Center for Food Animal Health Priority Issues (2019-2020)

**High Priority Issues (list is alphabetical; all are considered equally important)**

- Alternatives to Medically-Important Antimicrobial Drugs (including vaccines, vaccine development, bacteriophage & bacteriophage gene products, essential oils, immune enhancers, innate defense molecules, naturally-occurring antibacterial lytic enzymes, organic acids, phytochemicals, prebiotics, probiotics, small interfering RNAs, therapeutic antibodies, lytic enzymes, cytokines, and other novel products or applications.)
- Animal Production Systems (including profitability, sustainability, economic models, nutrition/nutrient management, and manure management)
- Animal Welfare & Well-Being (Including evaluation of production systems for meeting animal welfare needs, pain management strategies, methods & evaluation of euthanasia techniques, risk factors for downer cows, and development of science-based animal care guidelines for promoting food animal welfare)
- Antimicrobial & Antiparasitic Drugs: Judicious Use, Stewardship & Resistance (including education, outreach, and policy guidance)
- Cultured Aquatic Animal Species – Immune System Function & Response to Pathogens for Reducing Disease & Improving Health
- Disease Prevention, Control & Surveillance (including pathogen isolation & characterization, development of surveillance methods, vaccine development & vaccination delivery systems, and development & validation of diagnostic tests)
- Endemic & Production-Limiting Diseases of Food-Producing Animals
- Environmental & Ecosystem Health Issues (including water recycling & reuse involving animal agriculture & production systems; land, air, water, nutrient, and microbial management, and other environmental concerns related to animal agriculture including air & water quality issues.
- Extending science for guiding public policy development related to food animal health, animal agriculture, and food safety (including all commodity groups: aquaculture, beef cattle, dairy cattle, goats, poultry, and sheep)
- Food Animal Agriculture Literacy (including outreach to students & colleagues in the veterinary profession)
- Identification, Detection, and Elimination of Residues (including hormones)
- Integration of animal health & well-being with One Health concepts related to agricultural animals (such as zoonoses, occupational & environmental health)
- Livestock & Poultry Carcass Disposal (including routine mortality, mortality event management, and policy guidance)
- On-Farm Food Safety Issues (including microbial & other hazards related to food-borne illnesses)
- Small-Scale Production Systems (including impacts & interactions with conventional or large-scale food animal production systems)
- Transboundary & Emerging Diseases of Agricultural Animals (including infectious, zoonotic, exotic, and vector-borne diseases)

**Lower Priority Issues**

- Food & Feed Systems Security (including biodefense of food systems & food quality)
- Systems Analysis & Modeling for Solving Complex Food Animal Disease & Production Problems

**Technologies**

- Advanced Mathematical & Simulation Modeling Technologies
- Advanced Molecular Technologies
- Ecosystem Health Technologies
- Genomics/Proteomics/Metabolomics/Bioinformatics

**Strategies**

- Biosecurity for Disease Control (including on-farm & supply chain protection of feed & other products that enter or interface with the food production system)
- Certification/Quality Assurance
- Educational Outreach (including just-in-time education learning systems)
- Emergency Planning & Response (including managed movement & business continuity plans)
- Production Systems Management