Introduction to Disease Segment

1. Disease
   • Is a _______________ or incorrect function of an organ, structure or system of an animal’s body

2. Disease
   • Is transmitted from infected animals to _______________ animals through the following methods:
     – direct contact
     – indirect contact
     – _______________ contact
     – airborne transmission
     – fecal-oral transmission
     – vector-borne transmission

3. Direct Contact
   • Occurs when an infected animal has direct contact with a susceptible animal
   • Examples include:
     – touching an _______________ animal
     – sexual contact
     – contact with _______________ secretions
     – contact with body lesions

4. Indirect Contact
   • Occurs when an animal comes in contact with a contaminated surface
   • Examples include:
     – sharing _______________ or water bowls with infected animals
     – touching other _______________ surfaces

5. Droplet Contact
   • Occurs when droplets containing _______________ come in contact with the eyes, _______________ or mouth
   • Examples include:
     – infected animals coughing or sneezing onto susceptible animals
6. **Airborne Transmission**
   - Occurs when droplets are ______________ or dust particles which contain microorganisms are in the air
   - Examples include:
     - animals ingesting or breathing in microorganisms into their _______________ tract

7. **Fecal-Oral Transmission**
   - Occurs when microorganisms enter the body through _______________ of contaminated _______________ or water
   - Examples include:
     - animals eating contaminated food or water

8. **Vector-Borne Transmission**
   - Occurs when vectors, animals or insects, transfer the disease to other susceptible animals
   - Examples include:
     - flies, mites and _______________ transfer disease through biting susceptible animals
     - rats spread disease through _______________ which are then accidentally ingested by susceptible animals

9. **Zoonotic Diseases**
   - Can be passed between animals and humans
   - Can be caused by viruses, _______________, parasites and fungi
   - Are _______________ by coming in contact with body fluids, being bitten by a tick or mosquito or eating or drinking something unsafe

10. **Immunity**
    - Is an animal’s ability to protect and _______________ their body from infection, disease or other unwanted or foreign organisms and objects
    - Includes the following processes:
      - _______________ immunity
      - active immunity
11. Passive Immunity
• Is an immunity which occurs due to the _______________ of antibodies from outside the body to fight an infection or disease
• Is _______________ term and not permanent

12. Active Immunity
• Is an immunity in which the animal’s _______________ produces its own antibodies to fight of infection or disease
• Is long term and _______________

13. Disease
• Can be caused by the following:
  – _______________ deficiencies
  – pathogens
  – _______________

14. Nutrient Deficiencies
• Result from _______________ consumption of key nutrients
• Can affect the _______________ processes of animals
• Lower an animal’s immune system and increase chances of illness

15. Nutritional Requirements
• Depend on an animal’s age and function
• Allow animals to receive a _______________ diet
• Include:
  – vitamins
  – fats
  – _______________
  – protein
  – Minerals

16. Pathogens
• Are any organism _______________ a disease
• Can be _______________ or macroscopic
Clinic Corner: Microscopic is defined as an organism too small to be seen by the unaided eye, but large enough to be studied under a microscope. Macroscopic is defined as an organism large enough to be perceived or examined by the unaided eye such as a worm or tick.
17. **Pathogens**  
- Are classified as follows:  
  - viruses  
  - bacteria  
  - parasites  
  - fungi  
  - ________

18. **Pathogens**

19. **Viruses**  
- ________ reproduce without a host  
- Consist of DNA and RNA  
- Can take over the ________ of the host cell

20. **Bacteria**  
- Are ________ celled organisms  
- May produce toxins harmful to the body  
- Multiply rapidly ________ a host  
- Can be identified by shape

21. **Bacteria Shapes**  
- Include:  
  - cocci: spherical-shaped  
  - ________: rod-shaped  
  - ________: spiral-shaped
22. Parasites
- Can be external or internal
- Effect host animals through _______________ or ingestion
- Have various life cycles
- Are _______________ organisms

23. Internal Parasite Life Cycle

24. External Parasite Life Cycle
25. Fungi
• Studies are known as _______________
• Live in air, soil, plants and water
• Produce transmittable ___________ which can cause fungal diseases

26. Protozoa
• Is Greek for _______________ animal
• Is a single-celled organism
• Breath, move and _______________ similar to multi-cellular animals
• Can be classified into many different types

27. Genetics
• Is the study of ________________, which is a process where parents pass genes onto their offspring
• Causes parents to pass DNA ________________ to their offspring which often leads to transmission of disease

28. Prevention
• Starts with proper ________________ and care
• Reduces chance of ________________
• Results in a healthy animals

29. Proper Management
• Allows producers to prevent causes, prevent symptoms and treat diseases
• Involves the following techniques:
  – providing shelter
  – cleaning and sanitizing facilities and equipment
  – ________________ adequate diets
  – monitoring herd ________________ daily
  – isolating new animals before introduction to the herd

30. Signs of Healthy Animals
• Include the following:
  – ________________
  – normal feces and urine
  – normal vital signs
  – ________________ coat
  – eating and drinking normally
31. Signs of Unhealthy Animals
• Include the following:
  – lethargic
  – rough hair coat
  – _______________ eyes
  – abnormal feces or urine
  – _______________ vital signs
  – labored breathing or coughing
  – loss of appetite
  – runny nose
  – Swelling

32. Vital Signs
• Refers to the temperature, _______________ rate and pulse of the body
• Provide critical information about an animal’s state of health and can be used to not only detect but also _______________ medical issues, such as diseases

33. Temperature
• Is defined as the ______________ _ of heat of a living body
• Is considered a fever when it is elevated or above normal or considered _______________ when it is below normal
• Is measured in degrees Fahrenheit in the U.S.

