

HEALTH MANAGEMENT OF BEEF CATTLE



Dick Daughtery-Alcoa, TN

Fred Hopkins-Dept. of Large Animal Clinical
Sciences and Animal Science-UTK

Matt Welborn-Dept. of Large Animal Clinical
Sciences-UTK

Bill DuBois-Dept. of Large Animal Sciences-
UTK



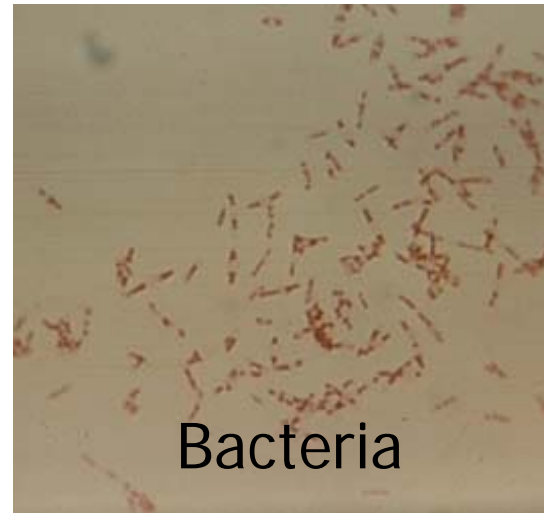
Disease

- Any change in the structure or function of an animal's body which interferes with that animal's intended purpose.



Outcome of Disease

- Recovery?
- Chronic illness
- Subclinical carrier animal
- Death



Disease Diagnosis

- Identifying a disease in order to properly treat and/or control it.
- Without a proper diagnosis, treatment and prevention is more likely to fail.



Signs of Disease

- Depression
 - Dull appearance
 - Head lowered
 - Ears drooped
- Lack of appetite
- Isolated from herd
- Abnormal posture
- Diarrhea
- Rapid breathing
- Nasal discharge
- Lowered production



