Combating AMR: Perspectives from the American Association of Swine Veterinarians

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Swine veterinarians take judicious use of antimicrobials and prevention of resistance very seriously.

AASV supports FDA's science-based review and approval of antibiotics.

We meet frequently with the FDA Center for Veterinary Medicine as well as other FDA leadership on ad hoc issues to find solutions.

We also support the judicious, legal use of antibiotics to prevent, control and treat disease.





- Published judicious use guidelines in the 1990s and shared those with the American Veterinary Medical Association.
 - The guidelines were revised in 2014. <u>https://www.aasv.org/documents/JUG.php</u>
 - The guidelines emphasize trying to find alternatives to antibiotics if possible (biosecurity, management, vaccination, etc) and working with a veterinarian to design a comprehensive herd health plan.
- A standing Pharmaceutical Issues Committee that communicates with membership though a webpage of antimicrobial resources.
 - Recently developed educational outreach on appropriate disease <u>prevention</u> uses of antimicrobials (for producer and veterinary audiences).

- Disease treatment is always a large portion of the continuing education available at the annual meeting.
 - workshop on antibiotic free pig production
 - session on antibiotics exploring resistance issues and strategies to implement the VFD
- AASV conducted extensive outreach regarding the VFD.
 - developed a pamphlet targeting veterinarians that was sent to all members
 - posted information on the association's main website
 - numerous weekly E-Letter articles and JSHAP articles

- Direct letter to membership on key components of AMDUCA and the restricted ELDU of fluoroquinolones and enrofloxacin
- Conducted and published cooperative study with Kansas State University and others describing antimicrobial use in modern swine production which was well received by FDA and USDA
 - Plans to repeat it by USDA as part of their CARB initiative

- AASV supports science-based exploration of the resistance issue and is working closely with USDA and FDA on developing meaningful antibiotic use metrics.
 - Active pilot projects with membership to better monitor and understand on-farm antibiotic use.
 - Ad-Hoc working committee with the National Pork Board.
- AASV interacts with AABP and AVMA to ensure a consistent and unified approach and attitude to antibiotic use in veterinary medicine.
 - Representation on the AVMA Steering Committee for FDA Policy on Veterinary Oversight of Antimicrobials.

AASV has provided financial support to expand the availability of swine pharmacology courses to veterinary students

- SMEC 478B Swine Clinical Pharmacology and Treatment Management: A two week, <u>farm based course</u> investigating pharmacology, judicious use, current regulations, treatment administration and drug efficacy. Students from seven colleges of veterinary medicine have attended without fees.
- SMECast: <u>FDA Antimicrobial Guidance and VFDs</u> session was webcast to 29 colleges of veterinary medicine.

Journal of Swine Health and Production

- <u>Thirty-five percent</u> of peer-reviewed reports in the <u>last two years</u> focused on: disease elimination, biosecurity tools, vaccination, antibiotic efficacy or alternatives to antibiotic treatment.
 - disinfectants
 - antibacterial phages
 - time and temperature impacts on disinfectant efficacy
 - concurrent vaccination with multiple antigens
 - feedmill biosecurity
 - maternal transfer of immunity
- Research improving judicious use as far back as 2nd volume, 1994.

Most recent edition of JSHAP

- Sweeney, Lindeman, Johansen, et al. Antimicrobial susceptibility of Actinobacillus pleuropneumoniae, Pasteurella multocida, Streptococcus suis, and Bordetella bronchiseptica isolated from pigs in the United States and Canada, 2011 to 2015.
 - 2,940 bacterial strains x 10 antibiotics
 - "Under the conditions of study, high rates of susceptibility to most veterinary antimicrobial agents continue to be seen..."
- Canning, Ruston, Madson, et al. Effect of direct-fed microbial *Bacillus subtilis* C-3102 on enteric health in nursery pigs after challenge with porcine epidemic diarrhea virus.
 - "...treatment with B subtilis C-3102 in nursery pigs challenged with PEDV is associated with better enteric health..."



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