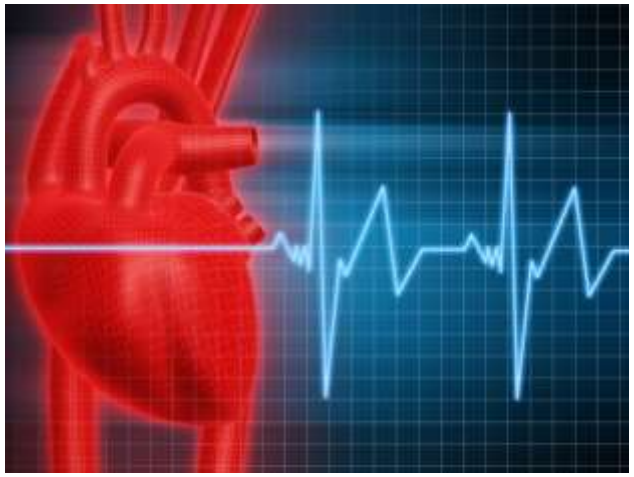
Diseases and Parasites of Beef Cattle

Herd Health Plan

- Needed to maintain the overall health of the herd
- Key to success of the plan is the prevention of problems before they start

Vital Signs of Beef Cattle

- Temp. 100.4-102.8 avg. 101.5
- Pulse 60-70 BPM
- Respiration 10-30 breaths per minute