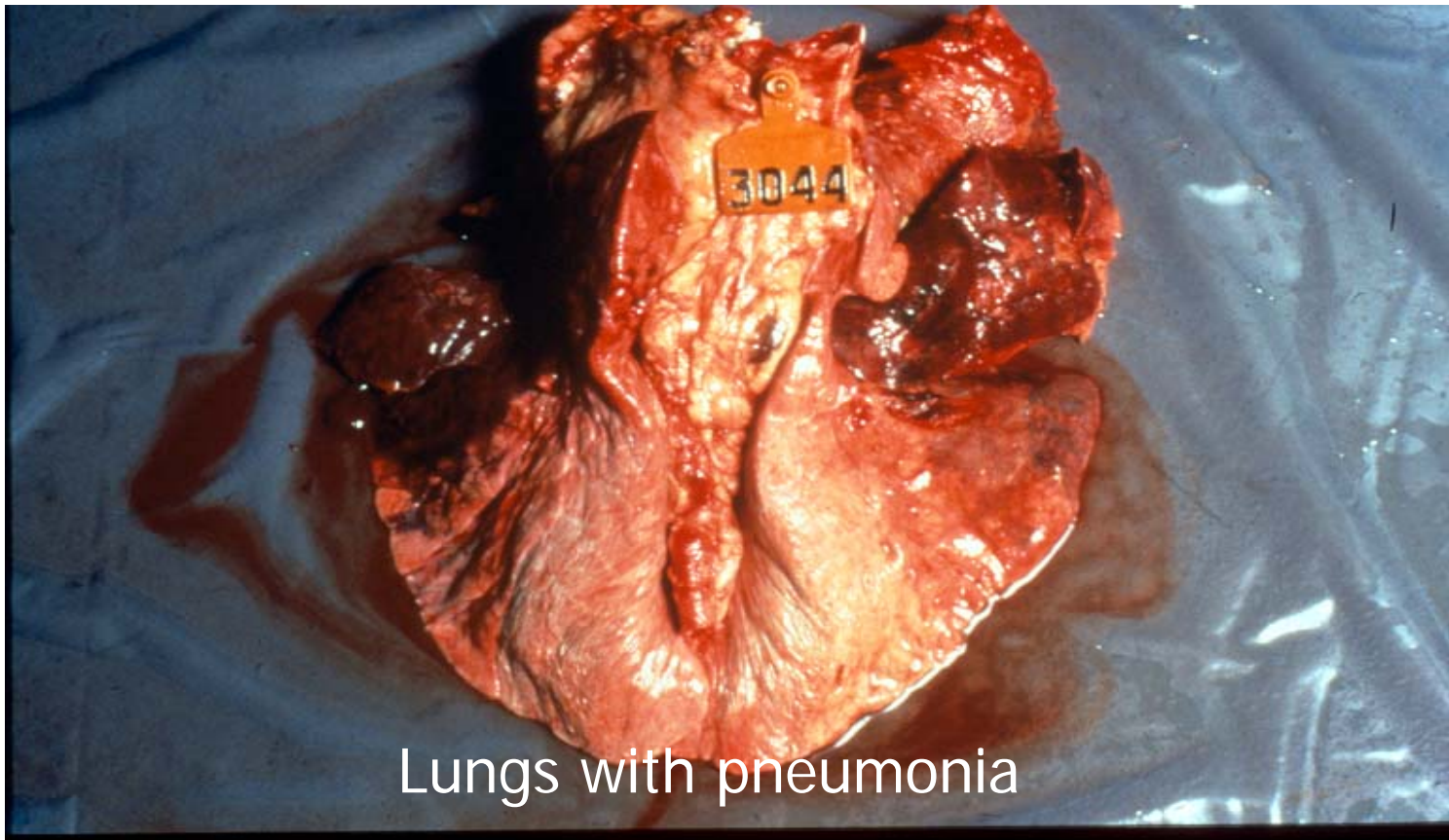
Making a Diagnosis

- Take animal's temperature
 - Normal = 100.5 – 102.5°F
 - Perform a physical exam, paying special attention to:
 - Mouth/nose
 - Eyes
 - Udder
 - Vulva
 - Skin



Facilities required!

Laboratory Diagnosis



Lungs with pneumonia



General Principles of Health

- Nutrition
- Housing
- Sanitation/disinfection
- Regular observation

Nutrition

- Cattle in good body condition are better able to resist diseases.
- Cattle in good body condition are better able to defend against parasites.



Housing

- Proper housing is essential for good health and disease resistance.
 - Cattle require protection from the sun, heat, cold, wind, and rain.
- What is proper housing?
 - Well ventilated and dry!
 - Barn, lean-to, a line of trees woods with some underbrush, etc.
- Fences in good repair help prevent injuries.



Good
Shelter

Sanitation and Disinfection

- Water troughs, feed bins, hay rings should be cleaned regularly.
- Feed-hauling equipment
- Needles/syringes



Regular Observation

- This is critical to the well-being of the herd.
- The earlier a problem is noted, the more likely it can be successfully treated and controlled.

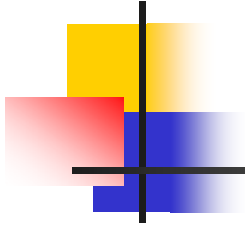




Biosecurity

- Disease prevention focused on stopping the introduction of disease-causing organisms into a herd, as well as stopping the spread within the herd.





- Biosecurity has two main concentrations
 - Decreasing/preventing the spread of body fluids.
 - Blood, urine, feces, saliva, nasal discharge, etc.
 - Preventing the movement of diseased animals or other agents into the herd or elsewhere.
 - Cattle spread cattle diseases



Biosecurity Key Ingredients

- Isolation
- Traffic control
- Sanitation



Isolation-replacement stock

- Minimize spread of diseases by limiting contact of the current herd with new animals or animals with unknown disease risks.
 - Maintain a closed herd
 - Limit purchases to low-risk animals such as virgin bulls
 - Purchase from herds with good biosecurity

Isolation-replacement stock

- Test cattle for select diseases prior to purchase
- Vaccinate against common diseases
- Quarantine newly purchased cattle for at least one month





Isolation- decreasing exposure

- Minimize commingling of different groups of animals.
- Maintain good fencing between herds and farms.
- Eliminate contact with neighboring livestock.
- Isolate diseased cattle. How long?
- Quarantine show cattle as if newly purchased. They can bring disease back to the farm.



Traffic Control

- Limiting traffic onto a farm (vehicles, people) as well as within the farm will aid in reducing disease spread.
 - Do not allow trucks/trailers that may have contact with other farms or livestock onto your operation.
 - Load cattle (live or dead) at the perimeter
 - Locate bulk feed bins at perimeter



Traffic Control

- Personnel and equipment used for high risk activities (manure handling, dead animal removal, treatment of sick cattle, etc.) should be disinfected prior to moving across the farm or working with non-diseased stock.
- Always handle non-diseased animals first, diseased animals last.



Sanitation

- Proper sanitation will decrease the spread of body fluids.
- Feeding equipment must be kept clean.
- Do not use high-risk equipment for feed delivery.
- **Dispose of dead cattle properly.**
- Equipment used for processing and administering drugs must be disinfected between animals.



Sanitation

- Other opportunities
 - Insect control – on cattle, in barn, feed
 - Maintain feedstuffs to prevent insect and rodent access



Common Diseases of Beef Cattle

- The following is a brief explanation to aid with recognition, modes of transmission, treatment and prevention of some common ailments.