34. Respiration
• Is the act of breathing and is determined through the following examinations:
  – rate
    • number of inspirations per minute
  – depth
    • _______________ or indication of strain
  – rhythm
    • change in duration of inspiration and expiration
  – sound
    • absence of noise
  – dyspnea
    • _______________ breathing
35. **Pulse Rate**
- Is the measurement of the heart rate or the number of times the heart beats per minute
- Is determined through the following examinations:
  - **frequency**
    - number of beats per minute
  - **rhythm**
    - regular ____________ pattern of beats
  - **quality**
    - tension on the ____________ wall and volume of blood flow

36. **Vital Signs**

<table>
<thead>
<tr>
<th>Species</th>
<th>Temperature, °F (°C)</th>
<th>Pulse Rate, heart beats/min</th>
<th>Respiration Rate, breaths/min</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td>100.4 to 102.8 (38.0 to 39.3)</td>
<td>[ ]</td>
<td>10 to 30</td>
</tr>
<tr>
<td>Sheep</td>
<td>100.9 to 103.8 (38.3 to 39.9)</td>
<td>70 to 80</td>
<td>12 to 20</td>
</tr>
<tr>
<td>Goats</td>
<td>101.7 to 105.3 (38.7 to 40.7)</td>
<td>70 to 80</td>
<td>12 to 20</td>
</tr>
<tr>
<td>Swine</td>
<td>102.0 to 103.6 (38.9 to 39.8)</td>
<td>60 to 80</td>
<td>8 to 13</td>
</tr>
<tr>
<td>Horses</td>
<td>99 to 100.8 (37.2 to 38.2)</td>
<td>32 to 44</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

37. **Animal Body Systems**
- Are complex structures made up of _________________ of cells
- Each work together to carry out a special job
- Are highly affected by ________________ which disrupt normal cell functions while sometimes resulting in killing cells and tissues
38. Animal Body Systems
- Include:
  - circulatory
  - respiratory
  - digestive
  - endocrine
  - immune
  - nervous
  - skeletal
  - reproductive

39. Circulatory System
- Is designed to pump and deliver blood to the body’s tissues
- Is made up of the heart, arteries, _______________ and blood
- Is affected through disease by changes to blood levels, abnormal heart sounds and beats, fluid around the heart and _______________

40. Circulatory System

41. Respiratory System
- Is made up of the nose, mouth, ________________, bronchi and lungs
- Provides the body with the ________________ of oxygen and carbon dioxide
- Is affected by disease through coughing, damage to the lungs and labored breathing
42. **Respiratory System**

43. **Digestive System**
- Breaks down food into simple substances which can be absorbed by the body
- Absorbs _____________ parts of food into the blood stream
- Is affected by disease through ________________, weight loss, intestinal damage and poor appetite

44. **Digestive System**
- Includes four basic types of systems:
  - monogastric (simple)
  - ruminant (polygastric)
  - _________________
  - avian

45. **Monogastric Digestive System**
- Contains a ________________ stomach
- Stomach is very ________________ and stores ingested food and moves it into the small intestine
- Is found in humans, swine, dogs and cats
46. Monogastric Digestive System

- Also known as _______________
- Contains one large stomach which is divided into four compartments
  - including:
    - rumen
    - reticulum
    - _______________
    - abomasum
- Is found in cattle, sheep and goats

47. Ruminant Digestive System

- Also known as _______________
- Contains one large stomach which is divided into four compartments
  - including:
    - rumen
    - reticulum
    - _______________
    - abomasum
- Is found in cattle, sheep and goats
49. Hindgut-Fermenter Digestive System
- Is found in animals who eat large amounts of _______________
- Is similar to ruminants, however does not have stomachs with several _______________
- Is found in horses, rabbits, guinea pigs and hamsters

50. Hindgut-Fermenter Digestive System

51. Avian Digestive System
- Highly differs from the previous digestive systems because the bird has no teeth
- Is made up of the _______________ which empties directly into the crop, where the food is stored and then grinded by the _______________ with stones or grit
- Is a very fast process
53. Endocrine System
- Produces hormones which regulate metabolism, growth and development, tissue and sexual function, reproduction, ____________ and mood
- Is made up of the pituitary gland, thyroid gland, ____________ glands, adrenal glands, pancreas, ovaries and testicles
- Is affected by disease through poorly developed or swollen glands

