Walking Pens to Insure Individual Pig Care
R.B. Baker, DVM

How do we Ensure Individual Finishing Pig Care?

- What is important to the bottom line?
  - Placement Health
  - Stocking Density
  - Disease Prevention
  - Immunity management
  - Disease Intervention – treatment
  - Barn Management
  - Feed composition
  - Genetics
  - Stockmanship/husbandry

FSVS Swine Production Medicine
161 years Swine Veterinary Experience
2 Professors, 2 Assistant Professors, 1 Adjunct Assistant Professor, 1 Senior Clinician, 1 Clinician
7 DVM, 4 MS, 2 DACVPM, 1 PhD, 1 MPH, 1 JD
3.21 Service, 1.63 Research, 1.58 Teaching Full Time Equivalents

Class of 2010
120 students
25 Predominately Food Animal Interest
36 Mixed Animal Interest
Our Growing Pig Opportunities

1. Keep pigs alive
2. Keep pigs on feed
3. Eliminate energy wasters:
   - Heat & cold responses
   - Immune stimulation

Growing Pig Opportunities

- Keep pigs alive
- Keep pigs on feed
- Eliminate energy wasters:
  - Heat – cold responses
  - Immune stimulation

Health Issues!

HEALTH

- genetics

Mortality Spiral

Further deterioration of health

Poor health ~ throughput

Short term fixes to throughput

Practical Implications

- Margins are narrowing – feed/market
- Most cost opportunities have already been taken in well run systems
- Reducing fixed costs is an opportunity that remains – throughput issues
- If throughput decreases, fixed costs per pig increase

Commingling

Food Supply Veterinary Services
Veterinary Diagnostic and Production Animal Medicine
Iowa State University
Health Issues

• Stocking Healthy
  – Not always easy
  – Pig quality – uniformity – placement
  – AIAO and Barn Preparation

• Keeping Healthy
  – Vaccine
  – Biosecurity
  – Strategic Antimicrobial intervention
  – Other Facility interventions

What is a Healthy Pig?

• Disease free? - usually not
• Immunity to immediate challenges?
• A pig that faces low disease exposure
• One that hasn't been commingled
• One that avoids PRRSv exposure until mid-late finishing
• One that avoids PCVAD

Effective use of Preventative Vaccines

• Vaccines that are specific to expected exposure
  – “The devil you know is usually better than the one you haven’t met”
• Vaccines that are cost effective
• Vaccine timing is critical
• Proper administration
• Proper vaccine handling

Cost Effective Vaccines

• Vaccines can only be cost effective if they:
  – Effectively reduce mortality & morbidity
  – Are managed properly
  – Specific for economically important agents present in the pigs
  – Have timing opportunity
  – Are broadly/cross strain protective

Vaccines That are often Cost Effective

• Mycoplasma pneumonia
• Ileitis
• PCV2 - Circovirus
• Erysipelas
• Flu
• Haemophilus pneumonia
• PRRS

Vaccines that often aren't Effective

• PRRS
• Flu
• Haemophilus
• Erysipelas
• Most vaccines if improperly applied, aren't needed, or lack cross protection to current challenge strains
  – “If the challenge is great vaccines alone are never enough”
Walking the Barns: How do we effectively intervene?

- Prevention is the best medicine
  - “An ounce of prevention is worth a pound of cure”
- Thermo-neutral temperatures
- Air quality
- Stocking alignment
- Barn Preparation

Walking the Barns: How do we effectively intervene?

- Starting pigs - good, bad and usually ugly
  - Early recognition and treatment of individual pigs
    - Right antimicrobial
    - Right delivery method
    - Usually avoids moving to hospital pen
  - Proper feeder adjustment
  - Water flow rate and adjustment
  - Barn temperatures – W/F vs. Finisher vs. pig size
  - Comfort zones

How to Pick out the Right PIG For Treatment

- Is the pig sick or just abnormal?
- Is this a barn or disease effect?
  - Right pig for treatment?
  - Right pig for moving out to Hospital pens?
- Should I intervene or wait?
- What are the treatment Choices?

Abnormal Postures – Picking the Right Pig

- Normal
  - Sternal or lateral recumbency
- Abnormal
  - Dog sitting
  - Pneumonia, pleuritis, salt poisoning
  - Head extended
  - Respiratory distress
  - Arched back
  - Pain, lameness, polyserositis
  - Favor limb
  - Head tilt
  - Sternal pigs that show other signs

Is the pig sick or just abnormal?

