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**Weaned Calf Nutrition – Some Thoughts**

Dave Sanson  
Rosepine Research Station

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**Weaned Calf Nutrition – Some Thoughts**

- ◆ Nutrient Requirements
- ◆ Ruminants
- ◆ Weaning/Receiving
  - ✓ Preconditioning
- ◆ Post Weaning

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**Nutrient Requirements**

- ◆ Requirements are for *MAINTENANCE* and *GROWTH*
- ◆ Maintenance requirement
  - ✓ Body weight
- ◆ Growth is based
  - ✓ Body weight
  - ✓ Level of gain
  - ✓ Type of growth (muscle vs fat)
  - ✓ Potential for growth
  - ✓ Implants or other metabolic enhancers
  - ✓ "Other factors"
- ◆ Requirement values are available

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## Weaned Calves are Ruminants

- ◆ **Microbes are the hired hands of a cow**
  - ✓ Digest fiber
- ◆ **Naturally designed fermenter**
  - ✓ Environment controlled by cow
  - ✓ Environment is very complex
- ◆ **Can get system out of sync**
  - ✓ Acidosis
  - ✓ Bloat
  - ✓ Sudden death
  - ✓ Stress/Lower immunity

**Properly functioning rumen is critical**

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## Keep Microbes Happy

- ◆ **Feed consumption is one of the "keys" to nutrition**
  - ✓ Uniform feed intake
- ◆ **Adaptation to new feed**
  - ✓ Change type of bacteria in rumen
  - ✓ Change cow's management of rumen

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## Keep Microbes Happy

- ◆ **Cellulose (fiber) vs Starch**
  - ✓ Very similar compounds yet very different
  - ✓ **Cellulose**
    - Forages, "Hull products", "bran products"
    - Rumen is designed to ferment
  - ✓ **Starches**
    - Cereal grains, some grain by-products

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## Keep Microbes Happy

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- ◆ **Make feed changes slowly**
  - ✓ Greater difference in previous diet and new diet, the longer the process
  - ✓ Greater difference in fiber and starch, longer process
  - ✓ Slow – Bermuda hay to corn
  - ✓ Fast – Bermuda hay to SBH

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## Weaning or Receiving Calves

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- ◆ **Different but similar**

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## What About Stress

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- ◆ ***“Stress is the rate of wear and tear within the body as it adapts to change or threat”-- Hans Selye***

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## Goal at Weaning/Receiving

- ◆ 1. Healthy calf when its over
- ◆ 2. Healthy calf when its over
- ◆ 3. Healthy calf when its over
- ◆ 4. Economical
- ◆ 5. Calf that is ready to move to next phase
- ◆ 6. ----

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## Nutrition – Weaning/Receiving

- ◆ Keep them eating
- ◆ Minimize changes in rumen environment
- ◆ Eating What???

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## Eating What?

- ◆ Previous diets
  - ✓ What are the calves familiar with
  - ✓ Creep feed, forage, etc
- ◆ Future diet
- ◆ Facilities
  - ✓ Bunk space
  - ✓ Feed handling capabilities

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## Preconditioning – Does It Pay

- ◆ Maybe or Maybe Not
- ◆ Level of gain
- ◆ Cost of gain
- ◆ Change in market
- ◆ What is magical about 45 days?

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## Preconditioning at Rosepine

Item	Overall	2004	2005	2006
<b>Wean Wt</b>	<b>479</b>	<b>414</b>	<b>520</b>	<b>503</b>
<b>Gain, lb</b>				
<b>7-day</b>	<b>-13</b>	<b>-19</b>	<b>-6</b>	<b>-13</b>
<b>49-day</b>	<b>28</b>	<b>17</b>	<b>37</b>	<b>32</b>

324 heifers – 108 per year

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## Preconditioning at Rosepine

Item	Overall	2004	2005	2006
<b>Price, /cwt</b>				
<b>Wean</b>	<b>113.25</b>	<b>120.63</b>	<b>108.99</b>	<b>110.07</b>
<b>49-days</b>	<b>106.08</b>	<b>115.82</b>	<b>101.09</b>	<b>101.28</b>
<b>Margin</b>	<b>-7.17</b>	<b>-4.81</b>	<b>-7.90</b>	<b>-8.79</b>

324 heifers – 108 per year

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## Preconditioning at Rosepine