54. Endocrine System
Common Animal Diseases

- Student Notes

55. Immune System
- Defends the body against infectious organisms and other invaders
- Attacks organisms and ______________ which invade an animal’s system and causes diseases
- Is made up of __________ nodes, cells, proteins, tissues and organs
- Is affected by disease through reduced immune response

56. Immune System

57. Integumentary System
- Protects the animal’s body from disease by providing a barrier to viruses and bacteria
- Protects the body from dehydration, _______________ or freezing
- Is affected by disease through irritation, itching, scratching, rough hair coat, hair falling out, _______________ skin and lesions

58. Integumentary System
- Is the ______________ organ in the body and includes the following:
  - hair
  - feathers
  - _______________
  - nails
  - hooves
  - horns
  - skin
59. Integumentary System

60. Nervous System

- _______________ signals to different parts of the animal’s body and operates basic body functions like breathing and digestion
- Is affected by disease through poor _______________, tremors, convulsions and changes to behavior

61. Nervous System

- Includes:
  - central nervous system
    - which is the brain and spinal cord
  - _______________ nervous system
    - which is made up of the nerves and _______________
62. Nervous System

63. Skeletal System
- Protects and supports the body tissues and internal organs
- Is made up of bones and other connective tissues
- Is affected by disease through poor growth, _____________ weakness, stiffness, _____________ and muscle tremors

64. Skeletal System
65. Reproductive System
- Is a system of sex organs within animals which work together for the purpose of sexual reproduction
- Is affected by disease through ________ fertility rates, lactation problems and reproductive ________

66. Reproductive System
- Female anatomy includes:
  - ovaries
  - uterus
  - vagina
  - vulva
  - ________
- Male anatomy includes:
  - penis
  - ________

67. Reproductive System Male
Nutritional Diseases Segment
1. Common Nutritional Diseases
   • Include the following:
     – grass tetany
     – bloat
     – colic
     – _______________ (overeating disease)
     – lactic acidosis
     – _______________ fever
     – white muscle disease
     – hardware disease

2. Grass Tetany
   • Is a serious and often fatal _______________ disorder caused by low levels of magnesium in the blood
   • Is also called “Grass _______________” or “Wheat Pasture Poisoning”
   • Primarily affects cattle and sheep
   Clinic Corner: Magnesium is an important electrolyte needed for proper muscle, nerve and enzyme function.

3. Grass Tetany
   • Symptoms include:
     – _______________ gait
     – convulsions
     – _______________
     – death
4. Grass Tetany
• Treatment includes:
  – restoring blood _______________ levels through the following methods:
    • adding magnesium oxide powder onto feed or pasture
    • magnesium lick blocks, concentrates or pellets
  – veterinary administration of an _______________ calcium and magnesium solution

5. Grass Tetany
• Prevention includes:
  – avoiding grazing animals on _______________ grass
  – providing a _______________ supplement
    • increases blood magnesium levels

6. Bloat
• Can occur in all ruminants
• Refers to _______________ fermentation, producing excess gas or foam in the rumen
• Is caused by consuming highly concentrated rations and _______________ legume pastures

Clinic Corner: Fermentation is the breakdown of carbohydrates by enzymes.

7. Bloat
• Symptoms include:
  – abdominal _______________ on left side
  – loss of appetite
  – _______________ distress
  – difficulty walking or moving
8. Bloat
- Treatment includes:
  - keeping animal on feet and moving
  - drenching with mineral oil or _______________
  - putting stomach tube down throat to relieve pressure from gas
- Prevention includes:
  - feeding dry roughage with a mix of grasses
  - keeping animals from eating an excess of lush green grass, especially _______________

9. Colic
- Is the general term referring to abdominal pain
- Mainly impacts _______________ because they are unable to vomit
- Is caused by a wide range of conditions affecting the digestive tract, including:
  - sudden changes in feed
  - a predominantly concentrate diet
  - _______________
  - lack of water
  - presence of bloodworms

10. Colic
- Symptoms include:
  - _______________ abdomen
  - rolling and kicking
  - excruciating pain
  - sweating
  - constipation
- Can result in a _______________ intestine
11. Colic
• Treatment includes:
  – walking the horse
  – administering Banamine
  – taking to veterinarian
    • animal might need ________________, laxatives, pain medicine or surgery
• Can be prevented by:
  – feeding small rations
  – feeding good quality _______________
  – providing clean water
  – monitoring eating habits
  – controlling internal parasites

12. Enterotoxemia (Overeating Disease)
• Is caused by toxins produced by naturally occurring intestinal bacteria
  – _______________ perfringens types C and D
• Commonly affects sheep and goats
• Usually occurs when an animal consumes excessive amounts of high energy feeds or milk
• Produces a quickly absorbed _______________
• Can cause acute death

13. Enterotoxemia (Overeating Disease)
• Symptoms include:
  – sudden death
  – diarrhea
  – _______________ signs
    • circling
    • head pressing
    • incoordination
    • _______________

14. Enterotoxemia (Overeating Disease)
• Treatment includes:
  – administering _______________
  – administering oral antibiotics
  – feeding _______________
15. Enterotoxemia (Overeating Disease)
• Prevention includes:
  – _______________ introducing concentrates
  – carefully regulating energy intake
  – administering a vaccination against Clostridium perfringens types C and D to _______________ and young animals at approximately four weeks of age
Clinic Corner: Vaccination is defined as an injection of a killed microbe in order to stimulate the immune system against the microbe, thereby preventing disease.

