Sheep Health: Common Problems, Mistakes, and Remedies
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Flock Health
• Interrelationships between many factors
  – Nutrition
  – Genetics
  – Parasites
  – Environment
  – Health program
• Foundation for productivity and profit potential

Nutrition
– Grazing/forage management #1 !!
  • Rotational grazing
  • Stockpiled forages
– Harvested forages
  • Dry
  • High moisture
– Grain/co-product supplements
  • Energy (TDN)
  • Protein (CP)
  • Ca-P ratio
– Vitamin/mineral supplements
– Water
Grazing/Forage Management

• Most cost effective feed source
• Healthiest feed for ruminants
• Common management opportunities:
  – Overstocking/overgrazing
  – Short grazing season
  – Single species grazing
  – High parasite loads

Overstocking/Overgrazing

• Dramatically increases parasite load and exposure
• Decreases pasture vigor and productivity
• Increases susceptibility to drought
• Decreases animal performance
• Remedy: Pasture rotation/rest

Pasture Rotation/Rest

• Rest period of 30-45 days allows for pasture recovery and regrowth
• Improves pasture health and productivity
• Aids in parasite management
• Improves livestock performance
• Take half, leave half
Short Grazing Season

- Increases cost of production!
- Requires greater amounts of stored/purchased feeds
- May decrease animal performance
  - Quality of feedstuffs
- May impact animal health
  - Increasing animal density
  
  **Remedy: Extend the grazing season**

Extending the Grazing Season

- Stockpiled fescue
  - Excellent feed for ewe flock
  - Holds quality well into winter
  - Requires less labor than feeding hay
  - Gets sheep out of the barn!
- Fall/winter annuals
  - Excellent feed source
  - More input cost
  - Requires more labor/equipment

Single Species Grazing

- Favors parasite development and survival
- Most economically important livestock parasites are host-specific
- Less effective forage utilization
  
  **Remedy: Multiple species grazing**
Multiple Species Grazing

- Complementary grazing behaviors
- Decreased parasite survival
- Add 2-3 ewes per cow
- Not available to all shepherds
- Agreements with neighbors??

Harvested Forages

- Hay
  - High moisture (Baleage)
  - Dry- Round, small square, large square
- Silage
- Haylage
- Potential contaminants
  - Listeria, Toxoplasma, mycotoxins, nitrates
- Remedies: Proper storage, forage testing, observation

Harvested Forages

- Storage
  - Fermented feeds: maintain anaerobic conditions until feeding
  - Dry hays: indoors or under cover, well-drained site with southern exposure if outdoors
Harvested Forages

- Forage testing
  - Nutrient composition - routine or should be
  - Mycotoxins - difficult to test for quantitatively
  - Nitrates - corn, sorghum, sudangrass, hybrids, johnsongrass, small grains.

- Pathogens
  - Listeria - circling disease
    - No prevention
    - Can be sporadic or outbreak
    - Treatment with penicillin or oxytetracycline is usually effective if done early in the disease course
  - Toxoplasma - feline G.I. parasite, abortions in ewes
    - No treatment
    - Prevention is avoiding feline fecal contamination of feeds, especially young cats
    - Feeding monensin to pregnant ewes is effective to control
  - Animal observation is critical

Grain/co-product supplements

- Energy (TDN)
  - Usually the limiting nutrient for ewe flock
  - Corn and barley are standards for supplementation
- Protein (CP)
  - Cool-season grasses usually meet requirements
  - Often over-supplemented
- Ca:P ratio
  - Should be >= 2:1
  - Biggest concern is for urinary calculi in males
  - Ringworm in ewes
- Sulfur
  - Micromineral absorption
  - Polio
Vitamin/mineral supplements

- Use a product formulated for sheep/goats
- Copper
  - Toxic in excess
  - Risk ????
- Selenium
  - Also toxic in excess
  - White muscle disease
  - Retained placenta
  - Feed vs. injection
- Salt
  - Encourage water consumption
  - Limit intake

Water

- The most important nutrient, often overlooked
- If you wouldn’t drink it, the sheep won’t either!
- Especially in hot, humid weather
- Lactation
- Rams and wethers

Genetics

- Influence many aspects of flock health!
  - Parasites
  - Footrot
  - Respiratory disease
- Heritabilities are likely low
- Progress is slow but observable and worthwhile
- Tools to measure are currently lacking
Parasites

• There is NO silver bullet
• The good old days are likely gone forever
• Management is CRITICAL
• A few fundamental principles:
  – Minimize exposure to drugs
  – Monitor results
  – Keep records
  – Use all the tools available

Environment

• Keep sheep out of the barn as much as possible
• Maximize grazing opportunities
• Minimize animal concentration
• Ventilation is critical for housing systems

Health Program

• Abortions
• Foot health
• Parasites
• Reproductive management
• Pregnancy toxemia
• Respiratory disease
Abortions

