Sow Housing Behaviors

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Sow Housing Behaviors
Future of Sow Housing

- Gestation Stall
  - European Union
    - Banned
  - Canada
    - Defacto ban
  - US
    - Banned in 9 US States
    - 70 Food company committed to remove stalls from supply chain
Future of Sow Housing

Top 4 Packers In US

• >70% of shackle space

• All moving their own sows out of stalls
• “Penn” Gestation
• Penn Vet Swine Teaching and Research Center
• Opened Jan 2001
“Penn” Gestation

• Developed an alternative to the gestation stall for North America swine industry
• Electronic Sow Feeding (ESF)
• Implemented across US
  – ~65 farms in US and Canada
  – Farm range in size
    • 100 to 10,000 sow
  – 150,000 sows
Pig’s Eye View

• How an understanding of sow behavior impact the success of sow housing transitions
Managing Gestating Sows

• Current husbandry practices evolved to:
  – Optimize productivity
  – Maximize economic sustainability
  – Meet societal expectations

• May not be always be in harmony with the behavioral instincts of the animals
Managing Gestating Sows

• Understanding the basic behavioral drivers of the pig is of increasing importance as we move towards loose housing systems

• Can we gain new insight from examining the behavioral needs of the sow
Sows left to their own devices

• Swine in more natural setting
  – Opportunity to understand endogenous or instinctual behaviors

• Swine in the wild
  – Wild boar
  – Feral or semi-feral
Relevance?

- Not advocating for extensive production systems

- Asking how domestication has changed pigs
  - Morphology/Carcass traits
  - Fecundity
  - What about other instinctual/survival behaviors?
Relevance?

• Edinburgh Pig Park
  – Domesticated swine rapidly revert back to behavioral activities of wild swine when housed in semi-natural conditions
    • David Wood-Gush and colleagues

• Certain behaviors or at least drive to perform these behaviors remain hard wired
Pigs

• Today’s sows are result of years of selective breeding
Domestication of swine dates back as far as 9000 years
1st written reference to swine husbandry is over 3000 years old

Homer’s Odyssey
- Muse Circe
Pig like animals first roamed the face of the earth 50 million years ago
50 million years of Natural Selection
versus
9000 years of Selective Breeding
What can we learn from the natural history of the pig?
Social Animals

• Structure
  – Sounders
    • 2 to 4 adult females and immature offspring
    • Adults usually related
    • Sounder size related to availability of resources
Social Animals

• Structure
  – Hierarchy
    • Always present with in sounder
    • Based on size and age of animals
      – Basically generational
    • Animals move up as opportunity present
Social Animals

• Foraging
  – Spend 6 to 8 hours a day
    • Rooting, grazing, exploration

• Home range
  – 125 – 250 acres
    • Vary on resource availability

• Social Facilitation
  • Sows often synchronize their behaviors
Aggression

- Rare in the wild
- Avoidance is the preferred method of resolution
Managing Aggression in ESF Pens

Enough space to establish social hierarch with minimal fighting

Dr. Meghann Pierdon

~150 sows per pen
Pig’s-Eye vs People’s-Eye View

Small
(6-12 sows)

Big
(60-80 sows)

Really Big
(200-300 sows)

Sow
Worse

People
Easier

Better

Harder
People’s-Eye View

• “It’s not about the X’s and O’s but the Jimmy’s and Joe’s”
People’s-Eye View

• It’s not about the pen designs and flows, but the Kimmie’s and Billy Joe’s
People are important

- Experience from starting up >60 farms
  - Most with very similar physical plants
  - A spectrum of results
    - People are the variable
      » Good people can make anything work
      » Best designed barn can not make up for poor or inadequate staff
People are important

• People
  – Need to get the right people
People are important

• Right People
  – Change is hard
    • Experience can be a bad thing
      – Must be able to adapt to change
    • Need to think harder about who is the right person to staff these barns
      – Like animals will like ESF
      – Pro-technology
People are important

• People
  – Need to get the right people
  – Need to get these people the right training
Training People

- Need to “think like a pig”
  - Stockmanship?
    - Train employees to better understand pig behavior
      - Increased behavioral repertoire in pens
      - More can be learned from the animals via observation
        - Early lameness detection etc
Training People

• Need a vision for success
  – Critical staff visit/work on successful ESF farms
  – Need to preempt the belief crisis
    • More ways to make it not work than to work
  – Identify and track key performance indicators (KPI) of ESF
Concluding Thoughts

• The Pig’s Eye View
  – Better understanding of sow behavioral needs promises to:
    • Improve design of facilities
    • Improve management of animals
    • Reduce stressors to increase productivity and welfare
  – More research is needed to:
    • Identify how sow prioritizes its different behavioral needs
    • Determine if animals at different places in the social hierarchy have different needs
Concluding Thoughts

• People’s-Eye View
  – Optimal pen design for pigs and people may differ
  – People have a critical role in success
    • Need to get right people
    • Provide appropriate training for the right people
Concluding Thoughts

• Challenges
  – Operational Definitions
    • Crate-free pork?
      – Current popular pen gestation systems still have sows in a farrowing or gestation crate for nearly 50% of the time
      – Alternatives exist that reduce confinement to 25% of the time
      – Or need to change the marketing claims
Concluding Thoughts

• Challenges
  – Time lines
    • Many food companies have aggressive deadlines
    • More to learn about making the transitions
    • Farmers resistance to transition in part based on lack of knowledge
    • Transitions need to be successful for all stakeholders