Preconditioning Calves

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**Preconditioning:**

Management steps executed prior to, during, and after weaning to insure optimum health and performance of calves.
Preconditioning Steps

Preweaning and Weaning
- Dam’s precalving nutrition
- Mineral supplementation for dam and calf
- Deworming
- Vaccination
- Castration
- Dehorning

Postweaning
- Weaning management to minimize stress
- Training cattle to eat from a bunk
- Well balanced nutrition program to achieve positive weight gain
- Minimum 45 day weaning period
Practices to Reduce Stress at Weaning Time

• Provide familiar clean, environment
• Weaning method
  – Complete separation
  – Fence line weaning
Postweaning Nutritional Options

• One strategy doesn’t fit all situations or ranches
• Feeding programs begin at weaning
• Nutritional programs can be 50 to 70% of preconditioning budgets
Preconditioning

Impact of time from weaning to feedlot entry on net return of steers in the New Mexico Ranch to Rail program.
Preconditioning Method

• **Pasture Preconditioning**
  + less environmental change
  + less dietary change
  + less dust or mud control is required
  – often less gain
  – often not trained to eat from a bunk

• **Drylot Preconditioning**
  + often more gain
  + trained to eat from a bunk
  – greater environmental change
  – more dust or mud control is needed
# Impact of Precondition System on Performance

<table>
<thead>
<tr>
<th>Item</th>
<th>Drylot Preconditioning</th>
<th>Pasture Preconditioning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Preconditioning Phase</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADG, lb</td>
<td>1.42</td>
<td>1.10</td>
</tr>
<tr>
<td>Total Cost, $</td>
<td>66.77</td>
<td>14.01</td>
</tr>
<tr>
<td>Net Income, $</td>
<td>-28.87</td>
<td>15.72</td>
</tr>
<tr>
<td><strong>Finishing Phase</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADG, lb</td>
<td>2.93</td>
<td>2.98</td>
</tr>
<tr>
<td>Days on Feed</td>
<td>168</td>
<td>173</td>
</tr>
<tr>
<td>Treated for Sickness, %</td>
<td>47.6</td>
<td>34.3</td>
</tr>
<tr>
<td>Death Loss, %</td>
<td>7.6</td>
<td>0.0</td>
</tr>
<tr>
<td>Net Income, $</td>
<td>-98.33</td>
<td>4.68</td>
</tr>
</tbody>
</table>

Mathis et al., 2008
Impact of Preconditioning on Subsequent Feedlot Morbidity

Morbidity, %

- **South Dakota**
  - Preconditioned
  - Non-Preconditioned

- **Colorado**
  - Preconditioned
  - Non-Preconditioned

- **Oklahoma**
  - Preconditioned
  - Non-Preconditioned
## Receiving Health by Weaning Program

<table>
<thead>
<tr>
<th>Item</th>
<th>Market</th>
<th>Ship</th>
<th>Wean 45</th>
<th>Wean Vac45</th>
<th>SEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morbidity, %</td>
<td>41.9</td>
<td>35.1</td>
<td>5.9</td>
<td>9.5</td>
<td>4.2</td>
</tr>
<tr>
<td>Treated once, %</td>
<td>31.9</td>
<td>22.2</td>
<td>5.0</td>
<td>7.7</td>
<td>3.8</td>
</tr>
<tr>
<td>Treated twice, %</td>
<td>4.0</td>
<td>9.2</td>
<td>0.9</td>
<td>1.8</td>
<td>2.2</td>
</tr>
<tr>
<td>Mortality, %</td>
<td>3.1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.9</td>
</tr>
</tbody>
</table>

Step et al., 2008
Summary

• Prepares calves for challenges once they leave the ranch
• Largest impact will be on health
• Variable response on subsequent feedlot performance
• Economics
  – Marketing
  – Cost of preconditioning
Questions

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Minimizing Calf Health Risks at Weaning

Dr. Lindsay Waechter-Mead
Nebraska Extension Beef Systems Educator
#1 goal: Minimize Stress

- Low stress handling and weaning options
- Nutritional management
- Processing calves – castration, dehorning
- Parasite control – internal and external
- Environmental stress – dust, heat, mud
- Health Plans – vaccination and treatment plans
Principles of Vaccination

• Minimizes risk
• Should not be assumed to provide 100% protection
• Not all animals are protected equally
• Takes time to build immunity
  • Multiple doses needed
• Always follow vaccine withdrawal times and label directions
When and What?

