Small Ruminant Vaccine Programs

Prepartum vaccines

1) Does and ewes should be vaccinated 3 to 4 weeks prior to the time of parturition in order to provide colostral immunity to the neonates.

   a) Clostridium perfringens type C and D
      - Vaccine will cross protect against Cl. perfringens type B
      - Vaccine prevents hemorrhagic enteritis and overeating disease

   b) Clostridium tetani
      - protects neonates from tetanus
      - Especially important if horses have been/are on the premise
      - Neonates at risk because of tail docking, castration, and dehorning
      Note: the Cl. perfringens C and D and tetanus come in a combination vaccine

   c) Parainfluenza 3
      - protects against parainfluenza 3, a viral disease that predisposes neonate to pneumonia
      - The product contains both PI3 and Infectious Bovine Rhinotracheitis Virus
      - The product is given intranasally, 1/2 of the cattle dose – 1 ml in one nostril
      - reduces the shedding of PI3 by dams and provides good colostral immunity to neonates

Optional vaccine

1. Clostridial 8 way vaccine
   - I don’t recommend because of the reaction that this vaccine causes, eg. abscesses, fever, malaise. This may cause the dam to go off feed and develop pregnancy toxemia.
   - Vaccine contains Cl. chauvei, septicum, novyi, hemolyticum, perfringens C and D, and tetani
- except for perfringens C and D, and tetanus the other agents rarely cause problems in sheep and goats. One may encounter Cl. novyi, Black’s Disease or Necrotic Hepatitis, if animals are infected with flukes.
- Vaccine should be given in the axillary space because of tissue reaction.

**Preweaning vaccines**
1. Lambs and kids need protection against Cl. perfringens C and D because of feed changes and introduction to concentrates
2. Lambs and kids need a series of 2 injections given approximately 2 to 4 weeks apart.
3. Lambs and kids receive the first vaccine 2 weeks prior to weaning and the second vaccine, booster, at the time of weaning or shortly afterwards.
4. The combination Cl. perfringens C and D and tetani vaccine is used.

**Prebreeding vaccines**
1. Vaccine is used to protect dams from aborting so need to administer 30 days prior to introduction of the males.
   a) Campylobacter fetus subsp. intestinalis and jejuni vaccine (Vibrio vaccine)
      - Ewe lambs and doelings need a booster 3 weeks after the first injection and then again 60 –90 days later for a total of 3 vaccinations.
      - Timing of vaccine varies with vaccine manufacturer.
   b) Chlamydophilia abortus vaccine
      - Ewe lambs and doelings vaccinate 60 days and 30 days prior to introduction of males.
      - Vaccine has variable results and periodically goes off the market.
   c) Clostridium 8 way for the ewe lambs and doelings 60 and 30 days prior to breeding if this vaccine is used.
      - Booster ewes and does 30 days prior to breeding

**Rams and Bucks**
- CD and T yearly booster
– Foot Rot vaccine at the time administered to adult females

**Other vaccines used in small ruminants**

1. Foot Rot vaccine
   a) Can be used as a preventive as well as part of the treatment protocol.
   b) Should be given prior to the time of year in which foot rot prevalence is the highest. This is usually during wet times of the year – Eg. late winter/spring.
   c) Use the foot rot vaccine for sheep (FootVax)– contains strains against *Dichelobacter nodosus* (Bacteroides nodosus)
   d) Vaccine administration
      - Initially vaccinate and then repeat in 6 to 8 weeks
      - Does cause a high rate of abscessation
   e) Currently off the market

2. Contagious ecthyma or Orf vaccine
   a) Do not use unless orf is on the property
      - is highly recommended for show animals as they often acquire the infection at shows
   b) Vaccinate replacement animals around 8 months of age, immunity lasts approximately 3 years so may need to revaccinate older animals
   c) Is a live vaccine that is infectious to humans, wear gloves
   d) Vaccine administration
      - must disrupt the skin surface
      - scarify the skin in the axillary space
      - paint vaccine on with a cotton swab
   e) Some recommend vaccinating neonates at 2 –3 days of age in the axillary space if a real problem in neonates

3. K 99 E. coli vaccine
   a) Vaccinate with the same schedule as CD and T prelambing
   b) Use if problem with E. coli scours

4. Rabies
   a) Expensive but may be indicated in areas endemic for rabies or in high value animals
   b) There is a 3 year vaccine