Dr. Correas Presentation Notes

Veterinarians: Key Drivers in Food Safety

* Food animal production
  + Disease prevention, control, and treatment
  + Development of new medicines
  + Humane food animal harvesting
* Enclosed barns
  + Required to protect animals from extreme weather
* Herd Health versus Individual Pet Health
  + Management
    - Minimizing disease:
      * Barn design
      * Sanitation
      * Controlling traffic
      * Timely vaccinations
    - Identify/Treat/Control Disease
      * Appropriate diagnostics
      * Antibiotics only when needed
  + Veterinary medicine and science-based farming eliminated or significantly reduced:
    - Dysentery
    - Atrophic rhinitis
    - Actinobacillus
    - Brucellosis
    - Pseudorabies
    - Parasites
* Foreign Animal Disease (FAD)
  + On frontlines to protect against FAD
  + State veterinarians are first in command to:
    - Shutdown nationwide livestock movement for 72 hours
    - Continue lockdown in states where FAD is suspected
    - Open states after confirmed FAD not detected
  + African swine fever (ASF)
    - Impacts pigs only, not humans
    - Cannot be transmitted to humans through contact with pigs/pork
    - U.S. pork – safe for human consumption
* Pigs farming phases
  + Breeding/gestation
  + Farrowing – birth of piglets
  + Nursery
  + Growing/finishing
    - Everything done to minimize human interference
* Nutrition
  + Nutrients for age, weight, and gender
    - Amino acids
    - Calories, carbs, fats
    - Vitamins and minerals
  + 8-10 feed formulations
  + Corn and soybeans
  + Grass-fed pigs = not good
    - Pigs cannot effectively digest grass
    - Monogastric, so need food that is easy to digest
* Housing options
  + Pastures
  + Hoops
  + Specialized barns
    - Protection: weather, predators, disease
    - Constant levels of care and nutrition
    - Feed and water monitored to meet pigs’ growth cycle
* Disease prevention
  + All-in/all-out management system
    - Animals moved in distinct groups
    - Reduces spread of disease
    - Facilities disinfected between groups
* Responsible antibiotic use
  + ensure antibiotic is:
    - Needed for condition
    - Appropriate for condition
    - Given in correct:
      * Dose
      * Frequency
      * Duration
      * Delivery method
      * Withdrawal time
  + FDA Antibiotic Classes
    - Medically important
      * Important for treating human disease
      * Include: penicillins, cephalosporins, quinolones, fluroquinolones, tetracyclines, macrolides, sulfas, glycopeptides
      * Requires VFD for feed. Rx for water
    - Non-medically important
      * Used almost exclusively in animal medicines and feed
  + Individual administration
    - Injections
  + Herd administration
    - Food and water
  + Antibiotic free pork
    - American Association of Swine Veterinarians– If a pig is sick, or at risk of getting sick, antibiotics should be used for treatment
  + USDA Hormone labeling policy
    - Hormones not allowed
* Group housing can cause aggression and competition between sows
  + People with expert knowledge would be needed to successfully maintain this type of housing
* Pain management
  + FDA approved pain medicine for pigs: none
    - Due to people not wanting residues in their food
* Euthanasia
  + Is humane thing to do at times
* Sustainable pig farming
  + Environmental impact has decreased per pound of pork from 1960-2015
    - 25% less water
    - 7% less energy
    - Etc.
  + Swine only accounts for 0.35% of greenhouse gas emissions
* Careers
  + Private practitioners
  + Staff veterinarian
  + Pharmaceutical veterinarian
  + Genetics veterinarian
  + Nutrition consultant
  + Research and teaching
  + Federal government (USDA, APHIS, FSIS)
  + Epidemiologist
* Student membership to AASV
  + $15 per year
  + AASV student membership benefits
    - Journal of swine health and production
    - AASV e-letter
    - Swine information library and swine disease manual
    - Scholarships and externship grants