

USDA APHIS collaboration to study antimicrobial use and resistance

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APHIS is collaborating with South Dakota State University and Pipestone Veterinary Services to study quantitative antimicrobial use and resistance on commercial swine farms in the Midwest. Year 1 findings and ongoing work from this collaboration will be discussed.

Twice-annual collection of samples from pigs along with antimicrobial resistance (AMR) monitoring occurred on 138 swine farms in the Midwestern U.S. Detection and resistance of *Escherichia coli* from pig tissues was assessed, and associations between antimicrobial use (AMU) and AMR were evaluated via comparison of AMU and minimum inhibitory concentrations (MICs) of antimicrobials within the same drug class, as determined via the Sensititre Bovine/Porcine plate.

An overview of recently published findings on AMU on participating farms will be reported. Higher MICs for enrofloxacin and danofloxacin in *E. coli* from swine tissues were associated with purchase of fluoroquinolones. There were no other significant associations between MIC and AMU combinations in *E. coli* isolated from pig tissues.

Limitations of published work will be discussed. Ongoing program work will be described.

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