Biosecurity of Anaplasmosis

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Biosecurity of Anaplasmosis

- Prevent entrance of disease into herd
- Control disease within herd
- Prevent spread of disease to other herds

Biosecurity of Anaplasmosis

- What are your goals?
- How much risk are you willing to assume?

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- There is not just one right answer!
- Must find what works best in your situation

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- Herd plan depends on in-herd prevalence
  - Testing
  - Determines aggressiveness of plan
  - Helps document valid VCPR
  - Helps document need for control as needed for VFD

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- Animals of particular concern
  - Breeding stock from non-endemic area added to herd
  - Breeding stock from endemic areas moved to non-endemic area

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- Seedstock herd considerations
  - Serologic status of animals sent to other states or bull studs
  - Active infection status of animals moved to non-endemic areas

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- Quarantine
  - 30-45 days
- Testing
  - Elisa
  - PCR

Biosecurity of Anaplasmosis

- Chemosterilization
  - .5 mg/lb/day for 120 days
  - 2 mg/lb/day for 80 days
  - PCR negative at 50 days
  - ELISA negative at 140 days
- IF NOT DEALING WITH RESISTANT STRAIN
- Legalities of using CTC for chemosterilization
  - Labeled for “control of active infection of anaplasmosis”
  - Not labeled for “elimination of carrier state of anaplasmosis”
  - 2 mg level must be fed in mineral and must use Aureomycin

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- Can we have a negative herd in Kansas?
- Should we?
- Is it practical?
  - Commercial herd: No
  - Seedstock herd: It depends

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- Colostral immunity
  - 3% of calves infected before 1 year of age
    - Infected in-utero?
  - 82% of calves born to seropositive cows are seropositive in first 3 months of life
  - These calves become seronegative and found free of infection by blood inoculation

Maas, AJVR 1986

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- Tools available for use
  - Vector control
  - Vaccine
  - Antibiotic
  - Testing
  - Other

Biosecurity of Anaplasmosis

- Vector control
  - Horse fly
  - Deer fly
  - Stable fly
  - Ticks
    - Burning
  - Needles

Biosecurity of Anaplasmosis

- Vaccine
  - Provisional use vaccine, not federally licensed
  - Killed vaccine
  - One strain
  - Cross reaction with other strains
  - Does not prevent infection
  - Reduces clinical signs
  - Requires two doses the first year, one in subsequent years
  - Cost

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- Assumptions for example protocols
  - FDA will allow “control” to include “prevention”
  - Positive Elisa and PCR results will document infection
  - 25% prevalence

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- Herd protocol 1
  - Document prevalence
  - CTC .5 mg/lb in mineral during vector season
  - Vector control
  - Approximate cost of single-needle injection, diagnostics, medicated mineral for 120 d, insecticide treatment, and terrestrial vector control:
    - Year 1: $36 to $41/cow
    - Subsequent years: $29 to $34/cow

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- Herd protocol 2
  - Document prevalence
  - Vaccinate replacement heifers between weaning and breeding (2 doses)
  - Vaccinate purchased cows and bulls prior to vector season (2 doses)
  - CTC .5 mg/lb in mineral during vector season
  - Vector control
  - Approximate cost of single-needle injection, diagnostics, medicated mineral for 120 d, insecticide treatment, vaccination, and terrestrial vector control:
    - Year 1: $39 to $44/cow
    - Subsequent years: $31 to $36/cow

Biosecurity of Anaplasmosis

- Herd protocol 3
  - Vaccinate replacement heifers between weaning and breeding (2 doses)
  - Vaccinate purchased cows and bulls prior to vector season (2 doses)
  - Vaccinate cows prior to vector season (2 doses)
  - Annual booster
  - Vector control
  - Approximate cost of single-needle injection, insecticide treatment, vaccination, and terrestrial vector control:
    - Year 1: $41 to $46/cow
    - Subsequent years: $34 to $39/cow

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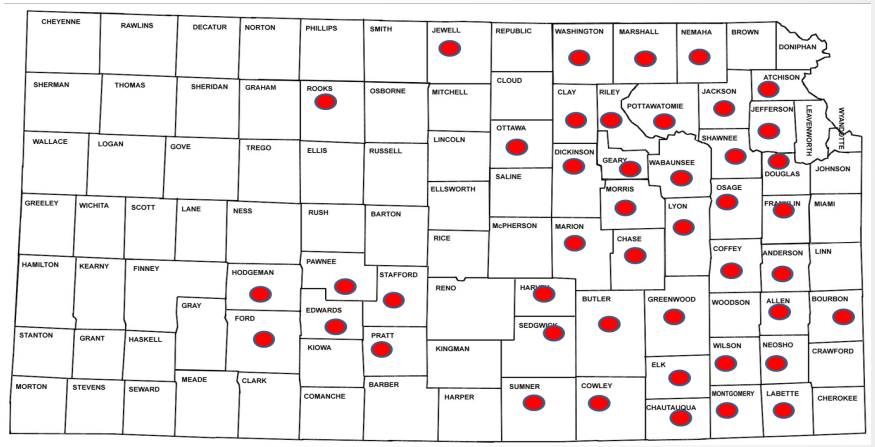
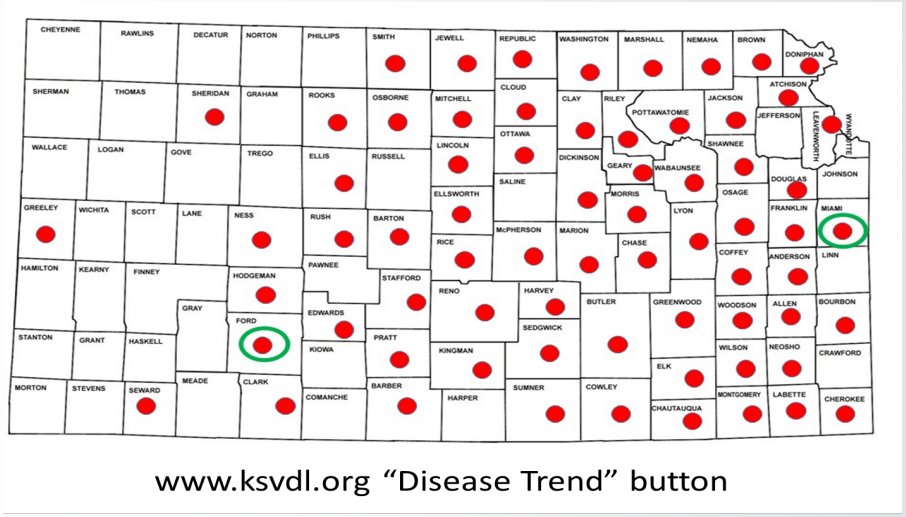
- Questions?





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