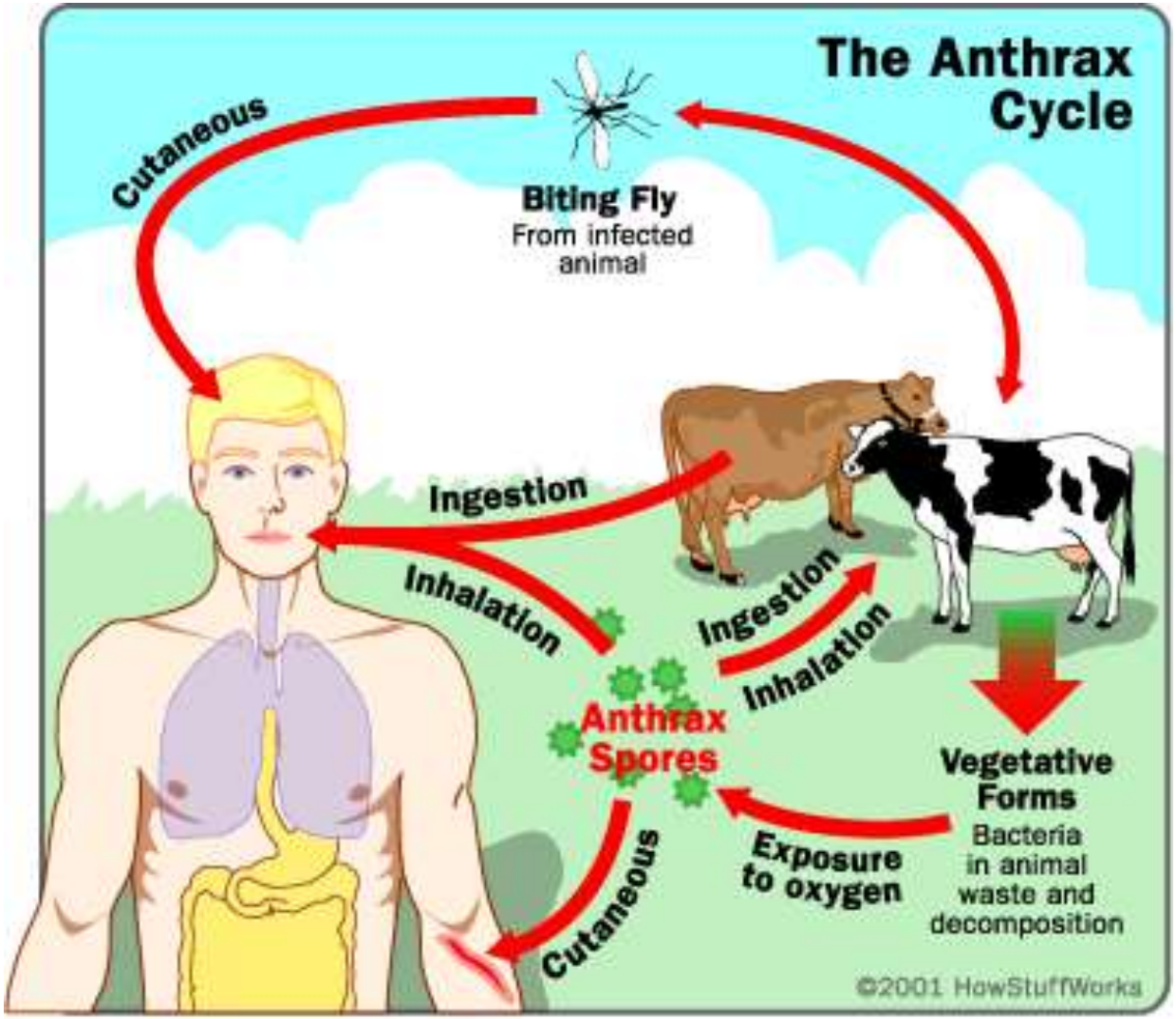


Diseases

Anthrax

- Caused by bacteria that may remain in the soil for 40 years or longer
  - Bacteria only become active under certain conditions.
- Infection results from grazing infected pastures.
- Bacteria enter through the mouth, nose or open wounds.
- Biting insects, such as horse flies, may spread the disease from one animal to another

The Anthrax Cycle



Anthrax: Symptoms

- Sudden death
- Less acute symptoms
  - High fever
  - Sudden staggering
  - Hard breathing
  - Trembling
  - Collapse
- Death usually occurs within a few hours of symptoms

Anthrax: What do I do?

- Carcasses of dead animals should be burned or buried and covered with quicklime
  - Take care not to bury the animal near wells or streams.
- Use care when handling carcasses as anthrax can be spread to people

Anthrax: Prevention

- Vaccines may be used to prevent anthrax
- In areas where it is a problem vaccination should occur yearly

Anthrax


Photo Credit:
Government of the NWT - Resources, Wildlife and Economic Development

Blackleg

- Caused by bacteria that grow only in the absence of oxygen
- Young animals are more commonly affected

Preventing Blackleg

- Vaccination
- Hygienic measures
- Calves are vaccinated when young (typically in the spring at branding or shortly after calving) and again at weaning (fall)
- Dead animals should be burned or buried

Bovine Virus Diarrhea (BVD)

- May appear in mild, acute & chronic forms
- Spreads by contact

Mild BVD

- Often no symptoms
- If they are present:
  - Fever
  - Coughing
  - Discharge from the nose
  - Slow gains
  - Rapid breathing
  - Mild diarrhea
- Animals that have had the mild form of the disease are immune to further infection.

Acute BVD

- Fever
- Difficult breathing
- Discharges from the nose and mouth
- Possible lameness
- Dehydration
- Weight loss
- Diarrhea after 3-7 days

- Pregnant animals may abort if the disease is contracted with in the first 2 months of pregnancy
- Fetus may suffer in later stages of pregnancy
  - Brain damage
  - Hairlessness
  - Underdeveloped lungs

Chronic BVD

- All the same symptoms as the acute plus
  - Slow gains
  - Rough hair coat
  - Lameness

Preventing BVD

- Modified live virus vaccine used
- Calves are vaccinated between 1 day of age and 3 weeks before weaning
- May be vaccinated when upon arrival in the feedlot
  - They should not be vaccinated at the feedlot if they were vaccinated as calves
- Pregnant cattle should not be vaccinated
- Adult cattle should only be vaccinated
  - After calving
  - At least 3 weeks before breeding
  - 1 vaccination will give immunity for the productive life of the animal
- Replacement heifers should be vaccinated between 9 & 12 months of age but not during the last 3 weeks before breeding
- There is no cure for BVD

Brucellosis

- Caused by microorganisms
- Causes heavy economic losses
- Dangerous to humans—the germs that cause brucellosis cause undulant (Malta) fever

Brucellosis: Symptoms

- Cattle abort during the last ½ of pregnancy
- Infected cows retain the after birth (placenta)
- Sterility in cows and bulls
- Reduced milk flow in cows
- Enlarged testicles in bulls
- Calves born to infected cows may be weak

How Brucellosis Spreads

- Bringing infected cattle into the herd
- Fence line contact with infected animals
- Aborted fetus's that carry the *Brucella* organism being carried to other farms by dogs and other carnivorous animals
- Calves being infected by their mothers
- Cattle coming in contact with feed or water where the organism is present
- Sniffing or licking an aborted fetus or calf from a cow that has the disease

