The Gap Between Knowledge and Practice Behavior

Dave Sjeklocha, DVM
Operations Manager of Animal Health and Welfare, Cattle Empire LLC
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Inappropriate Use of Antimicrobials

- What constitutes inappropriate use?
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- What constitutes inappropriate use?
- Is inappropriate use the cause of AMR?
Inappropriate Use of Antimicrobials

• What constitutes inappropriate use?
• Is inappropriate use the cause of AMR?
• Or is use the cause of AMR?
Reducing inappropriate use of antimicrobials

• Quality Assurance Programs - BQA
  • Began in the mid 1980s
  • Food Safety/Residue Avoidance → Meat quality → Animal Stewardship → Antimicrobial Stewardship
  • Producer driven; Voluntary; National program; Directed by each state
Reducing inappropriate use of antimicrobials

• Preconditioning
  • Weaned calves; Vaccinated; Bunk broke
  • Difficult to get producer buy-in -
    • ROI -
    • Every day you own them
  • Benefit to producer is weight gain
  • Small herds - facility expense
    • 93% of herds < 100 hd
  • High feeder cattle prices → more preconditioned calves???
Reducing inappropriate use of antimicrobials

- **Progressive Beef**
  - Comprehensive 3rd Party Audit
  - Fee for participating
  - Requires VCPR
  - Requires documentation
    - Script
    - Treatment schedule
    - Treatment records
    - Withdrawal times
  - May help open more “upscale” markets
Reducing inappropriate use of antimicrobials

• Veterinary Feed Directive (VFD)
  • Went into effect 1/1/17
  • Goal: reduce antibiotic use
  • Law - independent producers
Reducing inappropriate use of antimicrobials

• BQA, Progressive Beef
  • Require VCPR, written treatment plan, disease description

• Preconditioning Programs
  • Primarily aimed at preventive measures (vaccination, stress reduction) in an effort to improve health, reduce treatments

• General rule of thumb:
  • BQA is closely followed by the vast majority of producers, whether or not they precondition their calves.
Producer Acceptance

• Financial incentives
  • Improved sale price - seldom occurs - weight gain vs. value per pound
  • Value Added - AB free, other upscale markets, other niche markets

• Progress reports
  • BQA offers periodic reports on injection site lesion reduction -> buy-in
  • VFD - Tracks sales - what does that mean?
    • Sales data sketchy; does not measure effect on animal health, welfare
    • Will be difficult to generate progress reports that are meaningful because we don’t have verifiable data to use as a benchmark base
Producer Acceptance

- Organic; Natural; ABF
  - Still considered niche markets
  - ROI is not consistent
  - Requires producer to sign contracts, affidavits, commit to program
  - “You would be surprised how many of your consumers want __________.”
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  - Producers must receive a premium
Economics

• Sustainability -
  • Definition?
  • Must be economically sustainable

• Incentives
  • Dealing with some of the most fiercely independent people
    • Signing affadavits on production practices
    • Allowing outsiders to inspect their farm, records
    • Accepting guidance
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- Majority of producers - if it is worth their time and effort, and there is a decent ROI, are willing to do about anything the consumer asks
Knowledge and Behavior

• Farmer/Rancher age -
  • Younger producers more likely to accept new concepts
  • “Seasoned” producers don’t understand why they can’t do it like they always have - feel encroached upon

• Diagnostics
  • Most producers manage disease with basic diagnostic skills, past experience
  • Some veterinary input and guidance, but the veterinarian is not called out to diagnose and treat each animal
  • Safe than sorry
Knowledge and Behavior

• Technology
  • Expense
  • Small farms vs. large farms
    • More likely to be adapted by larger farms
    • Can spread out over more production units
  • New technologies are plentiful, but need further development, research
Technologies

• Disease diagnostics - PI BVDV
• Stethoscope
• HF EID ear tags
• Blood tests
• Pedometers
Summary

• Programs addressing AM use have been in place for years
  • Mainly guidelines - no “teeth”
• Must be ROI - while allowing producers to maintain some level of independence
• Specialty markets/niche markets provide some incentive, but can be inconsistent
• Lack of vertical integration in beef production presents unique challenges
• Sustainability must include financial sustainability