Blackleg

- Agent – Clostridium chauvoei
- Signs
 - cattle generally between 6 months and 2 years of age
 - Sudden, often severe lameness
 - Dead animal
 - Gas in tissues, causing “crackling”
- Treatment – Penicillin
- Prevention - vaccinate



Bovine Viral Diarrhea – BVD

- Agent – BVD virus
- Transmission – contact
- Signs
 - Fever, anorexia, depression, diarrhea, ulcers in mouth, pneumonia
 - Abortions, birth defects, persistent infections, death possible
- Treatment – none
- Prevention - vaccinate



Footrot

- Agent – bacteria – Fusobacter
- Trans. – Often secondary to an injury
 - The wound allows organisms to thrive
- Signs
 - Lameness, swelling, foul odor
- Treat. – antibiotics, clean and dry hoof
- Prev. - sanitation, foot bath, decrease stocking density



Footrot

Lamb with footrot



Infectious Bovine Rhinotracheitis (IBR)

- Agent - Herpes virus
- Transmission
 - contact, aerosol
- Signs
 - Abortions, pneumonia, others
- Treat. – none
- Prev. - vaccinate



Leptospirosis

- Agent – bacteria
- Transmission
 - contact, ingestion
- Signs
 - Abortions, jaundice
- Treat - tetracyclines
- Prevention
 - Vaccinate, rodent control

