

# ILHAC

## Iowa Livestock Health Advisory Council

February 2016 Newsletter

### *In support of ILHAC*

Animal agriculture is vital to Iowa's continued economic growth as an annual \$17 billion impact on the state's economy reflects. Iowa is number one in pork production and layers/egg production and in the top 10 in many other animal production areas. Only California rates higher in overall agriculture cash receipts as production agriculture, and ag-related industries account for 27% of Iowa's total economy.

As the world population continues to grow toward a projected 9 billion people by 2050, an agricultural animal system that provides a safe, affordable, healthy and sustainable source of protein will be increasingly important.

The Iowa Livestock Health Advisory Council (ILHAC) at Iowa State University's College of Veterinary Medicine plays a critical role in ensuring that our food production system meets the growing needs of an expanding world population, as well as the economic needs of the state.

ILHAC is a cooperative effort between Iowa's livestock industry, the State of Iowa and the college. Its board of directors, composed of representatives from Iowa's commodity groups, weighs the needs of their various organizations and prioritizes the ILHAC state budget appropriation for animal disease research projects. They identify high impact projects that will enhance the industry and benefit Iowa taxpayers.

ILHAC research funding enables college researchers to pursue important, innovative research in animal and human health, food safety and security that proactively addresses emerging diseases that threaten the livestock industry of Iowa. This is research that is directly applicable to Iowa livestock producers.

ILHAC is a strong and vital contributor to the economic well-being of our state. It helps maintain Iowa's leadership in animal agriculture, protects our domestic and global markets, and impacts everyone in Iowa. We appreciate your support and look forward to working with you to continue Iowa's important role as a world leader in protein production.

Sincerely,

**Lisa K. Nolan, DVM, PhD**  
*Dr. Stephen G. Juelsgaard*  
*Dean of Veterinary Medicine*  
Iowa State University

### **ILHAC – Partnering with Iowa Animal Agriculture**

Raising healthy livestock to provide safe and wholesome food to Iowa citizens and people around the world is important to Iowa's livestock farmers. For more than 30 years, Iowa farmers, in partnership with Iowa legislators and veterinary researchers at Iowa State University, have funded research projects that address the health and well-being of livestock. This partnership, named the Iowa Livestock Health Advisory Council (ILHAC), has recently funded projects in areas such as animal well-being and several animal-health diseases – all critically important to maintaining a safe food supply for Iowans. In other words, ILHAC-funded research benefits all of society.



### **Importance of ILHAC Funding**

- ILHAC is a cooperative effort between Iowa livestock industry stakeholders, the State of Iowa and the Iowa State University College of Veterinary Medicine.
- ILHAC was created in 1977 to strengthen Iowa's animal-agriculture industry and was funded with an initial appropriation of \$200,000. Since then, ILHAC funding has decreased 14% to \$172,844 while the value of Iowa animal agriculture has increased significantly (400%) from **\$4 billion to \$17 billion**.
- Only 1 in 5 proposals submitted to ILHAC are funded due to diminishing funding levels.
- ILHAC is funded through Education Appropriations. This line item provides critically needed "seed money" resulting in an additional \$10 million in externally funded research dollars to the ISU College of Veterinary Medicine over the past decade for high-impact, producer-prioritized research, including emerging livestock diseases.
- ILHAC funds are applied to research projects that advance knowledge of animal health, food safety and animal well-being in Iowa livestock.
- Recently funded projects include studying ways to better prevent and control PED and PRRS in pigs; *E.coli* and *Clostridium spp* in poultry; and lameness, respiratory disease, and pinkeye in beef and dairy cattle.



### **ILHAC Funds Research Experiences for Veterinary Students**

Several national studies have identified a critical shortage of veterinarians who pursue research-oriented careers. ILHAC funding provides three to four ISU veterinary students with an opportunity to explore the field of research. For 13 weeks each summer, students gain first-hand experience in research by working with veterinary mentors on ILHAC-funded projects. At the end of the summer, the students present their research posters at the college's annual Summer Scholar Research Day which includes a poster session, and recognition luncheon at a nearby conference facility.