• Low stress = ↓ cortisol levels
• High cortisol = ↓ immune response
• What are your goals?
• What are you trying to prevent?
Preweaning Vaccine Protocols

**Core Vaccines:** (AABP Vaccination Guidelines, 2021)

- Infectious Bovine Rhinotracheitis virus (**IBRV**)
- Bovine Viral Diarrhea Virus (**BVDV-Type 1 & 2**)
- Parainfluenza Virus (**PI3**)
- Bovine Respiratory Syncytial Virus (**BRSV**)

**Clostridial** Vaccines “7-way”
Preweaning Vaccine Protocols

“A survey of recommended practices made by veterinary practitioners to cow-calf operations in the United States and Canada.” Fike, et al. 2017

Most common recommended vaccines preweaning:

- **IBR (99%)**
- **BRSV (98%)**
- **BVD – Types 1 and 2 (96%)**
- **PI-3 (93%)**
- **Clostridial (88%)**
Why precondition?

- Animal Welfare issue
- Maintain health
- Maximize feed efficiency
- Decrease treatment costs
- Reputation
- Premium pay

Figure 4. Percentage of pulls for respiratory disease conditions by treatment group during the period from arrival through harvest. Seeger et al., 2008

Figure 1. Morbidity (%) of steer calves at 28 and 85 days after feedlot arrival and for the entire feeding period.
Summary

• Plan ahead
• Minimize stress
• Establish health protocols
• Remember the goal
Contact info:

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402-746-3417 (office)
402-519-4011 (cell)

If I yelled at you while working cattle:
1) I'm sorry
2) It won't happen again
3) Number 1 & 2 are lies
4) Shut the damn gate

RAISED IN THE BARN
Preconditioning Economics

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- Nebraska Extension Educator
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Figure 3

Dhuyvetter, K. C. 2005
Dhuyvetter, K. C. 2005
Slope of line = 0.92, which means that every 1% change in percent sick results in a $0.92/head change in net revenue. Thus, a pen with 20% sick calves would be expected to average $9.20/head higher net income than a pen with 30% sick calves.
Carcasses Quality Grades by Healthy Status
Source: TAMU Ranch to Rail Program, 92/93 - 00/01

Healthy Calves
- Choice: 41.9%
- Select: 53.2%
- Standard: 4.9%

Sick Calves
- Choice: 29.2%
- Select: 61.6%
- Standard: 9.2%

Figure 5.
Figure 7: Effect of Value Added Health Programs

Source: King and Seeger -- Superior Livestock Video Auctions
Table 4. Weaning performance and health of beef calves vaccinated against respiratory-disease viral pathogens 0, 1, 2, or 3 times during a 28-d ranch-of-origin weaning period

<table>
<thead>
<tr>
<th>Item</th>
<th>Degree of vaccination(^1)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0X</td>
</tr>
<tr>
<td>BW, kg</td>
<td></td>
</tr>
<tr>
<td>Maternal separation</td>
<td>232</td>
</tr>
<tr>
<td>Shipping</td>
<td>249</td>
</tr>
<tr>
<td>Preconditioning ADG, kg</td>
<td>0.60</td>
</tr>
<tr>
<td>DMI, kg/d</td>
<td>4.41</td>
</tr>
<tr>
<td>G:F</td>
<td>0.133</td>
</tr>
<tr>
<td>Morbidity, %</td>
<td>11.6</td>
</tr>
</tbody>
</table>

\(^1\) 0X = received no respiratory vaccination during preconditioning; 1X = received respiratory vaccination at maternal separation; 2X = received respiratory vaccination at maternal separation and again 14 d later; 3X = received respiratory vaccination at maternal separation, 14 d later, and again 28 d later.
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