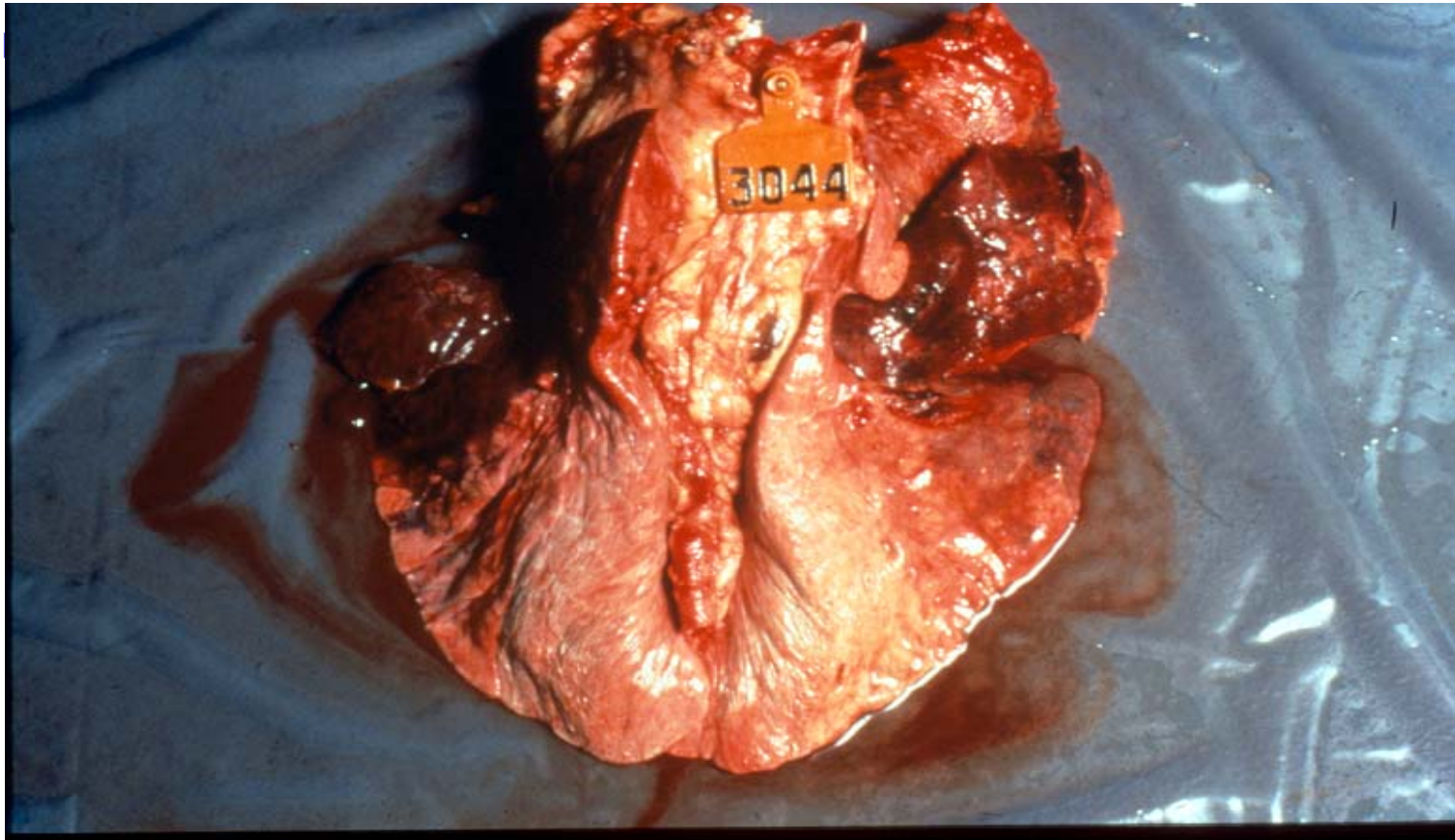




Shipping Fever

- Agent – several bacteria
- Trans. – aerosol spread
- Signs
 - Depression, respiratory distress, cough, fever, death
- Treatment
 - Antibiotics, anti-inflammatory drugs
- Prevention
 - Minimize stress, vaccination

Shipping Fever



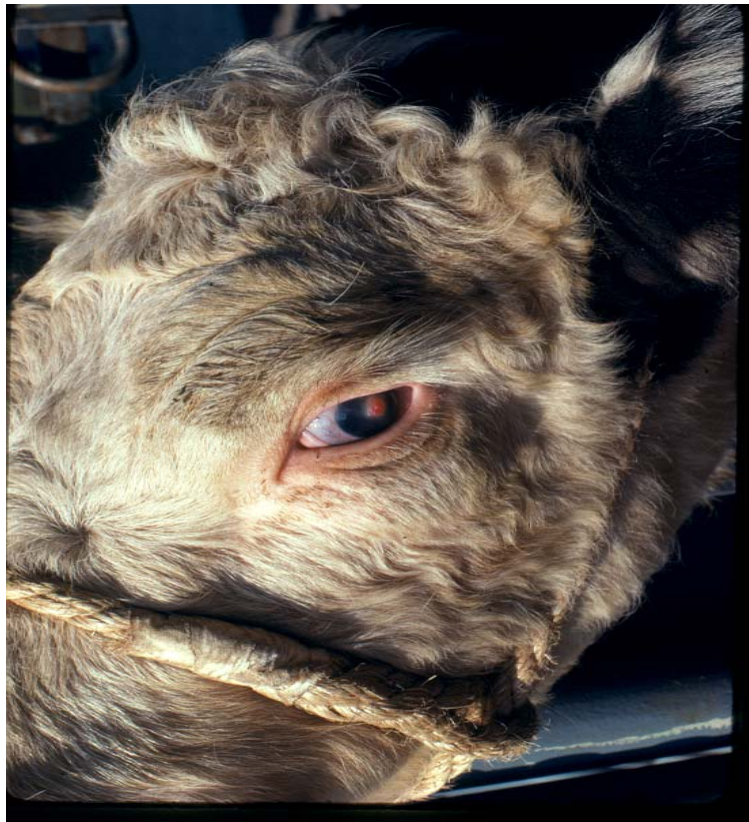


Pinkeye

- Agent – bacteria
- Trans. – contact, flies
- Signs - excessive blinking, tearing, white center to eye, blindness
- Treat – antibiotics, self-cure
- Prevention
 - Control flies, clip pastures, vaccinate



Pinkeye



Healed Pinkeye



Calf Scours

- Agent
 - numerous bacteria, viruses, other causes
- Trans. – contact, ingestion
- Signs – diarrhea of varying properties
- Treat
 - Maintain hydration, others are agent dependent
- Prevention
 - Sufficient colostrum intake, minimize overcrowding
 - Isolating affected calves, sanitation



Grass Tetany

- Cause – insufficient blood magnesium
- Signs
 - nervousness, difficulty walking, apparent blindness, convulsions, death
- Treatment
 - Magnesium solutions given IV
- Prevention
 - Proper nutrition, Mg supplements

Grass Tetany



Parasites

- Internal
 - Gastrointestinal
 - "Worms"
 - Coccidia
 - Lung
 - Lungworms
 - Others
- External
 - Flies
 - Lice
 - grubs



Barber pole worm

Life Cycle of Typical GI Parasites

- Adults lay eggs
- Eggs passed in feces
- Eggs hatch into larvae
- Larvae climb onto grass
- Larvae are eaten by cattle
- Larvae develop into adult worms





GI Parasites (Worms)

- Transmission – cow to cow usually
- Signs
 - nothing other than poorer production is most common sign
 - Weight loss, diarrhea, rough hair coat, general unthriftiness (failure to thrive)
 - Bottlejaw, death in extreme cases (rare)