16. Lactic Acidosis
• Is also known as carbohydrate _______________
• Is caused by a _______________ shift from a forage-based to a high concentrate diet
• Results from low rumen pH due to an increase of propionic acid production

17. Lactic Acidosis
• Symptoms include:
  – abdominal distension or _______________
  – dehydration
  – diarrhea
  – sore hooves
  – liver _______________
  – decreased milk production
Clinic Corner: Propionic acid is an acid produced by bacteria in the rumen with a very low pH

18. Lactic Acidosis
• Treatment includes:
  – gradually adding more roughages to the diet
  – adding feed _______________ to help raise the rumen pH
  – giving _______________ antacids
  – giving oral fluids
19. **Lactic Acidosis**
   - Prevention includes:
     - maintaining a roughage diet of ______________ percent or more
     - utilizing ______________ as feed additives

Clinic Corner: Ionophores are known as a group of organic compounds and facilitate the transport of ions across the cell membrane.

20. **Milk Fever**
   - Is a ______________ disorder
   - Is also known as hypocalcemia
   - Affects cattle, sheep and goats
   - Occurs when the animal has low blood ______________ levels during lactation

21. **Milk Fever**
   - Symptoms include:
     - muscle ______________
     - wobbly
     - ______________ cow
     - inability to stand
     - low body temperature
     - unconscious/coma

22. **Milk Fever**
   - Treatment includes:
     - injecting a solution of calcium borogluconate ______________ or intravenously
     - providing a combined ______________ solution

Clinic Corner: Subcutaneous injections are injected into the skin. Intravenous injections are injected into the vein.

23. **Milk Fever**
   - Prevention includes:
     - providing vitamin D, five to seven days before ______________
     - keeping animals on a low calcium diet while not lactating
     - providing ______________ doses of calcium one day before and one day after giving birth
     - alfalfa hay is high in calcium
24. White Muscle Disease
• Is generalized as nutritional ______________ dystrophy
• Affects young, rapidly growing lambs/kids (from dams with selenium deficient diets)
• Affects calves and foals
• Is the result of a ______________ and/or vitamin E deficiency

25. White Muscle Disease
• Affects two different muscle groups, ___________ and skeletal systems
• Cardiac symptoms include:
  – sudden death
  – respiratory distress
• Skeletal symptoms include:
  – muscular weakness
  – ________________ to stand
  – muscle tremors

26. White Muscle Disease
• Treatments include:
  – ________________ of selenium
  – oral drenches of selenium/vitamin E
• Prevention includes:
  – supplementing the diet of _____________ animals with
    selenium and vitamin E
Clinic Corner: Warning - too much selenium can cause toxicity in animals!

27. Hardware Disease
• Affects cattle and is also known as “gastritis” or “traumatic reticulitis”
• Occurs when a sharp object, such as a ________________ or piece of wire pierces the stomach wall and gains access to the ____________

28. Hardware Disease
• Symptoms include:
  – poor appetite
  – depression
  – indigestion
  – signs of pain when ________________
  – bloat
  – ________________ around the heart and abnormal heart sounds
29. **Hardware Disease**
   - Treatment includes:
     - elevating ___________ to stop forward movement of the nail or wire from the reticulum
     - administer ___________ to prevent infection
     - surgery to remove the object

30. **Hardware Disease**
   - Prevention includes:
     - administering a ___________ into the reticulum
       - keeps foreign metallic objects together and reduces the chances of penetration
     - keep feed bunks, pastures and ___________ free of hazardous objects

**Bacterial Diseases Segment**

1. **Bacterial Diseases**
   - Include:
     - bovine respiratory disease (BRD)
     - leptospirosis
     - brucellosis
     - vibriosis
     - ___________
     - pinkeye
     - foot rot
     - erysipelas
     - ___________ disease

2. **Bovine Respiratory Disease (BRD)**
   - Is one of the most common diseases affecting cattle
   - Affects the respiratory ___________
   - Is defined as a “disease complex” and can be caused by a variety of pathogens
   - Is a major cause of ___________ loss for cattle producers
3. **Bovine Respiratory Disease (BRD)**
   - Symptoms include:
     - fever
     - depression
     - lack of appetite
     - rapid, __________ breathing
     - coughing
     - bloody or discolored __________ and eye discharge
     - salivation
     - death

4. **Bovine Respiratory Disease (BRD)**
   - Treatment includes:
     - separating sick animals into a different pen
     - administering antibiotics
     - administering __________ to reduce fever and damage to lungs
   - Prevention includes:
     - utilizing proper management techniques to reduce __________ on cattle
     - vaccinating

5. **Leptospirosis**
   - Is a __________ disease caused by bacteria of the genus Leptospira
   - Affects cattle, sheep, goats, pigs and horses
   - Can damage the liver, kidneys and other organs in the animal
   - Is spread through _____________, which gets into water and soil

