Troubleshooting Pasture Lameness. It's not always Footrot!!

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Lameness

- May be the biggest opportunity for improvement in the industry
- Significant losses
- Has been identified as a major point of focus, and as a welfare concern in all livestock industries
  - Beef - Fatigue cattle syndrome
  - Dairy
  - Swine
  - Poultry

Lameness Estimates

- 16% of all treatments
- 5% of deaths
- 70% of railer slaughter

Griffen et al. 1993
Beef Cattle Lameness Economics: Feedyard

<table>
<thead>
<tr>
<th>Items</th>
<th>Cost/head treated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss to overhead</td>
<td>$51.00</td>
</tr>
<tr>
<td>Loss from chronic</td>
<td>$37.38</td>
</tr>
<tr>
<td>Treatment cost</td>
<td>$15.50</td>
</tr>
<tr>
<td><strong>Total Footrot Cost</strong></td>
<td><strong>$103.38</strong></td>
</tr>
</tbody>
</table>

Current market values ($120/cwt 500 lb feeders, $200.00 ration cost and $95.00 finished cattle) incorporated in model from Dr. Dee Griffin, GPVEC, University of Nebraska.

2011 Feedlot NAHMS Data

<table>
<thead>
<tr>
<th>Disease Type</th>
<th>Percent of Placements Affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRD</td>
<td>9.0</td>
</tr>
<tr>
<td>AIP</td>
<td>3.4</td>
</tr>
<tr>
<td>Dig</td>
<td>1.3</td>
</tr>
<tr>
<td>Buller</td>
<td>0.7</td>
</tr>
<tr>
<td>Lame</td>
<td>1.8</td>
</tr>
<tr>
<td>CNS</td>
<td>0.4</td>
</tr>
</tbody>
</table>

Early Treatment=Success

- Do we have the right diagnosis?????
- Cattle are prey species
- Don’t show us all their symptoms
On operation diagnosis

What tools are used for diagnosing the cause of the lameness in the chute?

<table>
<thead>
<tr>
<th>Tool Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Palpation of foot, joints, and upper leg for swelling and heat</td>
<td>48%</td>
</tr>
<tr>
<td>Picking up the foot to visualize the bottom of the foot</td>
<td>60%</td>
</tr>
<tr>
<td>Picking up the foot and using hoof testers</td>
<td>20%</td>
</tr>
<tr>
<td>Visualization of foot, joints, and upper leg for swelling</td>
<td>89%</td>
</tr>
<tr>
<td>None</td>
<td>2%</td>
</tr>
<tr>
<td>Other</td>
<td>3%</td>
</tr>
</tbody>
</table>

Where is the lameness?

- Most studies agree
  - Up to 90% of lameness stems from the foot!
  - 80% stems in from rear limb
  - 70% from the lateral (outside) toe

Proper Diagnosis

- Footrot
- Deep infections
- Toe abscess
- Septic joint
  - Arthritis
- Hairy Heel Warts
- Injuries
Questions to ask

- Swelling?
  - Yes/no
- Where is the swelling?
  - Foot?, Joint?,
- Is the swelling symmetric if it's on the foot?

"Footrot"

- AKA
  - Infectious pododermatitis
  - Interdigital necrobacillosis
  - Interdigital phlegmon
- Not necessarily any animal carrying a leg

Footrot

- Fusobacterium necrophorum
- Begins with a skin abrasion
- Swelling surrounding the foot
- Noticeable lameness
- SMELL!!!
“Footrot”

- **Diagnosis**
  - Symmetrical swelling between toes.
  - Broken skin
  - Foul odor
  - You may treat animals with minimal swelling as footrot when other causes of lameness are ruled out

**Treatment**

- Antibiotic treatment warranted
  - Many labelled options
- Pain control?
  - Banamine Transdermal labelled for pain of footrot
  - Dexamethasone?
    - Immunosuppressive?
- Timing of treatment critical in recovery
  - Should show resolution within 1 week
  - Clubfoots seldom recover
Delayed Treatment

Abx Choices?