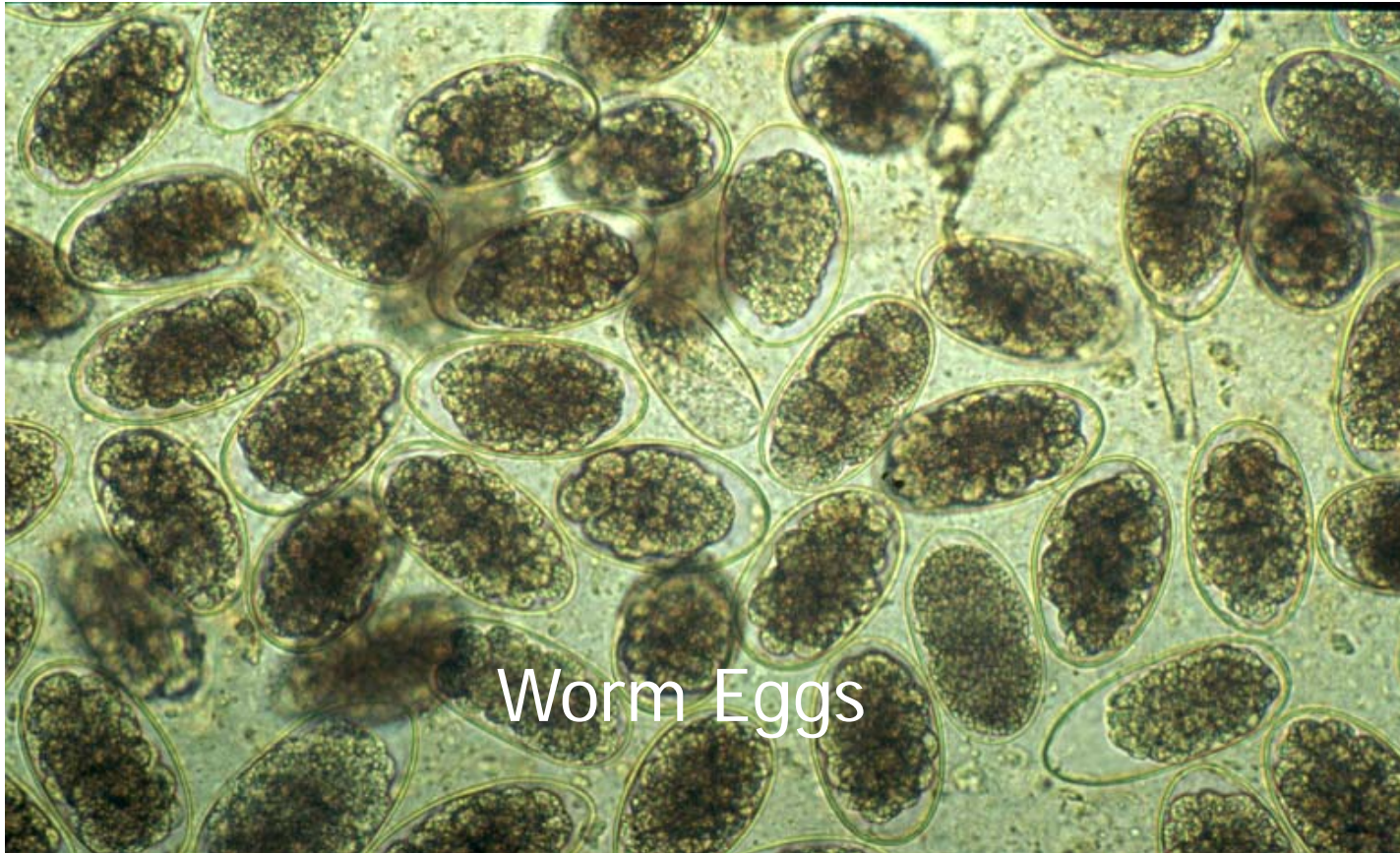


GI Parasites (cont.)

- Treatment and Prevention
 - Numerous anthelmintics (dewormers) are available. **All work well**
 - Injectable, oral, pour-on
 - Decrease pasture contamination
 - Utilize effective dewormers properly
 - Utilize pastures effectively
 - Drag pastures
 - Monitor stocking density of pastures