6. **Leptospirosis**
   - Symptoms include:
     - fever
     - reproductive problems
     - __________ eyelids
     - diarrhea
     - __________
     - depression
     - muscle pain
7. Leptospirosis
• Treatment includes:
  – administering antibiotics to _______________ infection
  – segregating infected animals
• Prevention includes:
  – _______________ annually
  – utilizing proper management techniques to reduce transmission

8. Brucellosis
• Is an infectious disease affecting cattle, goats and swine and is caused by _______________ bacteria
• Is also known as “bangs disease”
• Is highly contagious and spread from the vaginal discharge of an infected cow or from an _______________ fetus

9. Brucellosis
• Symptoms include:
  – abortion
  – _______________
  – weak calf born
  – retention of _______________ membranes
  – infection
  – swollen testicles in bulls

10. Brucellosis
• Has no available treatment, which makes _______________ and prevention imperative
• Prevention includes:
  – vaccinating to increase _______________ to infection
  – utilizing proper management techniques and good sanitation

11. Vibriosis
• Is a _______________ disease spread by infected bulls when they mate with cows and heifers
• Is caused by the bacteria Campylobacter fetus
• Is considered to be one of the major causes of _______________ in cattle

Clinic Corner: Venereal disease is defined as an infection transmitted through sexual contact.
12. Vibriosis
• Symptoms include:
  – abortion
  – poor __________________ rates
  – long calving ________________
  – uterine infection

13. Vibriosis
• Treatment includes:
  – providing antibiotic treatment
  – vaccinating
• Prevention includes:
  – vaccinating bulls and cows annually
  – utilizing ________________ and screening of bulls
  – treating new bulls with antibiotics before ________________

14. Strangles
• Is a bacterial infection of the ________________ respiratory tract of horses
• Causes ________________ of the lymph nodes in the throat and impairs breathing

15. Strangles
• Symptoms include:
  – fever
  – ________________ around the throat
  – abscesses
  – difficulty breathing and swallowing
  – nasal ________________

16. Strangles
• Treatment includes:
  – administering antibiotic and anti-inflammatory medications
  – washing abscess or ________________ with antiseptic solution
• Prevention includes:
  – ________________ new horses for at least three weeks
  – vaccinating annually
17. Pinkeye
- Affects cattle and is caused by Moraxella _______________ bacteria
- Damages the _______________ and conjunctiva
Clinic Corner: Conjuctiva is the mucous membrane which covers the front of the eye and lines the inside of the eyelids

18. Pinkeye
- Symptoms include:
  – excessive tearing
  – frequent _______________ or squinting
  – decreased appetite
  – corneal ulceration and _______________
  – eye rupture

19. Pinkeye
- Treatment includes:
  – administering antibiotics using _______________ applications in the eye
  – feeding antibiotics
- Prevention includes:
  – controlling flies
  – reducing dust and _______________ to sunlight
  – Vaccinating

20. Foot Rot
- Is a contagious disease of sheep, _______________ and cattle
- Is caused by an interaction of two _______________ bacteria
  – Fusobacterium necrophorum
  – Bacteroides nodosus
Clinic Corner: Anaerobic is defined as organisms living without oxygen.

21. Foot Rot
- Bacteria must penetrate the interdigital epidermis
- Symptoms include:
  – moist and _______________ hooves
  – inflamed _______________ space and coronary band
  – foul odor
  – lameness
22. Foot Rot
• Treatments include:
  – foot trimming
  – administering antibiotics
  – providing ______________ sulfate or copper sulfate footbaths
  – utilizing zinc sulfate as a dry ______________

23. Foot Rot
• Prevention includes:
  – avoid using facilities used by infected animals in the last two weeks prior to foot ______________
  – trimming and ______________ the feet of all new animals

24. Erysipelas
• Is caused by the ______________ Erysipelothrix rhusiopathiae, which affects swine and sheep
• Is transmitted by animals ______________ the bacteria from contaminated feces in the soil

25. Erysipelas
• Symptoms include:
  – fever
  – poor appetite
  – ______________ movement
  – skin ______________
  – swollen joints
  – Lameness

26. Erysipelas
• Treatment includes:
  – administering ______________ (antibiotic)
  – ______________ feed with phenoxytrimethyl penicillin
• Prevention includes:
  – vaccinating
  – utilizing proper management
    • provide a clean environment
Common Animal Diseases
- Student Notes

27. Johne’s Disease
• Is an ______________ wasting disease of adult cattle
• Is caused by organisms in the intestinal cells and lymph nodes
  – organisms are passed out in feces and easily survive in manure
• Causes progressive ______________ of the intestinal walls
• Affects young animals and may not show symptoms until adulthood

28. Johne’s Disease
• Can be determined with tests performed by a veterinarian
• Symptoms may not be present
• Symptoms include:
  – ______________ diarrhea
  – weight loss
  – ______________ milk production

29. Johne’s Disease
• Has no ______________ treatment
• Can be prevented by checking health ______________ of animals before purchase

