</td>
<td>1,144</td>
<td>1,286</td>
<td>1,429</td>
<td>1,572</td>
</tr>
</tbody>
</table>

Value of Feeding Losses in a Season per 20 Cow Feeder

Forage Feeding Systems

Forage Feeding Systems

Forage Feeding Systems
Drought Management Plan:

Goals for the cow/calf enterprise:

- Minimize negative impact on the grazed forage resource
- Keep productive cows in the herd
- Secure feeds
- Stay profitable

Sequential Step-wise Management Approach to Drought

Decrease the need for pasture:
1. Destock/Depopulate
   a. Early weaning (all/part of the calves)
   b. Cow/calf: Yearling Operations
   c. Cow Culling - all (liquidate) or part
2. Relocate all or part of the herd:
   a. Pasture off-location: not happening
   b. Drylot - off or on location
   c. Supplement on pasture

Sequential Step-wise Management Approach to Drought

Decrease the need for pasture:
1. Destock/Depopulate
   - Sell cows that were ID'ed as culls
   - Yearlings moved to feedlot/or sold
   - Keep only pregnant cows and pair
   - ID'ed “productive” cow cull groups
     - Using 2 to 4 years of individual cow records
     - Group A
     - Group B
     - Group C
     - Sell before everyone else does

Confinement Feeding Beef Cows:

Objectives:
1. Feed cows to a target body condition
2. Keep cows and calves healthy
3. Contain costs
4. Alternative to selling cows

Ration Considerations:

1. Feeds:
   - Crop residues
   - Grains
   - Byproducts

2. Consider ionophore
   - Example: Rumensin 200 mg/hd/da

3. Can be limit-fed
4. Feed to BCS 5

Early Weaning the Calf:

1. Forage available for grazing
   - Non-lactating cow: 4.6 - 5.9 lb decrease (1996 NRC Model)
   - Forage intake by the calf: 5.3 lb
2. Each 2.5 days the calf is weaned supplies forage for 1 day of grazing.
3. Consider retaining calves - efficient
4. Consider creep feeding before weaning
   - Teaches the calves to eat out of a bunk

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Limit-feeding Cow in Confinement:

- Hard to balance with grains and low quality forage - needs a supplement
- Easy to balance with by-products and low quality forages.
- Cows will act hungry.
- In lactation ration: calf will eat 1.5% - 2.5% of their body weight dry matter.

Equipment to deliver diet

- Weigh ingredients
- Once a day feeding
- May feed twice daily for the first week
- Be Consistent
  - Time of feed delivery
  - Amount fed

Cost of Energy (TDN)

Comparing feeds on a cost per Nutrient basis:

- Allows feed comparisons based on the nutrient needed.
- Goes further than just comparing price of feeds on a units basis (tons, pounds, etc).
- Compares feeds at the same moisture content.

What's needed to compare feeds cost per nutrient basis?

1. Nutrient analysis of feeds in the ration.
2. Know the nutrient needs of the livestock being fed.
3. Determine the nutrient needed to fill the deficiency in the diet.
4. Locate feeds that fit your feeding system and:
   - Price
   - Get nutrient analysis/feed tags of all feeds
     - Including moisture content
If the feeds are the same feed at different moisture contents:

<table>
<thead>
<tr>
<th>Feed</th>
<th>Cost per ton $/ton</th>
<th>Cost feed at same moisture content, $/T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dried Distillers grains (90% DM)</td>
<td>$280/ton</td>
<td>$280/0.90 = $311.11/ton</td>
</tr>
<tr>
<td>Modified Distillers grains (50% DM)</td>
<td>$155/ton</td>
<td>$155/0.50 = $310.00/ton</td>
</tr>
<tr>
<td>Wet Distillers grains (35% DM)</td>
<td>$109/ton</td>
<td>$109/0.35 = $311.42/ton</td>
</tr>
</tbody>
</table>

It was determined that protein is deficient in the ration being fed. Following are feeds that are possible:

- 32% Crude Protein Supplement @ $310/ton
  - 91% dry matter
- 18% Crude Protein Alfalfa @ $265/ton
  - 84% dry matter
- 30% Crude Protein WDGS @ $110/ton
  - 35% dry matter

Pricing the feeds at the moisture content.