Prevention and Cure

- No cure
- Prevention is accomplished by good herd management
- vaccination

Calf Enteritis (Scours)

- Disease complex (group of diseases)
- Most common in fall, winter and spring
- Afflicts young calves-calves over 2 months of age are seldom affected

Symptoms of Scours

- Vary
- Acute form
  - Calf is in a state of shock
  - Nose, ears and legs are cold
  - Diarrhea
  - Sudden death
- Chronic form
  - Symptoms for several days
  - Weight loss
  - Death after several days if not treated

Preventing Scours

- Sanitation is the most important factor!
  - Clean barns
  - Clean buckets for bucket calves
- Calves need the first milk (colostrums)
- Supplement the cows diet with Vitamin A before calving
- Most common types of scours can be controlled by vaccines
  - The dam is vaccinated at least 30 days before calving and passes the antibodies on to her calf

Foot Rot

- Caused by a variety of bacteria, fungi and other organisms found in feedlots
- They enter the body when the skin of the foot is broken
  - Typically by sharp objects such as stones, nails, or wire
- Muddy, manure filled feedlots only increase the problem

Symptoms of Foot Rot

- First noticeable sign is lameness
- Other symptoms
  - Loss of appetite
  - Fever
  - Depression
  - Animals may not want to stand or move around
- Death may eventually result