Viral Diseases Segment
1. Common Viral Diseases
• Include:
  – rabies
  – porcine parvovirus
  – sore mouth
  – ______________
  – bovine virus diarrhea
  – foot and mouth disease
  – infectious ______________ rhinotracheitis
  – clostridial disease
  – porcine circovirus

2. Rabies
• Is an ______________, fatal viral disease
• Is a ______________ disease
• Has two genotypes
  – classic (fox, raccoons, skunks)
  – bat variant
3. Rabies
- Is transmitted by:
  - rabid skunks, foxes, ____________ or bats who bite an animal, ultimately infecting them with the virus

4. Rabies
- Symptoms include:
  - _______________ changes
  - difficulty swallowing
  - abnormal gait
  - _______________ of limbs
  - hyper salivation
  - may appear colicky
  - obscure lameness
  - fever

5. Rabies
- Treatment includes:
  - euthanizing is _______________ in cases with clinical signs of disease, there is no curable treatment
- Prevention includes:
  - vaccinating annually
  - inspecting horses _______________, especially if they live outside year round
  - controlling wild animals which could potentially carry the rabies virus

6. Porcine Parvovirus
- Is highly _______________ and the most common cause of infectious infertility in swine
- Affects the _______________ of a pregnant sow
7. Porcine Parvovirus
• Symptoms include:
  – fetal death
  – fetal ________________
• Does not have a known cure
• Prevention includes:
  – quarantining and ________________ new animals

8. Sore Mouth (Orf)
• Is the most common skin disease affecting sheep and goats
• Is a viral infection and ________________ disease which can produce painful human infections
• Affects ________________ animals more frequently

9. Sore Mouth (Orf)
• Symptoms include:
  – loss of appetite
  – ________________ appear on lips, gums and ________________, causing redness or swelling
  – vesicles break and form sores

10. Sore Mouth (Orf)
• Is a ________________ infection
• Treatment includes:
  – applying antibiotic ________________ to the sores
  – tube feeding young individuals if not nursing
• Prevention includes:
  – maintaining proper sanitation
  – vaccinating

11. Bluetongue
• Is a ________________ disease mainly affecting sheep and goats, but can also affect cattle
• Can be transmitted through the following:
  – insects
  – ________________
  – infected needles
  – semen
12. Bluetongue
- Symptoms include:
  - abortion
  - weak, “dummy lamb” births
  - fever
  - excessive ______________
  - nasal discharge
  - ______________ mouths
  - swelling of muzzle and ears
  - blue tongue

13. Bluetongue
- Does not have a known cure
- Prevention includes:
  - controlling ______________
  - using ______________

14. Bovine Virus Diarrhea
- Is a viral disease affecting cattle of all ages
- Spreads by ______________
- Is a _______________ pathogen
Clinic Corner: Transplacental is defined as relating to or involving passage through or across the placenta.

15. Bovine Virus Diarrhea
- Is transmitted by ______________ feeding flies and contact with fomites
- Is an incurable disease
- Can appear in the following forms:
  - mild
  - ______________
  - chronic
Clinic Corner: A fomite is defined as any inanimate object or substance capable of carrying infectious organisms. Examples include: soil, holding pens, chutes, feeding troughs, etc.
Common Animal Diseases

- Student Notes

16. Bovine Virus Diarrhea
• Symptoms include:
  – _______________
  – poor appetite
  – diarrhea
  – fever
  – nasal discharge
  – oral _______________
  – abortions

17. Bovine Virus Diarrhea
• Treatment includes:
  – providing _______________ therapy
• Prevention includes:
  – _______________

18. Foot and Mouth Disease
• Is a severe, highly contagious zoonotic viral disease
• Leaves recovered animals _______________
• Virus survives in _______________ nodes and bone marrow at neutral pH

19. Foot and Mouth Disease
• Can be spread by _______________ contact with the virus by susceptible animals
• Virus includes more than _______________ subtypes

20. Foot and Mouth Disease
• Symptoms include:
  – blisters
  – _______________ in the mouth, on teats and hooves
  – excessive salivation
  – _______________
  – lameness
21. Foot and Mouth Disease
• Treatment includes:
  – vaccines must be matched to the specific type and _________________ of the virus
• Prevention includes:
  – observing excessive salivation or lameness
  – reporting any signs of disease to a veterinarian
  – not bring prohibited animal products or other at-risk materials from other _________________ into the United States

22. Infectious Bovine Rhinotracheitis (IBR)
• Is a contagious _________________ disease of cattle caused by bovine herpes virus type 1 (BHV-1)
• Can be spread through direct contact with infected animals or indirect contact with _________________ surfaces

23. Infectious Bovine Rhinotracheitis (IBR)
• Symptoms include:
  – fever
  – loss of appetite
  – nasal discharge
  – difficulty breathing
  – redness in the _________________ of the eyes
  – _________________

24. Infectious Bovine Rhinotracheitis (IBR)
• Treatment includes:
  – _________________ antibiotics
  – utilizing proper management techniques to reduce stress
  – isolating infected animals and providing _________ food and water
• Prevention includes:
  – vaccinating

