

Evaluating Cattle Health and Performance

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Respiratory Disease

- Most common Health Problem
 - 1994 data
 - Total Death loss 0.268 %
 - Respiratory Death loss 0.128 %
 - Digestive Death loss 0.061 %

Respiratory Disease

- Most Common Health Problem

- 1999 Data

- Respiratory Disease 14.4 %
 - Digestive 1.9 %
 - Lameness 1.9 %

Respiratory Disease

- Most Common Health Problem
 - 2001 data
 - 57.1 % all deaths
 - 1994 – 0.103 % cattle
 - 1999 – 0.142 % cattle



Impact Respiratory Disease

- Treatment costs
- Death loss
- Performance loss

Treatment costs

- Average \$4.45 medicine cost
- Range \$ 0 to \$ 37



Performance Loss

	Sick	Healthy
Head	218	1080
Death Loss	5.5 %	0.7 %
ADG (lb/day)	2.6	3.1
Cost of Gain	\$66	\$49
Medicine Cost	\$27	0
Net Return	\$23	\$146

Performance Loss

Treatments	ADG (lb/day)	90 Day Gain (lb)	Difference (lb)
0	3.5	308	
1	3.1	273	35
2 or more	2.6	242	66

Cost of Treatment

Treatments	Loss
Once	\$ 41
Twice	\$ 58
Three	\$ 292

Manage Respiratory Disease

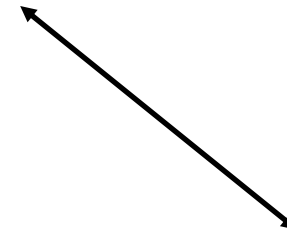
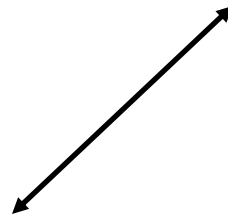
Host



Agent



Environment



Manage Respiratory Disease



Agent



Environment



Identifying Calves

- More important antibiotic choice
- Identify early
 - Minimize lung damage

Identifying Calves

- Observe Daily
- Every calf is observed
 - Prey animal
- Scoring System
 - Attitude
 - Respiratory

Scoring System

- Attitude Score 0
 - Normal, cattle are bright and alert, hold their head up and readily move away from the observer



Scoring System

- Attitude Score 1
 - Mild depression, cattle's attitude is slightly depressed but respond quickly to observer and appear normal



Scoring System

- Attitude Score 2
 - Moderate depression, cattle stand with head down, ears droop, abdomen lack of fill and may appear floppy, cattle move away slowly from observer



Scoring System

- Attitude Score 3
 - Severe depression, cattle stand with head down and very reluctant to move, very noticeable gauntness of abdomen



Scoring System

- Respiratory Score 0
 - Normal, eyes clear, nose is clean with no discharge, normal breathing



Scoring System

- Respiratory Score 1
 - Mild Respiratory, serous discharge from eyes and/or nose, slight cough



Scoring System

- Respiratory Score 2
 - Moderate Respiratory, mucco-purulent discharge, cough, increased respiratory rate



Scoring System

- Respiratory Score 3
 - Severe Respiratory, excessive mucopurulent discharge, harsh cough, open mouth breathing



Scoring System

- Attitude Scores most sensitive
 - Usually score 2
 - High morbidity pull score 1
- Temperature
 - 104°F