Item	Overall	2004	2005	2006
<b>Value, \$/head</b>				
Start	542.47	499.41	566.75	553.65
End	537.83	499.18	563.07	541.85
Change	-4.64	0.22	-3.68	-11.80
<b>Value with premium, \$/head<sup>a</sup></b>				
End	563.18	520.73	590.92	568.60
Change	20.71	21.33	24.17	14.95

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## Preconditioning – Does It Pay

- ◆ This data set is not proof that preconditioning does not pay
  - ✓ This data set is one situation where it does not pay
  - ✓ Other data sets that describe situation where it does pay
- ◆ Profit in preconditioning is affected by many variables
  - ✓ Evaluate weight gain data
  - ✓ Evaluate market change – price margin
  - ✓ Evaluate costs closely

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## Weaned Calf Nutrition

- ◆ What are the resources
  - ✓ Forage
  - ✓ Forage plus supplement
  - ✓ Commodities/grain

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## Forages

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- ◆ Need good to high quality forages for adequate gain
- ◆ Ryegrass
  - ✓ Prepared seedbed – 500 to 700 lbs gain per acre
  - ✓ Sod seeded – depends on when you get grass
- ◆ Fescue
  - ✓ Good gains with modified endophytes
- ◆ Crabgrass
  - ✓ Increased ADG nursing calves by .75 to 1 lb

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## Forages

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- ◆ Bermudagrass
  - ✓ Highly dependant on quality of forage
  - ✓ Summer gains .5 to 1 lbs with bred heifers
- ◆ Bahiagrass
  - ✓ Highly dependant on quality of forage
  - ✓ Summer gains .5 to 1 lbs with bred heifers
- ◆ Clovers improve diet quality

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## Forages

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- ◆ Must manage forage for quality
- ◆ Annuals are a crop
  - ✓ Do not short on fertility

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## Supplement

- ◆ Should I provide a supplement?
  - ✓ Quality of diet
  - ✓ How much gain
- ◆ Often a supplement just replaces the forage without improving utilization of forage
- ◆ However, forage quality may not be high enough to provide level of gain desired

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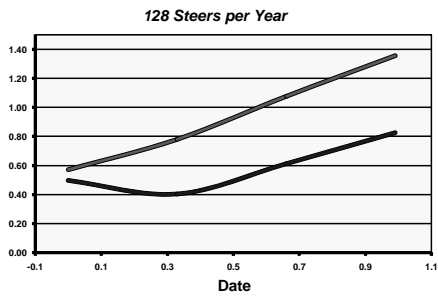
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## Supplementation - SBH



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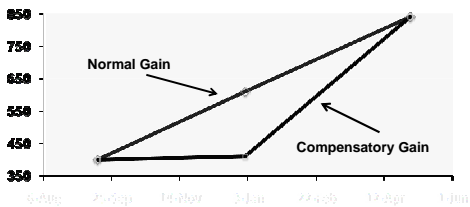
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## Compensatory Gain

- ◆ Cattle on low plane of nutrition will gain faster when plane of nutrition improves than cattle that were maintained on normal plane of nutrition



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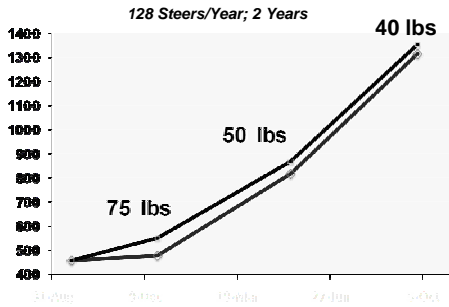
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## Compensatory Gain - Steers



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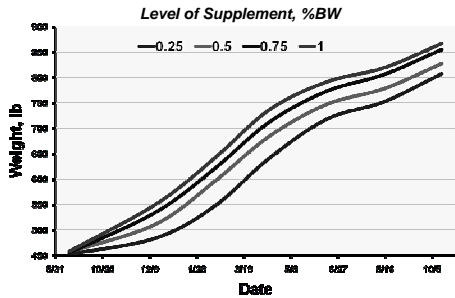
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## Compensatory Gain - Heifers



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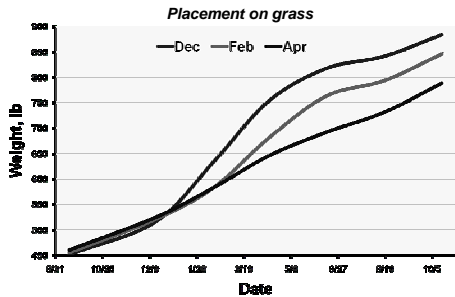
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## Compensatory Gain - Heifers



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