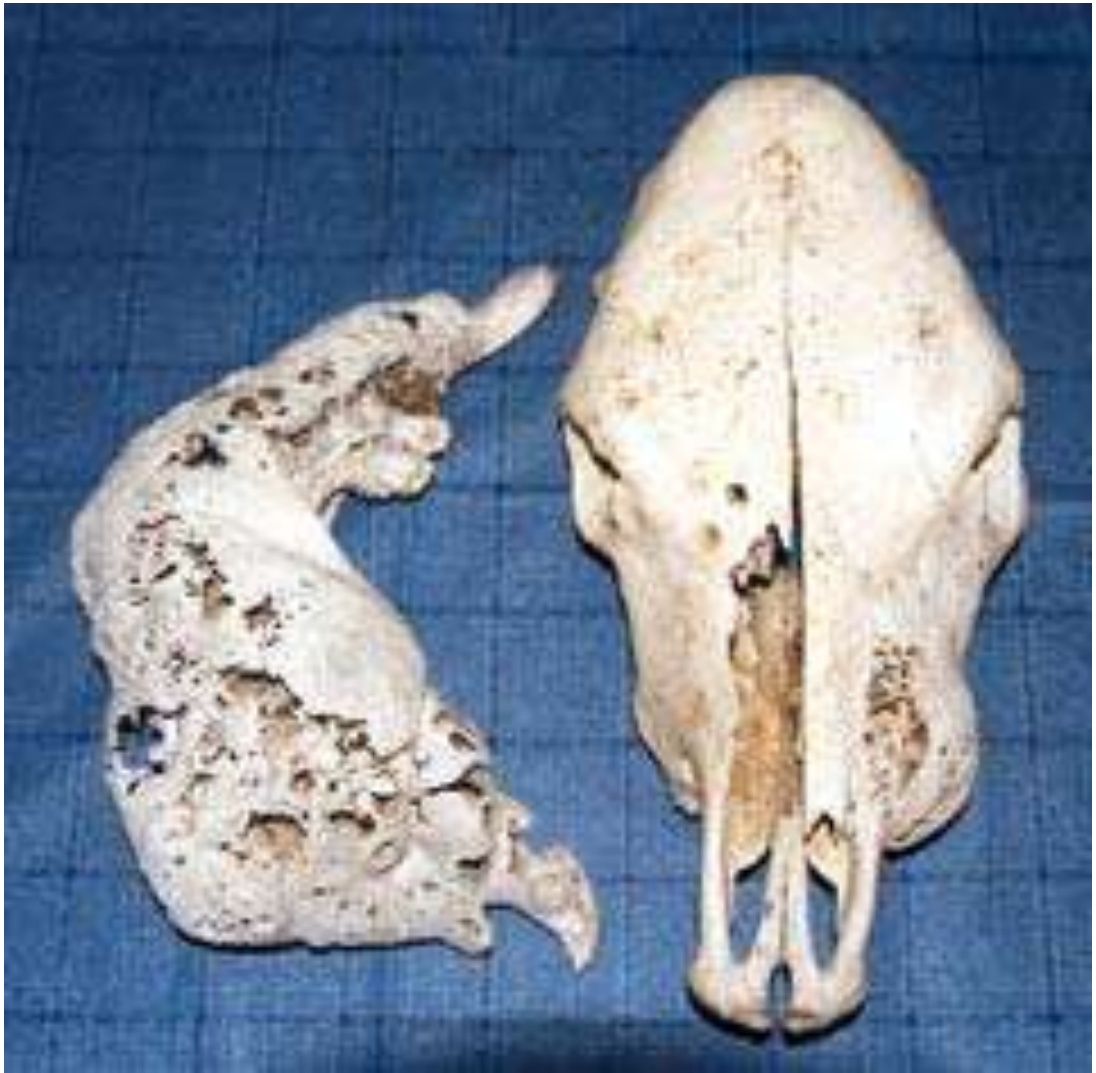
Prevention

- Sanitation and paved lots work best
- Good drainage and mounds in the feedlot also help in eliminating conditions that encourage the disease.
- Spreading lime and 5% blue vitriol around water tanks and feed bunks help in control.
- vaccination

Lumpy Jaw (Actinomycosis)

- Chronic disease
- Rarely causes death
- Biggest loss is economic because the affected body part is condemned at slaughter

Lumpy Jaw



Symptoms of Lumpy Jaw

- Affects the jaw and surrounding bony part of the head. Sometimes it will spread to the muscles and other internal organs.
- Symptoms
  - Tumors or lumps on the jaw.
  - Loose teeth
  - The jaw bone becomes spongy resulting in breathing problems.
  - Weight loss due to difficulty eating

Prevention

- To prevent lumpy jaw be sure that there are no sharp objects such as barley bards, wire or other sharp stickers in the feedlot or pasture.

Pinkeye (Infectious Keratitis, Keratoconjunctivitis)

- Carried by insects
- Affects the eye of the animal
- A viral form of pink eye is associated with IBR

Mild Pinkeye

- Eyeball develops a pinkish color
- Cornea becomes slightly clouded

Acute Pinkeye

- Flowing of tears
- Cloudiness of cornea
- As the infection progresses the cloudy condition becomes worse and ulcers may develop on the eye
- The eye may become so damaged that blindness results

Pinkeye

- White faced cattle and those with pink skin pigment around the eye are more likely to be infected
- Pinkeye occurs year round but is most common during periods of maximum sunlight.

How Pinkeye Spreads

- Insects
- Direct Contact with infected animals
- Dust
- Tail switching

Face fly.

Controlling Pinkeye

- Control flies and insects to prevent pinkeye
- Vaccinations are available to control *Moraxella bovis*, the bacteria that is considered to be the main cause of pinkeye

Shipping Fever (Bovine Respiratory Disease)

- A disease complex that affects the respiratory tract
- Most common in young cattle at times of stress

Stresses

- Moving cattle from range to the feedlot
- Extremes of heat or cold
- Exhaust fumes
- Hunger
- Fright
- Rough handling
- All these things allow bacteria and organisms already present to attack the respiratory tract

Symptoms

- Vary from mild to acute
- Early symptom is fever
- Animal appears depressed with it's head down and eyes closed
- Drooping ears
- Discharge from the nose
- Watery eyes
- Loss of appetite
- Diarrhea
- Weight loss
- Difficult breathing
- Coughing
- Pneumonia
- Possibly death
- If the animal recovers it will be slow to gain

Preventing Shipping Fever

- Vaccination may be used.
- Vaccination should occur after 4 mo. of age
- The best time to vaccinate is 3-4 weeks before the animal is exposed to the conditions that lead to the disease
- Reducing stress and exposure also help in prevention
- Good feedlot management and careful handling of new cattle helps reduce shipping fever.

Trichomoniasis

- A venereal disease caused by a protozoan, *Trichomona fetus*
- The organism infects the genital tract of the bull and is transmitted to the cow during breeding
- Clean bulls can also be infected by breeding "dirty" cows
- The disease can also be transmitted through infected semen, even when artificial insemination is used.