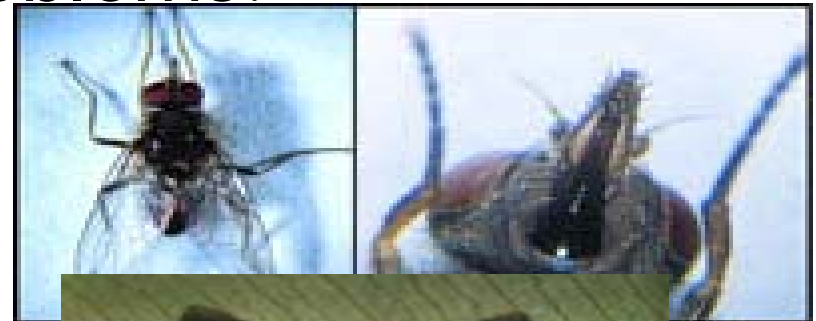


GI Parasites



Flies

- Many types of flies occasionally pester cattle.
- Two or three species generally cause the majority of problems.
 - Horn flies
 - Face flies
 - Horse flies





Fly Control

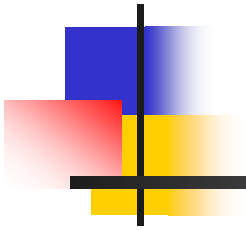
- numerous insecticides and equipment available. **Use a combination.**
 - Insecticide-impregnated tag
 - Back rubs
 - Dust bags
 - Sprays
 - Feed-throughs
 - Pour-ons

Lice

- Signs
 - Itching, sometimes intense
 - Blood loss – anemia
 - Hair loss
 - Lowered production
- Treat/Prev.
 - Pour-ons, dips, dust bags, rubs, sprays



Prevention and Treatment of Disease





Vaccines and Immunity

- Vaccination – exposing an animal to an organism or substance in order to produce an immune response against the organism or substance.
- Vaccination is done with the intent to:
 - Increase resistance to specific diseases
 - Decrease occurrence of disease
 - Decrease severity of disease

Vaccine Brand Choice

- See what's available
- Read the label directions and decide if you can use it as directed
- If you can, use it and it will work



Care of Vaccines

- Keep refrigerated.
- Reconstitute (mix) as you use them.
- Keep clean.



Proper Use of Vaccines

- Follow directions EXACTLY with respect to:
 - Dosage, route
 - Boosters, etc.
- Take time and use proper technique



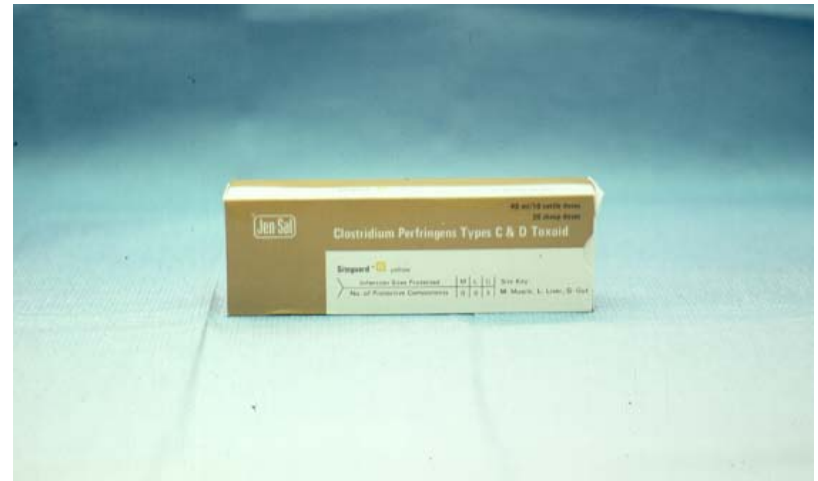


Animal's Response to Vaccination

- Preferred response:
 - Cow develops an immune response and becomes protected against the chosen diseases.
- Cattle cannot always respond well to a vaccine. Why?
 - Chronic infection, poor nutritional status
 - Stressed cattle, colostral immunity present

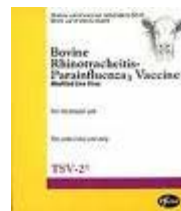
Types of Vaccines

- Bacterins
 - Produced from a killed bacteria
- Toxoids
 - Made from an inactivated toxin that is produced by a organism



Types of Vaccines

- Viral vaccines
 - Killed
 - MLV (modified live virus)
 - Intranasal





Antibiotics

- A drug use to treat or prevent an infection that is caused by a bacteria only.
- Numerous classes
 - Tetracyclines – oxytet, chlortet, others
 - B-lactams – penicillins, cephalosporins
 - Sulfonamides – many “sulfa” drugs
 - others



Antibiotics - Points to Ponder

- Perform their “germ warfare” in various ways.
- No Ab (antibiotic) is effective against **all** bacteria.
 - Some are very specific
- Ab’s differ in the length of time they remain active in the animal’s body.



Antibiotic Terms

- Prescription drugs (Rx)
 - Drugs that can only be obtained from a doctor (veterinarian, human physician, dentist, etc.), usually with a prescription.
- Over-the-Counter drugs (OTC)
 - Drugs that may be purchased without the need for a prescription



Antibiotic Terms

- Withdrawal Times
 - Meat – length of time from last treatment until the animal may be sold or slaughtered.
 - Milk – length of time from last treatment until the milk may be used for human consumption.