## ILHAC Voting Board Members

### Iowa Cattlemen's Association

Isaiah Shnurman, *Prole (Warren County)*  
 Callie Garoutte, *Adel (Dallas County)*  
 Matt Winters, *Volga (Clayton County)*

### Iowa State Dairy Association

Norm Voelker, *Ryan (Delaware County)*

### Iowa Pork Producers Association

Steve Kerns, *Clearfield (Taylor County)*  
 Dave Moody, *Nevada (Story County)*  
 Greg Lear, *Spencer (Clay County)*

### Iowa Poultry Association

Dr. Kenton Kreager, *Dallas Center (Dallas County)*

### Iowa Sheep Industry Association

Leland Shipley, *Nodaway (Adams County)*

### Iowa Veterinary Medical Association

Dr. Tom Ulrickson, *Manning (Carroll County)*

## ILHAC Advisory Board Members

### Iowa Cattlemen's Association

Dr. Matt Deppe, *Ames (Story County)*

### Iowa State Dairy Association

Sue Ann Claudon, *Ankeny (Polk County)*

### Iowa Pork Producers Association

Ms. Stephanie Carlson, *Clive (Polk County)*

### Iowa Egg Council and Iowa Poultry Association

Randy Olson, *Urbandale (Polk County)*

### Iowa Sheep Industry Association

Erlene Leonard, *Colfax (Jasper County)*

### Iowa State University

Dr. Lisa Nolan, *Ames (Story County)*  
 Dr. Qijing Zhang, *Ames (Story County)*

### Iowa Turkey Federation

Gretta Irwin, *Ames (Story County)*

### Iowa Veterinary Medical Association

Dr. Randy Wheeler, *Ankeny (Polk County)*

### State Veterinarian

Dr. David Schmitt, *Des Moines (Polk County)*

## ILHAC Research Priorities: 2016

### Swine

1. Animal Well-being (analgesics for castration, sow housing, pain relief)
2. Antimicrobial Resistance (monitoring antibiotic use, looking for information/data to counteract misinformation, prevention control treatment, proof that drugs (antibiotics) are used properly, variability of normal dose)
3. PEDV
4. PRRS
5. Swine Influenza (new vaccine technologies-intranasal product)
6. Methicillin-resistant *Staphylococcus aureus* (MRSA)
7. *Clostridium difficile*
8. *Mycoplasma hyopneumoniae*

### Dairy Cattle

1. Animal Well-being Issues
  - a. Mastitis
  - b. Lameness
  - c. Respiratory Disease
  - d. Discover or develop an FDA-approved analgesic for food-producing animals
2. Johne's disease
3. *Mycoplasma bovis*
4. Antimicrobial Resistance (monitoring antibiotic use, looking for information/data to counteract misinformation, prevention control treatment, proof that drugs (antibiotics) are used properly, variability of normal dose)

### Beef Cattle

1. Anaplasmosis
2. Digital Dermatitis (hairy heel wart)
3. Trichomiasis (surveillance, identification/verification-cost effective manner)
4. Animal Well-being issues
5. Bovine Respiratory Disease (BRD)/  
*Mycoplasma bovis*

### Poultry

#### All Poultry—Influenza infections

1. AI infections
2. Antimicrobial resistance and antibiotic substitutes in poultry production
3. Animal Well-being

#### Turkeys

1. Food Safety
  - a. *Salmonella*
  - b. *Listeria*
  - c. *Campylobacter jejuni*
2. *Clostridium* – Dermatitis or cellulitis
3. Leg & joint abnormalities
4. *Mycoplasma gallisepticum*

#### Layers

1. Food Safety – *Salmonella spp.* (SE)
2. Peritonitis – *E. coli*
3. Focal Duodenal Necrosis (FDN)

### Sheep and Goats

1. Improved treatment of parasitic diseases
2. Barn Cough (Pneumonia, *Mycoplasma* – isolate vaccine, differences between two)
3. Abortions – Cache Valley (and partial abortions), "Pregnancy Wastage" (Neonatal death, failure to dilate)

### IVMA CONCERNS:

#### Represents All Species

1. Animal Well-being
  - a. Pain Control
  - b. Lameness
2. Seneca Valley Virus
3. Trichomiasis
4. Methicillin-resistant *Staphylococcus aureus* (MRSA)
5. Johne's disease
6. Anthelmintic resistance

### Three projects received new funding from ILHAC in 2015-16:

- **Dr. Patrick Gorden**, "Comparative pharmacokinetics, milk and tissue disposition of ceftiofur crystalline free acid and its impact on antimicrobial resistance selection in healthy and diseased dairy cows"
- **Dr. Patrick Halbur**, "Development of an attenuated PEDV vaccine candidate"
- **Dr. Lisa Nolan**, "FNR regulates important virulence factors in Avian Pathogenic *Escherichia coli* (APEC)"

## ILHAC-Funded Research Projects

### Three projects received new funding from ILHAC in 2014-15, and also a second year of funding in 2015-16:

- **Dr. Matthew Brewer**, "Development of a Rapid Field Diagnostic Test for Detection of *Tritrichomonas foetus*"
- **Dr. Jesse Hostetter**, "Field-testing a novel diagnostic implant for detection of *Mycobacterium avium paratuberculosis* in dairy cattle"
- **Dr. Orhan Sahin**, "Development of Subunit Vaccines Against *Campylobacter*-associated Sheep Abortion"