Antibiotic Treatment

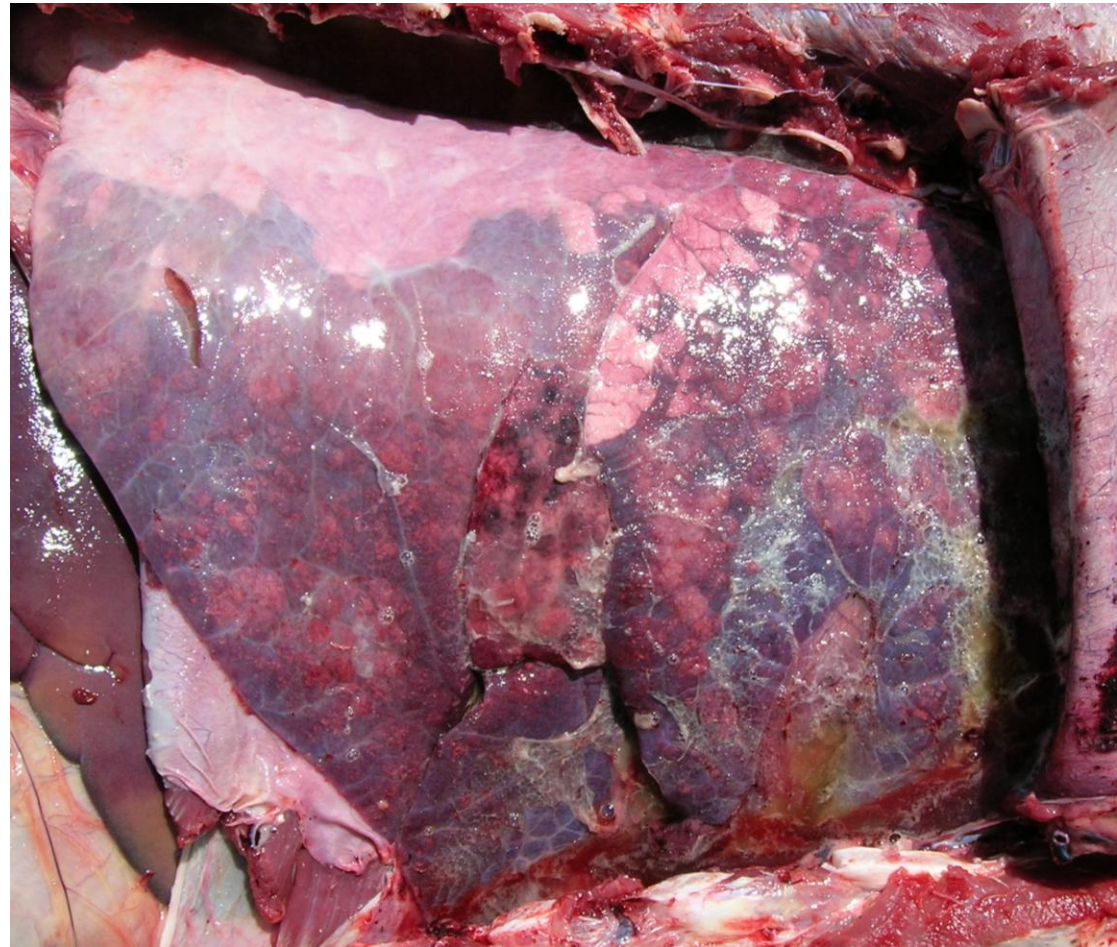
- Antibiotics don't cure calves
- Antibiotics keep calves alive long enough for the immune system to work
- Treatment failure is usually not a failure of the drug but a failure of management or immunity

Antibiotic Treatment

- Consistent
 - Evaluation
 - Resistance usually isn't issue
 - Little correlation antibiotic sensitivity and clinical response
 - Can't expect simple antibiotic regime perform miracle

Respiratory Therapy

- Early Identification Critical
- Lung Damage
 - Bacteria minimal damage
 - Inflammatory response



Records

- “Can’t manage what you don’t Measure”
- Record System
 - Easy to collect
 - Easy to use
 - Meaningful
- Unless information assist management decisions it has little value

Records

- Number of cattle in pen
- Arrival date
- In-weight
- Processing



Records

- Identification of animal, pen or lot
- Date
- Reason pulled
- Temperature
- Therapy used