Symptoms

- Abortion in early gestation
- Low fertility
- Irregular heat periods
- Uterine infection
- Cows may have discharge from their genital tract
- Bulls may not show any symptoms of the disease but still be capable of transmitting it to the cow during breeding
- The organism is identified by microscopic examination of material from an aborted fetus, the prepuital cavity of the bull or vaginal discharge from the cow

Prevention

- No treatment or vaccination
- Infected bulls should be slaughtered
- Use only clean bulls on clean cows
- Test bulls to ensure they are free of the disease
- Use semen from clean bulls

Campylobacteriosis (Vibriosis)

- Reproductive disease
- Both intestinal and venereal
- Leading cause of infertility and abortion in the cattle industry

Symptoms

- Infertility
- Abortion
- Irregular heat periods
- In newly affected herds conception rates may drop below 40%
- Calving season is longer

- In chronically infected herds
  - Conception rate is lower than normal-about 60-70%
  - Heifers or new additions will require repeat breeding or will abort

Prevention

- Vaccinate animals 30 days prior to breeding
  - Vaccination must be repeated every year
- The disease is spread from infected bulls to clean cows
- The use of AI helps in prevention because the semen used for AI is treated with antibiotics to eliminate disease organisms.

Ringworm

- A contagious skin disease that can be spread to other animals and humans
- Symptoms
  - Round, scaly patches of skin that lack hair
  - May appear on any part of the body
- The affected area clears up but moves to another part of the body
- Sanitation helps control ringworm
- Isolate infected animals

Ringworm

Nutritional Health Problems

Bloat

- Occurs when rapid fermentation in the rumen causes to much gas to be produced
- The rumen swells and the animal can not get rid of the gas

Bloat

- The major cause of bloat is eating to much green legume too fast
- Feeding of high concentrate ration
- Ways to prevent bloat
  - Prevent animals from eating to much legume
  - Feed grain, dry roughage or silage before turning animals onto legume pastures
- Free access to water should be provided at all times

Acidosis

- Sudden shift from high roughage to a high concentrate ration

Enterotoxaemia (Overeating Disease)

- Usually affects cattle on high-concentrate rations
- Symptoms
  - Lameness
  - Bloody diarrhea
  - Bloat
- The animal may die in 1-24 hours
- Vaccinating calves 2 weeks before putting them on high concentrate rations helps prevent overeating disease
- Treatments
  - Removing concentrates from the diet
  - Feeding roughage
  - Vaccinating
    - Animals may gradually be put back on the high concentrate ration after vaccination.

Grass Tetany

- Occurs when cattle are grazing pastures that are deficient in magnesium

Symptoms

- Early signs
  - Excitement
  - Loss of coordination
  - Loss of appetite
- Other signs
  - Trembling muscles
  - Convulsions
  - Coma
  - Inability to stand
- Death can occur quickly—sometimes within 30 minutes
- Animals seldom recover if not treated within 8-12 hours

Prevention

- Feeding magnesium in the ration
  - Especially in areas where there is a soil deficiency
- Including legumes in the pasture mix

Hardware Disease (Traumatic Gastritis)

- Cattle sometimes pick up sharp metal objects which collect in the reticulum
- When they are sharp they may puncture the wall of the reticulum causing infection or damage to surrounding organs—such as the heart

Symptoms

- Loss of appetite
- Arched back
- Fever
- Stiffness in moving
- Less chewing of the cud
- Pain in defecating
- Pain in lying down and getting up
- Flabby brisket
- Bloat

Prevention

- Ensuring metal objects do not accidentally become mixed in feed
- Keeping loose wire, nails, and other sharp objects cleaned up in areas where cattle are

White Muscle (Selenium Deficiency)

- Occurs when cattle are fed in areas where there is a deficiency of the trace element selenium in soil
- Muscle damage results
- The animal may have difficulty walking, breathing or may die of heart failure
- Calves may be born dead or weak
- Treatment and prevention consists of giving the animal selenium by injection or orally
  - NOTE: to much selenium can be harmful as well.

Summary

- Diseases and parasites reduce profits.
- Good management and sanitation helps prevent health problems
- Diseases are prevented by vaccination
- Buying animals from disease free herds and isolating animals help in control programs
- Controlling insects also helps in preventing the spread of disease.

Summary cont…

- Insecticides are used to control insects—flies, lice, mites and ticks are the most common.
- Sanitation is the most effective control for internal parasites.
- Roundworms, flatworms, coccidia, anaplasma are the most common. Stomach worms are the most serious.
- Good management and feeding programs help prevent nutritional health problems