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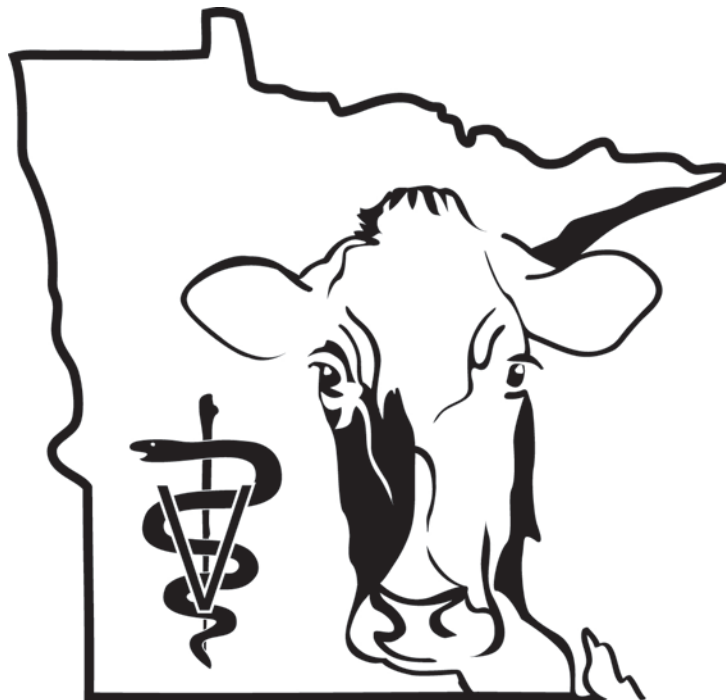


UNIVERSITY OF MINNESOTA

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College of Veterinary Medicine

VETERINARY CONTINUING EDUCATION



ST. PAUL, MINNESOTA  
UNITED STATES OF MINNESOTA

**Biosecurity**  
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Definition: Management practices desinged to prevent or control the introducton of harmful agents into an operation (i.e. bacteria, virus, parasites, predators, toxins).

- Isolation – separation of animals in order to prevent the spread of infectious diseases on a dairy.
- Segregation – preventing the spread of infectious agents by handling infected animals in a manner that prevents disease spread.

**I. Background – Midwest**

- A) Closed herds
- B) “High Pressure” area
- C) Self sufficient operations

**II. Current Status**

- A) Expansion
- B) “Low Pressure” area
- C) Separate enterprises
  - heifers
  - dry cows
- D) Expansion Consultant’s Experience

### III. Lameness Problems

#### A) Infectious

##### 1) Foot warts

a) Transmission – “assume” when introducing new animals

b) Control

- Foot Bath – 10% Copper Sulfate (16#/20 gal)
  - OTC (4 oz/20 gal)
  - Daily for month
  - Rotate groups
- Foot Bath Misinformation
  - Dry foot bath
  - Rinse foot bath
  - “Spread” disease
- Spray – Lincomix, soluble (1 packet/2qts)

##### 2) Foot Rot

a) Transmission – trauma and bacteria

b) Control

Foot bath – 10% Copper Sulfate (16#/20gal)

Vaccine?

##### 3) Opinion – Bath vs. Spray

- a) Expense
- b) Treatment all
- c) Efficacy
- d) Warts and Foot Rot
- e) Efficiency
- f) Lameness Group

B) Noninfectious lameness

1) Rough (“green”) concrete

a) Cause -

- Inadequate scraping
- Prolonged cure
- Severe grooving

b) Control –

- Remove from concrete – affected
- Scrape
- “Harden feet” – Copper Sulfate, Zinpro, Fiber

2) Acidosis

a) Cause –

- Low fiber, high starch ration
- Chronic acidosis and stress of moving
- Reduced effective fiber – overmixing, too wet, etc.
- Lack of transition

b) Control –

- Increase effective fiber
- Decrease starch

C) Overall Plan

1) Scrape

2) Foot bath daily for 30 days

3) Transition ration with bulk

4) Monitor with trimmer report

## IV Mastitis

### A) Contagious

#### 1) Strep ag

- a) Transmission – cow to cow
- b) Control – bulk tank culture of all purchased herds
  - Quarantine if can't preculture
  - Udder sanitation, treatment

#### 2) Staph aureus

- a) Transmission – cow to cow
- b) Control – bulk tank culture of all purchased herds
  - Culture fresh heifers with mastitis
  - Treat, segregate, cull

#### 3) Mycoplasma

- a) Transmission – cow to cow
- b) Control – bulk tank culture of all purchased herds
  - Quarantine if can't preculture
  - Routine herd bulk tank culture

### B) Noncontagious

#### 1) Gram negative

- a) Environmental
- b) Control – JS – prior to entry

Check out system  
Bedding switch

C) Overall Plan

- 1) Culture herds prior – who, how?
- 2) Routine culture of herd – who, when, where, results?
- 3) Quarantine uncultured new herds
- 4) J5

V. Viral Problems

A) BVD

- 1) Transmission – acute infection, P.I.
- 2) Control
  - a) Vaccination
    - MLV – all eligible
    - Killed – prior to entry – 2X
  - a) Blood testing
    - Microtiter
    - Do all – including originals, if any
    - Expensive, necessary?

B) IBR

- 1) Transmission – cow to cow
- 2) Control
  - a) Vaccination - IM  
- IN

C) Overall Plan

- 1) Vx - Dry and Fresh - MLV  
- IN
  - Breeding & Pregnant (predry) – killed (2 dose)  
- IN
- 2) Ventilation

## VI. Bacterial

### A) Johnes

- 1) Transmission – fecal-oral to young
- 2) Control
  - a) Clean, individual maternity pen
  - b) Colostrum security
  - c) Waste milk
  - d) Feed contamination
  - e) Blood test

### B) Salmonella

- 1) Transmission – fecal-oral - carriers  
- birds, rodents, etc.
- 3) Control
  - a) Feed contamination
  - b) Vaccination – J5

## VII. Parasites

- A) External
- B) Internal
- C) Pour – ons

## VIII. Environmental/Behavioral

### A) Cows vs. Heifers

- 1) Cows – pro
  - a) Instant production
  - b) Calmer
- 2) Cows – con
  - a) Disease (legitimate?)
  - b) Less time left
- 3) Heifers – pro
  - a) Less disease (legitimate?)
  - b) More time left
- 4) Heifers – con
  - a) Excitable
  - b) Parlor loading
  - c) Delayed return
  - d) Obstetrical concerns
  - e) Demographics
  - f) Blind quarters

### B) Free stall vs. Tie stall

- 1) Comfort of new barn
- 2) Alley layers
- 3) Feet and legs

### C) High herd vs. Low herd

- 1) Cows maintain position
- 2) Why is herd low?