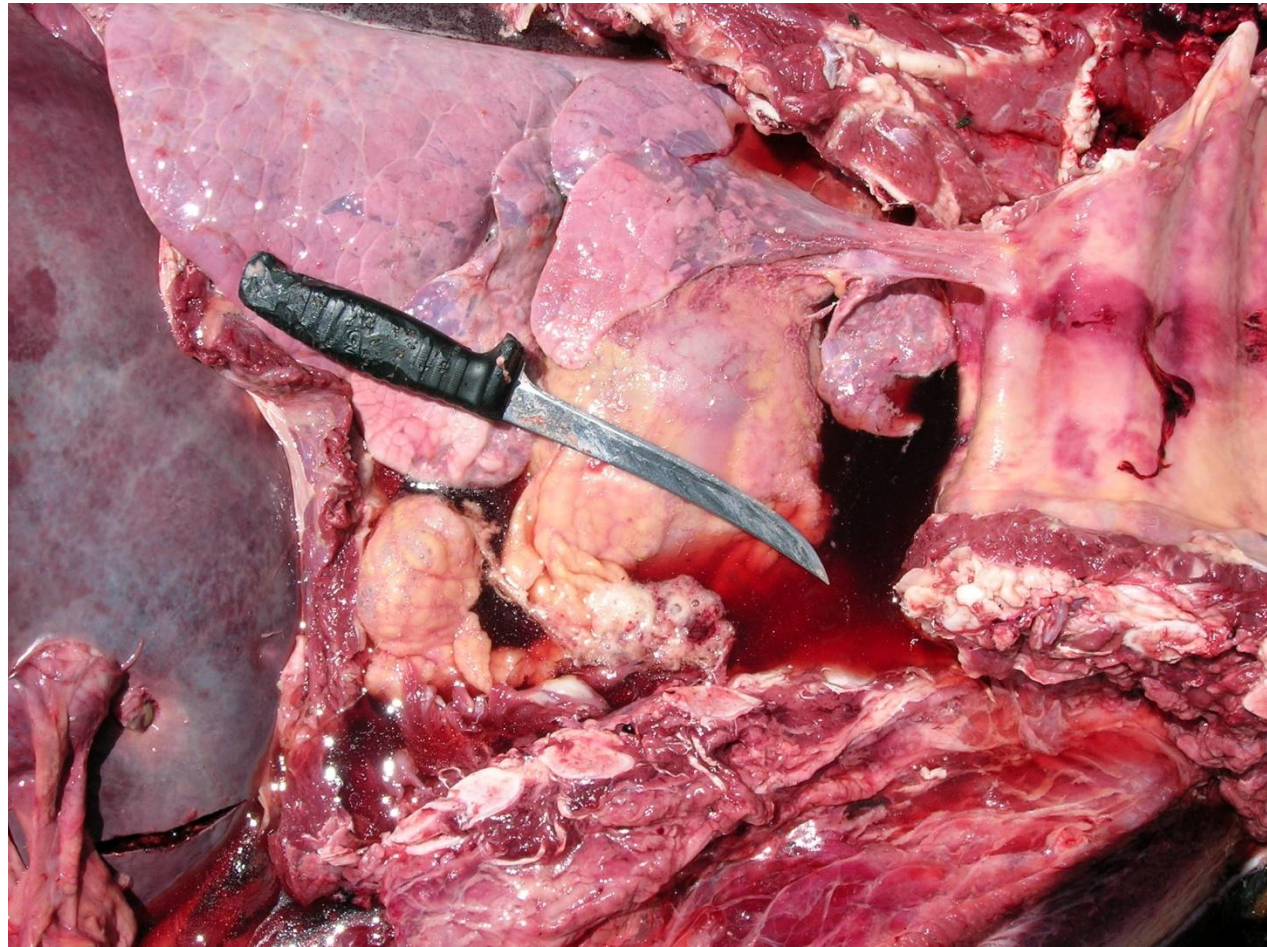
Diagnosis

- Pen observations
- Temperature
- Necropsy
- Diagnostics



Necropsy

- Differentiate disease
 - Heart disease
 - Peritonitis
- Stage disease
 - Acute
 - Chronic









Diagnostics

- Tissue histology
- Culture and sensitivity
 - Identification bacteria
 - Anti-biogram
- Monitoring
- Not case decision
 - Little correlation antibiotic sensitivity and clinical response

Evaluating

- Parameters
- Evaluate health program



Mortality

- Quality of cattle
- How well they are cared
- Calculated for a specific time period
- $(\text{Total number of dead cattle} / \text{total number of cattle on feed}) \times 100$
- Tracked for specific types or pens
- Calf fed cattle less than 1%
- Yearling fed cattle less than 0.5%

Case fatality rate (CFR)

- Timely identification of pulls
- Antimicrobial selection
- Overall health of the pen
- $(\text{Total number treated deads} / \text{total number head treated}) \times 100$
- 5 - 10% is acceptable
- Elevated CFR
 - Cattle not being treated promptly enough
 - Treatment is not working
- Low CFR
 - Cattle pulled and treated that were not really sick

Percent first-treatment response

- Indication of antimicrobial performance
- timely identification of sick cattle will also have a lot of influence on this parameter
- $(\text{Total number } 1^{\text{st}} \text{ treatments minus total number } 1^{\text{st}} \text{ treatment failures}) / \text{total number } 1^{\text{st}} \text{ treatments} \times 100$
- Low-risk cattle greater than 80%
- Higher risk cattle greater than 70%.

Morbidity

- Overview of pen health
- Calculated for each disease entity
- (total number head treated for disease / total number cattle in group) x 100)
- Low risk calves less than 10%
- 5-10% of cattle are being pulled over a short 2-3 day time interval may be beneficial to treat entire pen

Chronic rate

- How well cattle were treated
- $(\text{total head determined chronic} / \text{total number head treated}) \times 100$
- Not be more than half of the mortality rate



Missed opportunities

- Information on case definition and sick cattle identification
- $(\text{total number cattle died from BRD in the pen without treatment} + \text{number that died from BRD within 48 hours of treatment}) / \text{total number of cattle died from BRD} \times 100.$

Percent pull > 40 C

- Cattle are being pulled properly or if cattle are being over treated
- Greater than 70% of cattle pulled for respiratory disease have a temperature greater than 104 F then may want to consider going back to pen and pulling more cattle
- Low then may indicate digestive disease, or cattle are being pulled too late

Month-to-date mortality

- Monitor if health management is acceptable
- $(\text{total month to date mortalities} / \text{number of days in month so far} \times \text{total number of days in month}) / \text{total number of cattle in feedlot} \times 100$
- Total month-to-date mortality 0.22-0.24%
- Month-to-date respiratory 0.12-0.14%
- Month-to-date digestive 0.06-0.08%
- Month-to-date other 0.02-0.04%

Thank You