25. Clostridial Disease
• Is also known as “black leg”
• Is caused by a _________ forming bacterium attacking skeletal muscles
• Spores can live in soil for years
• Can cause _________________ without any symptoms
26. Clostridial Disease
   • Symptoms include:
     – lameness
     – swelling over neck, shoulder and thighs
       • will make a ______________ sound when rubbed
     – ______________ and bruises occur in young calves from four
       months to two years old
     – death occurs in one or two days

27. Clostridial Disease
   • Treatment includes:
     – administering ______________ doses of antibiotics which may
       save the animal if detected early, not always effective
   • Prevention includes:
     – administering a ______________ at three to four months of age

28. Porcine Circovirus
   • Is an ______________ problem in the United States
   • Includes the following strains:
     – PCVD1
     – PCVD2, zoonotic strain
   • Is a member of the virus family Circoviridae
   • Type II is the ______________ which affects pigs

29. Porcine Circovirus
   • Can be present with no symptoms
   • Symptoms include:
     – poor growth
     – increased ______________
     – weight loss
     – enlarged lymph nodes
     – ______________
30. Porcine Circovirus
   • Treatment includes:
     – providing vaccines administered to piglets three to five weeks of age in two doses
   • Prevention includes:
     – _______________ facilities
     – quarantining new and sick animals from the herd
     – lowering stress of animals
     – increasing _______________ systems through proper nutrition

Parasitic & Fungal Diseases Segment
1. Common Fungal Diseases
   • Include:
     – ringworm
     – facial _______________

2. Ringworm
   • Is known as Club Lamb Fungus
   • Affects _______________ animals
   • Is highly contagious
   • Can be transmitted to humans, therefore it is a _______________ fungal disease
   • Is a fungus which invades the skin and hair (wool)

3. Ringworm
   • Symptoms include:
     – _______________ appearing on the head, _______________
       and back
     – hair loss around infected area

4. Ringworm
   • Treatment includes:
     – applying anti-fungal _______________ to lesions
   • Prevention includes:
     – utilizing proper sanitation practices of brushes, _______________
       and bedding
     – minimizing contact with infected animals
Common Animal Diseases

5. Facial Eczema
• Is a type of _____________
• Affects grazing animals
• Is caused by a poisonous substance "sporidesmin" produced by fungus on pasture plants
• Causes ______________ damage

6. Facial Eczema
• Symptoms include:
  – sunburn
  – ________________ eyes
  – puffy face
  – rapid ________________ loss
  – jaundice

7. Facial Eczema
• Treatment includes:
  – sheltering animals from ________________ sunlight
  – removing animal from infected field
  – contacting a veterinary ______________

8. Facial Eczema
• Prevention includes:
  – keeping track of ________________ counts in pastures
  – minimizing ________________ grazing of pasture
  – shifting livestock to the pastures with low fungi counts

9. Common Parasitic Diseases
• Include:
  – mange
  – ________________
  – ostertagious
  – haemonchus contortus
  – ascaris
  – Anaplasmosis
10. Mange
• Affects all animals
• Is caused by an external parasite
• Can be identified in various types, including:
  – sarcoptic mange
  – psoroptic mange
  – chorioptic mange
  – _______________ mange
  – psorergatic mange
• Is most commonly identified as _______________ Mange in the United States

11. Mange
• Symptoms include:
  – lesions
  – itchiness
  – _______________ and scabs
  – hair loss
  – ulcerations on the legs
  – weight loss
  – decreased milk production
  – increased _______________ to other diseases

12. Mange
• Treatments include:
  – spraying the animal with a _______________ solution at high pressure
  – using a _______________ dip weekly on cattle
• Prevention includes:
  – avoiding close confinement
  – keeping animals outdoors as much as possible
  – quarantining new animals

13. Coccidiosis
• Is caused by a number of protozoan from the family Coccidia
• Is caused by _______________ rupturing the _______________ cell lining
• Can be found in all animals, mostly in poultry and cattle
14. Coccidiosis
• Symptoms include:
  – diarrhea (bloody at times)
  – _______________
  – loss of appetite
  – fever

15. Coccidiosis
• Treatment includes:
  – administering _______________ drug
• Prevention includes:
  – utilizing proper sanitation techniques
  – placing sulfa _______________ or nitrofurazone in feed or water
  – using a feed with correct minerals and antibiotics

16. Ostertagious
• Is the principal _______________ parasite of beef and dairy cattle
• Attacks the lining of the abomasum
• Causes irritation and _______________ with the digestive function

17. Ostertagious
• Symptoms include:
  – decreased _______________ gain
  – decreased milk production
  – loss of _______________ protein
  – diarrhea

18. Ostertagious
• Treatment includes:
  – administering the following at _______________ intervals:
    • thiabendazole
    • ivermectin
• Prevention includes:
  – administering one or more anthelmintic treatments during a production cycle
  – providing higher levels of protein in the diet
  – arranging a late _______________ onto pasture in the spring
19. Haemonchus Contortus
• Is better known as the "barber pole" or wire worm
• Is the single most deadly stomach worm
• Affects sheep in ________________, moist climates
• Pierces the lining of the ________________, causing protein loss