• Syndrome includes abortion, stillborn, weak lambs
• Up to 5% of flock may be normal
• Infectious, toxic, physical causes
• Prevention/treatment (if possible) depend on cause
• Diagnostic testing is necessary to determine cause

Infectious Abortions

• Chlamydia (Enzootic abortion)
• Campylobacter (Vibrio)
• Toxoplasma
• Listeria
• Salmonella
• Leptospira, Q-fever, Brucella ovis

Abortion Prevention/Treatment

• Hygiene
  – Isolate ewes that abort
  – Remove soiled bedding and aborted tissues
  – Feed in bunks
• Bio-security
  – Do not buy replacements from flocks with problems
  – Isolate new purchases from the pregnant ewes
  – Consider antibiotic treatment for new purchases
Abortion Prevention/Treatment

• Vaccinations
  – Campylobacter, Chlamydia, Lepto
  – Immunity is short-lived
  – Primary and secondary immunizations first year, annual boosters thereafter
  – Inconsistent availability

Abortion Prevention/Treatment

• Antibiotics
  – Consult with your veterinarian
  – Use should be limited to cases where cause of abortion is diagnosed
  – Culture and sensitivity to guide therapy
  – Resistance is increasing
  – Necessary for ewe health in the case of Salmonella and Listeria

Abortion Prevention/Treatment

• Ionophores
  – Lasalocid, monensin
  – May be useful for Toxoplasma control
  – Also control coccidia
  – Improve feed efficiency
  – Not related to human therapeutic agents
  – Not absorbed from the G.I. tract
  – Consult your veterinarian
Foot Health

• Footrot vs. foot scald
  – *Dichelobacter nodosus*, B. *melaninogenicus*, *F. necrophorum*
  – Anaerobic
  – Sensitive to penicillin, tetracycline
  – Highly contagious in sheep/goats
  – Control rests on bio-security, hygiene, and animal treatment

Foot Health

• Hygiene
  – Reduce crowding
  – Encourage grazing, movement
  – Clean bedding
  – Minimize muddy areas
  – Foot trimming and bathing

Foot Health

• Bio-security
  – DO NOT buy from flocks with footrot
  – Isolate new additions
• Treatment
  – Trimming
  – Footbathing
  – Antibiotics
  – Topicals
Foot Health

• Eradication is possible
• Principles:
  – Resistance varies between individuals and appears to be heritable
  – Bacteria does not survive outside the host indefinitely- < 2 weeks
  – Sunlight and drying greatly decrease organism survival

Foot Health

• Strategy:
  – Create clean and infected pastures
  – Trim and examine each foot
  – Segregate sheep
  – Clean feet to clean pasture
  – Infected feet remain on infected pasture
  – Inspect, treat, and segregate weekly
  – Cull repeat offenders

Reproductive Mgt.

• Ram management
  – Shearing
  – Shade
  – Nutrition
    • Se/Vit E
    • Body condition
    • Ca:P
    • Water
  – Vaccinations- CD/T annually
Ram Management

- Breeding soundness exam
  - Prior to every breeding season, esp. spring
  - Physical
    - Soundness
    - Body condition
    - General health
  - Scrotal circumference
    - Under 14 mos.: 30 cm
    - Over 14 mos.: 32 cm
  - Sperm evaluation
    - Motility > 30%
    - Morphology >50%
    - Brucella ovis serology

Reproductive Mgt.

- Ewe management
  - Vaccinations
    - Campylobacter/Chlamydia: pre-breeding, mid-gestation
    - CD/T, E. coli: 30 days pre-lambing
  - Breeding season
    - "Ram effect"
    - Flushing
  - Pregnancy diagnosis

Pregnancy Diagnosis in Sheep

- Fetal aging
- Fetal counts
- Viability
- Congenital defects
Pregnancy Diagnosis in Sheep

- Benefits to the shepherd
  - Grouping ewes for feeding.
  - Eliminating open/barren ewes.
  - More timely marketing of ewe lambs for higher prices.
  - More efficient utilization of labor at lambing time.
  - Facilitate grafting of triplets/quads.

Pregnancy Toxemia

- Affects ewes carrying multiple fetuses
- Late gestation
- Over-conditioned
- Inadequate energy intake

Pregnancy Toxemia

- Prevention
  - Prevent excessive conditioning in dry ewes
  - Feed pregnant ewes according to fetal counts
- Treatment
  - 1-2 oz. propylene glycol orally per day
  - Dextrose, Ca++ SubQ
  - Oral live culture yogurt
  - Vit. B complex
Respiratory Disease

• Adequate ventilation in housing systems
  – Ammonia is a potent airway irritant
  – Control dust
  – Avoid overheating
• Vaccinations
  – Pasteurella multocida
  – Parainfluenza 3
• Treatment
  – Antibiotics, consult your veterinarian

Summary

• Flock health is the foundation to productivity and profit potential
• There are no “silver bullets”
• Let sheep be sheep, forage management is key
• Vaccines, anthelmintics, antibiotics, ionophores are useful tools, neither “demons” nor “saviors”