Drug Label

- Contains information pertaining to:
 - Type of animal for which approved
 - Appropriate dose and interval
 - Route of administration
 - Withdrawal times, cautionary statements
 - What a drug is effective against
 - Name of drug and active ingredients
 - Manufacturers name, storage requirements

Extra-label Drug Use

- The use of a drug in any manner not consistent with its label.
- Using a drug in an extra-label manner is illegal, except with a veterinarian's direction.





Veterinarian/Client/Patient Relationship

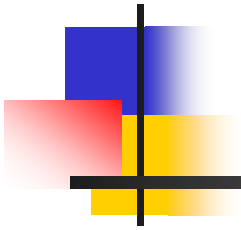
- This is the relationship that exists when a veterinarian is very familiar with a client and the client's animals, and the veterinarian is available for follow-up after treatment of the animal.



Points to Consider

- Choose an Ab based on:
 - the bacteria suspected
 - the Ab's spectrum of activity (will it kill the suspected bacteria)
- Don't discontinue therapy too quickly
- Don't use more than one Ab at a time without a veterinarian's guidance.
- Don't be too quick to switch to a different Ab.

Six Steps for a Successful Herd Health Plan



1. Restricted Breeding Season

- Creates a uniform crop of calves.
- Cows calve at a preferred time of year
- More opportunities to market calves
- Easier!



2. Adequate Handling Facilities

- Allow for safe working of the cattle and for the people in a timely fashion.
- Must be functional.
- UT Extension publications:
 - AS-B-210
 - AS-B-211



3. Adequate Nutrition

- Nutrition plays a vital role in disease resistance, ability to raise calves, ability to reproduce, etc.

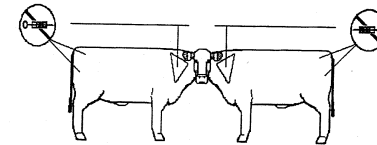


4. Records

- If you don't keep track of them, you can't manage them.
- Animals must be individually identified.

TREATMENT RECORD

Date _____ Cattle Group _____
 Animal ID _____ Date Sick _____
 Date returned to group _____ Date Sold _____



All records should be maintained for at least two years.

Date	Temp	Diagnosis	Treatment /Product	Site*	ROA**	Withdrawal	Lot #	Exp Date	Company

* = Location from map

**=Route of Administration

Producer's Name: _____

Address: _____

City/State/Zip: _____ Phone: _____

Comments: _____



5. Producer/Veterinary Relationship

- A good working relationship with a local veterinarian will aid in the general health a well-being of the cattle herd. Veterinarians will:
 - Know diseases common to the region.
 - Know which health products perform well in the area.
 - Be equipped to treat sick animals.



6. Desire

- The desire to follow a plan and make it work.
- Producers must be committed for the program to succeed.

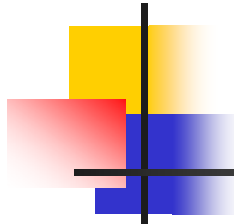


Cow Herd Management



Breeding and Production Soundness of the Cow Herd

- Each and every cow should be critically evaluated annually to determine if she should be retained in the herd.
- When this takes place may vary, but typically is 45-90 days after the breeding season.



Eyes

- A cow must have adequate vision to be productive.
- Monitor for conditions such as:
 - Cancer eye, pinkeye, excessive tearing, injuries, etc.
- If detected and treated **earlier** rather than later, most of these problems can be successfully cured.



Teeth

- Cows rely on their teeth to graze, which affects their ability to maintain body condition and health, as well as successfully raising a calf.
- Teeth wear according to the cow's age and the diet she eats.
- Upon inspection, if a cow's teeth are too worn, then consider culling her.