- Oxytetracyclines (some formulations Rx)
- Sulfas (boluses)
- Ceftiofur (Rx)
- Florfenicol (Rx)
- Tulathromycin (Rx)
- Many options (and generics), ask your veterinarian for recommendations

Footrot prevention

- One commercial vaccine is available
  - “Fusogard”
  - Few peer reviewed reports on efficacy
    - 2005 Canadian feedlot study
      - Only saw effect on forage based diet
- Footbaths not practical in pasture settings
Footrot prevention

• The main prevention is environmental control
  – Mud, manure, wet conditions
  – Standing in ponds
    • Improved watering location
  – Focus on common areas they frequent
    • Water source, supplement areas, feeding areas

Is this symmetric?

Notice the Dewclaws
Deep infections

- Puncture wounds/chronic footrot/deep sole abscess
- Will not heal without extensive treatment
  - Infection must drain/heal from inside out
- May involve joints/tendons
- Contact your veterinarian
  - Pear out abscess/infection
  - Place block on other toe to facilitate movement
  - Potential amputation of infected toe- Salvage procedure

Sole Abscess

Taken from Diseases and Disorders of Cattle, Blowey and Weaver
Toe tip necrosis/toe abscesses

What causes toe abscesses?

• Predisposing factors include cattle temperament, handling, softening of the hoof due to moisture
  – Cattle fight to get to the middle of the group when threatened (or sorted)
  – The powerful hind legs are used to push as the cattle mill about
  – The toes of the feet (especially the rear feet) may be ground down enough for infection to set in
  – Standing long periods of time on concrete?
Diagnosing toe abscesses

- Often no swelling in fresh cases
- Can you tell the difference between a lower and an upper leg lameness?
  - Again, often hard to tell.
  - Walk to protect the toe
  - Does not always appear the same as other types of lameness
- Use hoof-testers to find the affected toe
- You may be able to pare down to the abscess with a hoof knife
- Most of the time you will need to take the tip of the toe off with hoof nippers to allow drainage

IDENTIFYING THE PROBLEM

- Pick Up The Foot
- Wash It
- Examine To Determine Cause of Lameness
TOE ABSCESS
TREATMENT
• Tip Toe To Drain Abscess And Relieve Pressure
• DO NOT TRIM ENOUGH TO CAUSE BLEEDING
• May require extended therapy

Treatment Success??
• 50/50 if treated appropriately
• 100% failure if not treated

TOE ABSCESS
PREVENTION
• Quiet/Calm Cattle Handling
• Provide Nonabrasive Footing In Alleys And Working Areas
Joint Issues

Septic Arthritis (calves)

• May occur after initial respiratory disease
  – Histophilus somni
  – Mycoplasma bovis

• Routinely see lameness
  ~ 1 week + following treatment for BRD
  – Not Footrot!!
Treatment

- Remember, Mycoplasma does not have a cell wall
  - Penicillin and Ceftiofur are a poor choice
    - β-Lactams work against the cell wall of bacteria
- Recovery takes extended periods of time
  - Bacteria gone, but inflammation remains
No Swelling. 3 Legged Lame. What is it??

Hairy Heel Warts
- “Strawberry footrot”
- “Digital Dermatitis”
- No swelling
- Very painful
- Contagious
- Bacterial cause, but exact agent is unknown
- A Spirochete bacteria called Treponema

Digital Dermatitis
- Very common in diaries
- May be an emerging issue in feedyards and cow/calf
- Bright red lesion in heel area of the foot
Digital dermatitis diagnosis

• Reluctance to walk, often in multiple individuals with a pen
  – Very painful and often bilateral
• Walks on tippy toes

Digital dermatitis treatment

• +/- Systemic antibiotic treatment
  – May not have much effect
• Topical Treatment! (Abx, formalin, copper tox etc)
  – If you bandage it make sure you either wrap so the bandage comes off in 12-24 hours or take it off in that time.
• Keep in clean/dry pens
• Prevent outbreaks with good pen maintenance
Hoof lacerations

Lacerations

• If present, consider where the laceration came from
  – Processing facility
  – Transport
  – Wire wrapped around hoof
    • Look for delineated line across the foot. Wire can be deep into the skin
Lacerations

- Therapy
  - Antibiotic therapy for secondary infection
  - Clean wound
  - House in dry environment

Stifle Injuries

- Bulls mounting on uneven ground or unsure footing
- Hock and stifles flex independently
  - Looks like a broken leg at first
- Mild to no swelling, but can still put pressure on it
- Fracture:
  - Flop and twist, swelling would be extreme, non-weight bearing
There are three kinds of men. The one that learns by reading. The few who learn by observation. The rest of them have to pee on the electric fence for themselves.

— Will Rogers