- Sick pigs often have elevated rectal temperatures
  - The Thermometer is a still a good tool
- Early treatment in the correct pig avoids late mortality/culls
  - Newer long acting antimicrobials
  - Avoids hospital pen movement

Normal Rectal Temperature Ranges:

- Nursery Pig:     101 - 103°F
- Finishing Pig:   100 - 102°F
General behavior

- **Normal**: curious, avoid confrontation
  - Will squeal when restrained or in pain
- **Hyperkinetic**: "Goose Step"
  - Nutritional deficiencies, genetics, CNS disease
- **Listless/lethargic/slow**
  - Systemic illness
  - Drooping ears
  - Reluctant or fail to move when menaced

Body condition/thriftiness

- **Normal**
  - Growing pigs: "Bloom"
    - Muscle/fat cover skeleton, full belly
- **Unthrifty**
  - Skeleton exposed
  - Hair coat often longer and more dense (dehydration and malnutrition/wasting)
- **Off-feed**
  - Empty belly: "slab sided"
    - 36-48 hours after quit eating

Skin/Eyes

- **Skin**
  - Hair coat: length and density
  - Rough/patchy: mange mites
  - Lice
  - Rub marks: poor access to feeders & waterers
- **Eyes**
  - Red and puffy – E.coli or insects
  - Tearing
    - Plugged lacrimal ducts
    - Ammonia or other irritants
    - Bacterial or viral eye infection

Physical Observations

- Normal behavior
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**Ears/Nose/Tails**

- **Ears**: Hematomas, cannibalism, necrosis
- **Nose**
  - Deviation: lateral/dorsal from atrophic rhinitis
  - Swellings: Bull nose, improper teeth clipping
  - Discharges: Blood with AR, mucus/pus with inclusion body rhinitis
- **Tail**
  - Too short (prone to prolapse), too long (promotes tail biting?)
  - Cannibalism

**GI system**

- **Normal stool**
  - Young pigs: well formed, green color
  - Older pigs: formed but softer, green to yellow
- **Abnormal stool**
  - Form: Loose = diarrhea, Hard = constipation
  - Color: red = lower bowel hemorrhage, black = upper bowel hemorrhage, white = malabsorption, orange-red = PPE, PCV2 ?
  - Other: odor (foul with TGE), mucus (S. hyo.)
- **Other**: prolapse, vomit (TGE, E.coli)

**Respiratory System**

- **Normal**: difficult to observe
- **Abnormal**: Rate > 30-40 breaths per minute
  - “Thumps” pronounced/abdominal/labored pattern suggests pneumonia - heart failure
  - Rapid breathing - no labored pattern = hot pig
  - Not always pneumonia: polyserositis
- **Cough**: suggests air way disease/lesions
  - Yes: M. hyo., influenza?
  - No: PRRSV, App
- **Coughing blood = App**
**Musculoskeletal System**

- Lameness: favor one limb, alter posture if multiple limbs involved
- Foot lesions: bruises, cracks, overgrown
- Splay leg: usually rear legs
- Arthritis: most common in young pigs, navel ill
- OCD signs: Single rear leg lameness due to fracture of femoral cap and joint mice in stifle or knee joint
- Pain: grind teeth, squeal when moved

**Central Nervous Signs**

- Most diseases cause irritative response
  - Typically infections
  - Convulsions
  - Hyperextension
  - Rigidity
  - Head tilt
  - Circling
  - Extension of head in ratcheting pattern with water deprivation

**Physical Evaluation**

**Summary**

- Pigs are not always easy to examine up close
  - Carefully observe from a distance
  - Many clinical signs not specific to a certain disease
- Be aware of environment including feed and water availability
- Need to develop a “feel” for group health
- Post-mortems and lab confirmation must be done to reach a specific diagnosis

**Identification and Treatment**
How to evaluate a ROOM / BARN of pigs

STOP! LOOK! LISTEN!

EVALUATE:
- Environment
- Pig Comfort
- Feed Delivery
- Water Supply

Use a systematic approach!
Do it the same way every time!

EVALUATE:
- Pig Comfort
- Pig Health
- Waterer position / flow
- Feeder adjustment

Environment:
- Are the pigs comfortable?
- Are they cold (piling)?
- Are they hot?
- Are there drafts present?

Think about the environment from the pig level, not yours!

Water supply:
- Are the nipples at the proper height (top of the shoulders)?

Is the water flow appropriate?
- 1.5 - 2.5 pints / minute (nursery)
- 1 - 1.5 quarts / minute (finishing)

Water Flow
Measuring water flow rates:

**Nursery:**
1.5 - 2.5 pints / minute
(25-40 seconds to fill a pint container)

**Finishing:**
1 - 1.5 quarts / minute (finishing)
(20-30 seconds to fill a pint container)

Nipple Height

Feed supply:

Are the augers operating correctly?

Are the feeders adjusted properly?

Is the feed in the feeder trough free of mold and manure?

Feeder Adjustment

Primary Farm Diagnostic Tool

Acknowledgements

• Locke Karriker
• Alex Ramirez
Actinobacillus pleuropneumoniae (APP)

Atrophic Rhinitis

Gastric Ulcers