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Practices to Reduce Reliance on Antibiotics

SowBridge
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Key Issues

• Antibiotics are important tools for maintaining animal health
• Public concerns about antibiotic use in food animals
  – Residues
  – Resistance
• Changes in regulation and oversight
Key Issues

• Pressures to reduce use in food animals will continue
  – Growth promotion and OTC uses in feed and water ending 2016
  – Prevention and control uses under scrutiny
• Most concern in weaned/growing pigs
• All uses will need to be justified
• Reductions achieved in other industries
Reductions in AMU in Holland

Trends in antibiotic use per species, 2009–2012

ANTIBIOTIC USE COMPARED TO 2009 BY PERCENTAGE OF 2009 USE

SOWS/PIGLETS  FATTENING PIGS  BROILERS  VEAL CALVES  DAIRY COWS

2009  ◦  2010  ◦  2011  ◦  2012
Reductions are achievable

- Marked reductions in Holland without major impact on production
- Data on antibiotic use in the USA are not comprehensive or detailed
  - Things have improved
  - We are probably not perfect
  - Appropriate strategies to reduce use
Individual vs. group treatment

• Purpose
  – Treatment of acute cases (sporadic)
  – Control of outbreak
  – Prevention of anticipated outbreak (high risk)
  – Production (ADG/FCE)

• Urgency

• Logistics and cost

• Sows vs. growing pigs
Residue violations in pigs

• 1978: 13% of US market hogs had violative sulfonamide residues
  – 1985: 6-7%
  – 1995: 0.65%

• 2009 (all compounds)
  – Market hogs: 0.06% (1/1610)
  – Sows: 0.00% (0/466)
  – Roaster pigs: 0.47% (4/844)
Penicillin residues

- USDA introduced a more sensitive test
  - No minimum limit for penicillin
- Previous 14 day withdrawal no longer appropriate
- NPB funded studies indicate 50 day withdrawal needed due to kidney residues
Risk factors for violative residues

• Extralabel drug use
• Poor records and animal identification
• Poor communication with farm labor
• Improper administration techniques
• Treating sick and debilitated animals
  – Delayed metabolism
“Judicious Use”

• Pork Quality Assurance Program
• Veterinary oversight
• AASV/NPB – Judicious Use guidelines
Why we use antibiotics

• To treat and control bacterial infections
• Not effective against viral diseases
  – Control secondary bacteria e.g., respiratory diseases (influenza)
• How to reduce reliance
  – ‘Preventive medicine’
  – Stop unnecessary/ineffective use
Managing swine disease

• Exclude the pathogen from the herd
  – PRRS free
  – Mycoplasma hyopneumoniae, APP
  – Biosecurity

• Live with the pathogen
  – Most bacterial pathogens
  – Management
Biosecurity

- Protecting the herd from any type of infectious agent
  - Rodents, birds and insects
  - Feed, Contaminated vehicles
  - Air and wind
- Isolation and acclimation procedures
- Most bacterial infections on breeding herds due to ‘endemic’ bacteria
Bacterial disease outbreaks

- Erysipelas (V) : uncommon
- Leptospirosis (V) – abortion: rare
- *Lawsonia* (Ileitis)(V): gilts
- *Mycoplasma suis* (dysgalactia)
- Respiratory - *M. hyopneumoniae* and APP: rare in adult animals
- Treatment often indicated in outbreaks

V = effective control with vaccination
# Sow health problems

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- Lameness
- Gastric ulceration
- Shoulder ulceration
Sow lactation performance

• Milk supply the major determinant of piglet performance
• Water intake vital (quality, quantity)
• Feed intake is major determinant of lactation performance
• Temperature major impact on feed intake
  – Cool room (70°F), heat piglets
• Sow Health
Assessing Sow Health

• Water availability
  – May drink up to 8 gallons of water/day in summer
  – Need a flow rate of 1/3 to 1/2 gallon/minute

• Feed intake
  – Target should be 12 pounds/day average
Assessing Sow Health

• Observe the animals
  – Manure consistency
  – Urine color and pus
  – Vulval discharge
  – Skin color and abrasions
  – Udder condition
  – Lameness
Assessing Sow Health

• Take rectal temperatures on questionable sows
  – Range of 101.5 to 103 is normal
  – Is higher for first 24 hours after birth
  – May go up slightly in hot weather

• Watch the resting respiration rate
  – Normal is 12-30 breaths / minute
  – Rate will go up slightly in hot weather
Antimicrobial treatment of sow health problems

- All sows should not automatically receive antibiotics
- All sows not eating should not automatically receive antibiotics
- Diagnosis and veterinary oversight
- Know why you are treating sows
- Record all treatments
Vaccine Protocols for Farrowing

• Develop a game plan based on herd health including diagnostics
  – Write it down
  – Evaluate the program quarterly
• The advice of a veterinarian in setting up strategies is important
Vaccine Protocols for Farrowing

• Implementation is critical to success
  – Timing of vaccines
  – Route of administration
  – Needle size
  – Appropriate syringes
  – Storage of vaccines
Vaccine Protocols for Farrowing

• Common vaccines used for sows include:
  – E. coli
  – Rotavirus
  – Clostridium perfringens type C
  – Parvovirus
  – Leptospirosis
  – Erysipelas
Vaccine Protocols for Farrowing

• Less common vaccines used in sows include;
  – Strep suis
  – Haemophilus parasuis
  – SIV (Influenza)
  – Mycoplasma hyopneumoniae
  – PRRS
  – Circovirus
Piglet preventive medicine

• Sow health and lactation performance
• Sow vaccination for piglet disease
  – E. coli, rotavirus
  – ‘Feedback’?
• Management
  – Hygiene
  – AIAO management
  – Environment
Antimicrobial use in piglets

• Disease outbreaks
  – Enteric disease (*E. coli*, *Clostridia*)

• Sporadic infections
  – Navel and joint infections
  – Septicemia
  – Skin infections

• Preventive
  – ‘routine’ and processing
Problem areas

• Routine administration to sows and piglets
• Lack of diagnosis and clear purpose of treatment
• ‘Culture’ of antimicrobial use
  – Don’t be what the critics say you are!
  – Review all practices with veterinarian
  – Cost savings from ineffective use
Questions?