20. Haemonchus Contortus
• Symptoms include:
  – anemia
  – pale ________________ membranes
  – swelling ________________ the jaw

21. Haemonchus Contortus
• Treatment includes:
  – de-worming animals with medicines, such as:
    • levamisole
    • ________________
    • thiabendazole
• Prevention includes:
  – ________________ at birth
  – monitoring herds carefully

22. Ascaris
• Is a common parasite affecting ________________ of two to three months of age
• Is a zoonotic parasite
• Is generally known as roundworms
• Resides in the stomach, intestinal tract and even the ________________ of swine
• Can be transmitted to humans through ingestion

23. Ascaris
• Symptoms include:
  – weight loss
  – slow weight ________________
  – ________________ pain
  – coughing or trouble breathing
  – pneumonia
24. **Ascaris**
- Treatment includes:
  - de-worming animals using medicines, such as:
    - fenbendazole
    - soramectin
    - _____________
- Prevention includes:
  - utilizing thorough cleaning and sanitation techniques
  - controlling pests and _____________
  - minimizing traffic
  - providing good nutrition

25. **Anaplasmosis**
- Is also known as _____________ or yellow-fever
- Can affect all animals
- Is a blood disease caused by Anaplasma marginale and Anaplasma centrale
- Is transmitted and spread by _____________

26. **Anaplasmosis**
- Symptoms include:
  - anemia
  - fever
  - weight loss
  - _____________ of breath
  - jaundice (yellowing of skin)
  - _____________ movements
  - abortion
  - Death

27. **Anaplasmosis**
- Treatment includes:
  - administering blood transfusions
  - administering antibiotics, such as:
    - _____________
- Prevention includes:
  - administering an antibiotic called oxytetracycline every three to _____________ weeks when animals are at risk
Genetic Diseases Segment

1. Common Genetic Diseases
   - Include:
     - hypotrichosis
     - _______________
     - cryptorchidism
     - hyperkalemic periodic paralysis (HYPP)
     - porcine stress syndrome
     - _______________ lamb syndrome

2. Hypotrichosis
   - Is also known as hairlessness
   - Occurs in several breeds of beef cattle
   - Is a complete or ______________ loss of hair and calves are often
     born with no hair
   - Causes animals to be more prone to ______________ stress and
     skin infections

3. Hypotrichosis
   - Symptoms include:
     - lack of hair on the body
     - _______________
     - infection
   - Treatment includes:
     - there is currently no treatment available
   - Prevention includes:
     - known carriers should be ______________ from breeding stock

4. Mulefoot
   - Is also known as Syndactyly
   - Occurs when two toes are joined together to create only one toe
   - Is commonly found in ______________ and cattle
   - Symptoms include:
     - lameness
     - ______________ gait
     - slow walk
5. **Mulefoot**
   - Treatment includes:
     – there is currently _____________ treatment available
   - Prevention includes:
     – carrier animals should be removed from the ____________ program

6. **Cryptorchidism**
   - Occurs when one or both testicles on a male animals fail to descend into the __________
   - Affects all species
   - Symptoms include:
     – infertility
     – fail to produce sperm
     – spermatic cord __________

7. **Cryptorchidism**
   - Treatment includes:
     – surgical ____________ of the cryptorchid testicle
   - Prevention includes:
     – removing ____________ animals from the breeding herd will decrease the probability of the disease

8. **Hyperkalemic Periodic Paralysis (HYPP)**
   - Is a muscle disease found among Quarter Horses who are offspring of a sire named, __________
   - Symptoms include:
     – muscle ____________
     – tremors
     – weakness
     – labored breathing
     – paralysis of the muscles in throat

9. **Hyperkalemic Periodic Paralysis (HYPP)**
   - Treatment includes:
     – there is currently no treatment available
     – attacks may be reduced with controlled __________ and exercise
   - Prevention includes:
     – testing horses for the genetic ____________ before breeding
10. **Porcine Stress Syndrome**
   - Is a _______________ disorder found in pigs which is often caused by the following physical stressors:
     - exercise
     - fighting
     - vaccination
     - _______________
     - parturition
     - hot weather

11. **Porcine Stress Syndrome**
   - Symptoms include:
     - muscle and tail tremors
     - labored breathing
     - _______________ of skin
     - increased body temperature
     - collapsing
     - _______________ muscles
     - death

12. **Porcine Stress Syndrome**
   - Treatment includes:
     - spraying the pig with cold water to control temperature
     - injecting _______________ gluconate
     - sedating the pig with _______________
   - Prevention includes:
     - testing for the gene and remove possible carriers from the breeding herd

13. **Spider Lamb Syndrome**
   - Is a genetic disorder which causes skeletal deformities in young lambs
   - Symptoms include:
     - abnormally long limbs
     - bent limbs
     - _______________ spines
     - flattened rib cages
     - long necks
     - _______________ bodies
14. Spider Lamb Syndrome

• Treatment includes:
  – there is currently no treatment available

• Prevention includes:
  – ________________ testing animals before breeding
    • carriers often do not show ________________ of the disease