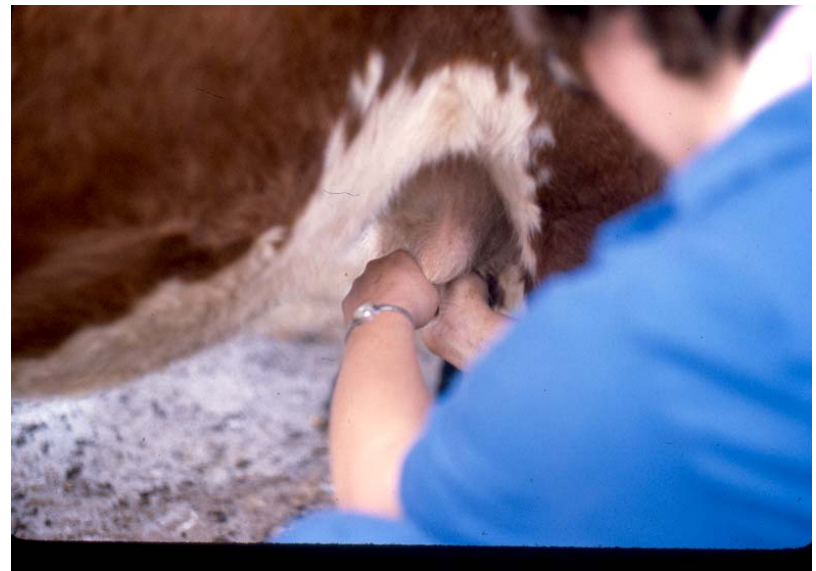
Feet and Legs

- Lame cattle can't adequately forage for food, limiting their production.
- Determine if treatable, chronic, etc. and make culling decisions.



Udder

- A functional udder is imperative in raising a good calf.
- Examine every udder at calving and again at weaning to aid in culling decisions.
- Keep records.





Body Condition Score (BCS)

- A simple evaluation
- Allows grouping of cattle
- Helps to identify problems

Pregnancy Status

- A cow must wean a calf **every** year to be profitable.
- If she can't do this, for **any** reason, she should be culled.
- Rectal palpation and certain blood tests are affordable and accurate



Temperament

- Too many good, calm cows exist to justify keeping a wild, belligerent one.
- Don't be afraid to sell this cow!





Vaccination Program of the Cow Herd

- Objectives
 - Increase resistance to diseases that cause abortions and infertility
 - Improve cows' colostrum which will increase the calf's resistance to diseases.



Prebreeding (Reproductive Diseases)

- A viral vaccine containing **IBR, BVD, BRSV and PI-3**.
 - Will help minimize abortions caused by IBR and BVD.
 - Will fortify colostrum, helping to protect the calf against these viruses which can produce pneumonia.
- Lepto vaccine
- Vibriosis (Campylobacter)
- Mid to late pregnancy is the best time



Other Vaccines

- Pinkeye vaccine
 - Typically given in the spring, prior to fly season.
 - Results are inconsistent. May help.
- Additionally, control flies and keep pastures clipped to prevent eye irritation.



Nursing Calf Management



Nursing Calves

- A number of procedures will help assure the newborn calf gets off to a healthy start.
 - Examine for problems
 - Dip navel, weigh
 - Castrate, implant
 - Identify with tag, tattoo, etc.
 - Record

Colostrum Management

- Colostrum – first milk
- Contains antibodies (which fight disease) that are absorbed through the small intestine of the calf.





Vaccinations for Nursing Calves

- There are vaccines available for newborn calves that may be useful in some situations.
- Discuss vaccinating very young calves with a veterinarian.



Preweaned, Weaning, and Weaned Calves

- Too many TN calves are weaned and sold “fresh-off-the-cow”, resulting in:
 - Highly-stressed calves
 - Calves more likely to become diseased
- This results in TN producers receiving less money for their calves.



Alternatives to this practice

- Preweaning treatment; sell at weaning.
- Preweaning treatment; wean and background on farm. Later, sell or retained-ownership feeding.
- Treat at weaning, background on farm; Later, sell or retained-ownership feeding.
- Replacement heifers – preweaning or wean treatment, background on farm. Later, breeding and join cow herd



Preweaning

- Approximately one month prior to weaning, calves should have a preweaning treatment. This includes:
 - Vaccinations
 - Parasite control
 - Castration, dehorning
 - Growth implant
 - Bunk training

Weaning

- Booster vacc. calves that received pre-weaning treatment.
- Calves not treated preweaning should be treated as per preweaning treatments.





Weaning

- Weaning calves is stressful. Attempt to minimize the event by:
 - Moving cows out, leaving calves in a familiar environment.
 - Having adequate water and hay available, place along fence.
 - Use fenceline weaning or weaning plates

Purchased Stocker Calves

- Define goals
- Processing
- Treatment





Purchased Stocker Vaccinations

- 4-way viral with some changes
- Clostridial vaccine
- Modern Pasteurella vaccine
- Optional vaccines

Purchased Stockers

Other Procedures

- Metaphylaxis
- Growth implant
- Parasites
- Dehorn
- Castrate





Arrival of Purchased Stockers

- Ready access to feed, hay, water
- Place troughs strategically to promote eating and drinking
- Utilize a coccidiostat in the feed or water
- Keep calves in small lots during first few weeks



Decision to Treat

- Deviations from normal behavior
- Not eating, staying in one place too long
- Cough, nasal discharge



THE END

QUESTIONS?