<table>
<thead>
<tr>
<th>Feed</th>
<th>Cost per ton $/ton</th>
<th>Price per ton at moisture content, $/T</th>
</tr>
</thead>
<tbody>
<tr>
<td>32% CP Supplement (91% DM)</td>
<td>$310/ton</td>
<td>$340/T @ 100% DM</td>
</tr>
<tr>
<td>18% CP Alfalfa Hay (84% DM)</td>
<td>$265/ton</td>
<td>$315/T @ 100% DM</td>
</tr>
<tr>
<td>30% Wet Distillers grains (35% DM)</td>
<td>$110/ton</td>
<td>$314/T @ 100% DM</td>
</tr>
</tbody>
</table>

Pricing the feeds based on the amount of CP in the feed.

<table>
<thead>
<tr>
<th>Feed</th>
<th>Cost per ton $/ton</th>
<th>Price per lb of protein at same DM, $/t</th>
</tr>
</thead>
<tbody>
<tr>
<td>32% CP Supplement (91% DM)</td>
<td>$310/ton</td>
<td>$0.532/lb of CP @ 100% DM</td>
</tr>
<tr>
<td>18% CP Alfalfa Hay (84% DM)</td>
<td>$265/ton</td>
<td>$0.876/lb of CP @ 100% DM</td>
</tr>
<tr>
<td>30% Wet Distillers grains (35% DM)</td>
<td>$110/ton</td>
<td>$0.523/lb of CP @ 100% DM</td>
</tr>
</tbody>
</table>

Calculating the value of a nutrient in a feed if moisture contents are different:

Calculation:

\[
\text{Cost per unit of nutrient} = \frac{\text{$/ton or $/cwt of feed}}{\text{amount of nutrient on a dry matter basis (lb)}}
\]

Compares feeds:

- Price per unit of nutrient on a dry matter basis
- Doesn't consider labor to deliver the feed
- Assumes all feeds have similar utilization

Calculating the value of a nutrient in a feed if moisture contents are different:

Feeds:

- Silage @ $75/ton, 70% TDN, 35% DM
- Corn @ $267/ton ($7.50/bu), 90% TDN, 90% DM

Calculations to determine cost per lb of energy (TDN)

- Silage
  \[\text{cost} = \frac{(2000 \text{ lb} \times 0.35) \times 0.70}{2000} = \$0.153/\text{lb of TDN}\]
- Corn
  \[\text{cost} = \frac{(2000 \text{ lb} \times 0.90) \times 0.90}{2000} = \$0.165/\text{lb of TDN}\]
### Nutrient Quality of Baled Crop Residues

<table>
<thead>
<tr>
<th>Residue Type</th>
<th>% Dry Matter</th>
<th>Energy (%TDN)</th>
<th>% Crude Protein</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn Field Baled in July</td>
<td>82 - 85</td>
<td>50 - 53</td>
<td>7.0 - 8.0</td>
</tr>
<tr>
<td>3 Rows Stalks + Tailings</td>
<td>82 - 85</td>
<td>48 - 53</td>
<td>4.5 - 5.5</td>
</tr>
<tr>
<td>Husk and Leaf</td>
<td>82 - 85</td>
<td>52 - 55</td>
<td>5.0 - 6.5</td>
</tr>
<tr>
<td>Stalk, Husk, Leaf</td>
<td>88 - 90</td>
<td>45 - 52</td>
<td>4.5 - 5.2</td>
</tr>
<tr>
<td>Soybean Stubble</td>
<td>82 - 88</td>
<td>37 - 40</td>
<td>3.8 - 4.0</td>
</tr>
</tbody>
</table>

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### Pricing feeds on a price/nutrient basis

- Tool on the web:
  - Ag Manager’s Toolbox
  - Livestock Production Decision aids
  - Feed Cost Cow-Q-Lator
  - [http://westcentral.unl.edu/web/westcentral/agecon3](http://westcentral.unl.edu/web/westcentral/agecon3)

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Beef Extension Page
[http://beef.unl.edu](http://beef.unl.edu)

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