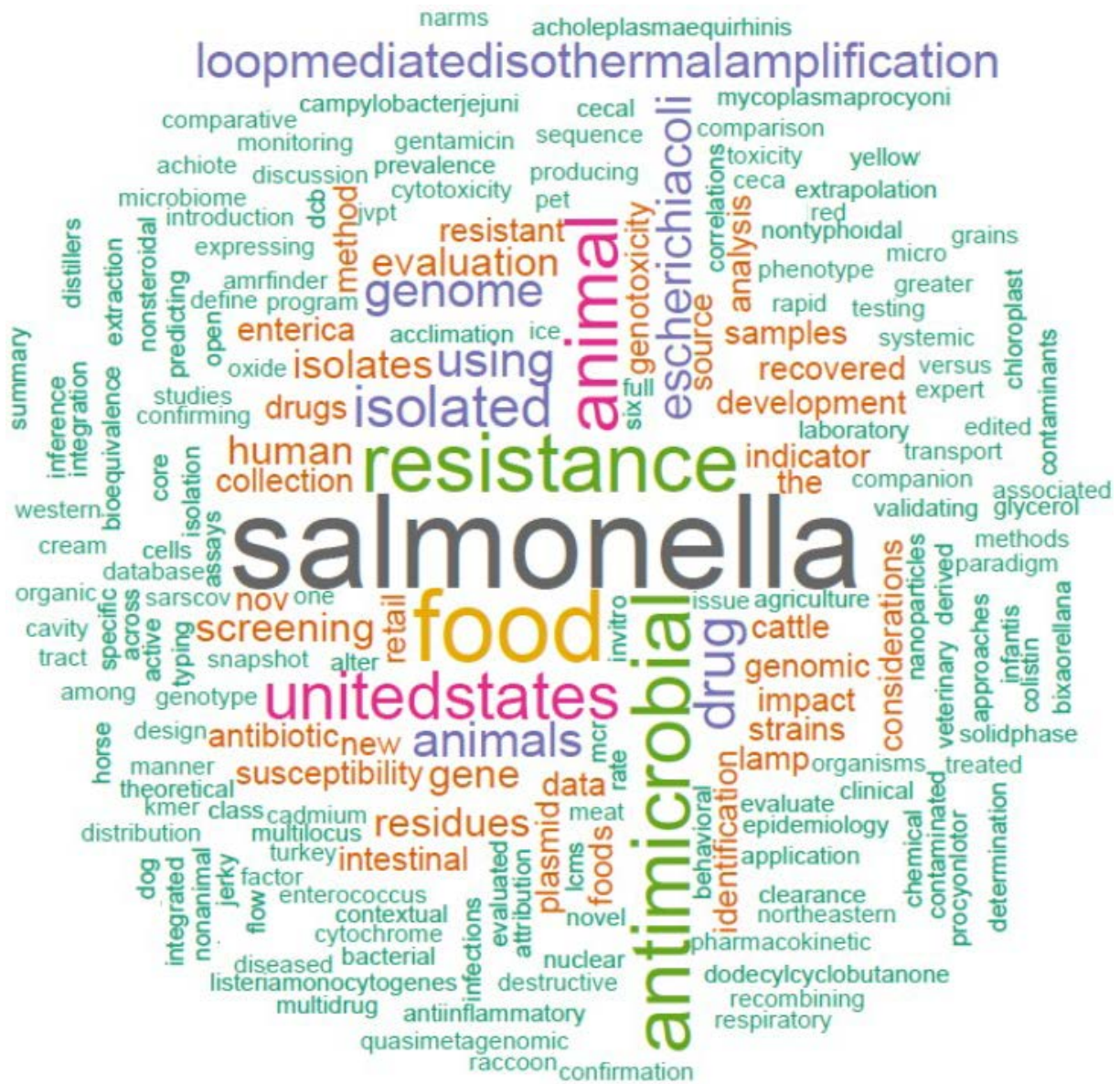


# CVM Research Publications: 2020



## Journal Articles

Bright-Ponte SJ. Antimicrobial use data collection in animal agriculture. *Zoonoses Public Health*. 2020 Nov 17;67(Suppl. 1):1-5.

<https://doi.org/10.1111/zph.12771>

Cohen R. Development of a snapshot survey to evaluate a behavioral acclimation program for laboratory bovines. *Laboratory Animal Science Professional*. 2020 Jun 1:46-48.

Cole SD, Peak L, Tyson GH, Reimschuessel R, Ceric O, Rankin SC. New Delhi metallo- $\beta$ -lactamase-5-producing *Escherichia coli* in companion animals, United States. *Emerg Infect Dis*. 2020 Feb;26(2):381-383.

<https://doi.org/10.3201/eid2602.191221>

Demir E, Qin T, Li Y, Zhang Y, Guo X, Ingle T, Yan J, Orza AI, Biris AS, Ghorai S, Zhou T, Chen T. Cytotoxicity and genotoxicity of cadmium oxide nanoparticles evaluated using *in vitro* assays. *Mutat Res* 2020 Feb-Mar;503149.

<https://doi.org/10.1016/j.mrgentox.2020.503149>

Domesle KJ, Young SR, Ge B. Rapid screening for *Salmonella* in raw pet food by loop-mediated isothermal amplification. *J Food Prot*. 2020 Oct 15.

<https://doi.org/10.4315/JFP-20-365>

Domesle KJ, Young SR, Yang Q, Ge B. Loop-mediated isothermal amplification for screening *Salmonella* in animal food and confirming *Salmonella* from culture isolation. *J Vis Exp*. 2020 May 20;159.

<https://doi.org/10.3791/61239>

Feldgarden M, Brover V, Haft DH, Prasad AB, Slotta DJ, Tolstoy I, Tyson GH, Zhao S, Hsu CH, McDermott PF, Tadesse DA, Morales C, Simmons M, Tillman G, Wasilenko J, Folster JP, Klimke W. Erratum for Feldgarden et al., Validating the AMRFinder tool and Resistance Gene Database by using antimicrobial resistance genotype-phenotype correlations in a collection of isolates. *Antimicrob Agents Chemother*. 2020 Mar 24;64(4):e00361-20.

<https://doi.org/10.1128/AAC.00361-20>

Ge B, Domesle KJ, Gaines SA, Lam C, Bodeis Jones SM, Yang Q, Ayers SL, McDermott PF. Prevalence and antimicrobial susceptibility of indicator organisms *Escherichia coli* and *Enterococcus* spp. isolated from U.S. animal food, 2005-2011. *Microorganisms*. 2020 July 15;8(7):1048.

<https://doi.org/10.3390/microorganisms8071048>

Griffiths EJ, Timme RE, Page AJ, Alikhan N, Fornika D, Maguire F, Mendes CI, Tausch SH, Black A, Connor TR, Tyson GH, Aanensen DM, Alcock B, Campos J, Christoffels A, Goncalves da Silva A, Hodcroft E, Hsiao WW, Katz LS, Nicholls SM, Oluniji PE, Olawoye IB, Raphenya AR, Vasconcelos ATR, Witney AA, MacCannell DR. The PHA4GE SARS-CoV-2 contextual data specification for open genomic epidemiology. *Preprints*. 2020 Aug 9; 2020080220.

<https://doi.org/10.20944/preprints202008.0220.v1>

Hsu CH, Harrison L, Mukherjee S, Strain E, McDermott P, Zhang Q, Zhao S. Core genome multilocus sequence typing for food animal source attribution of human *Campylobacter jejuni* infections. *Pathogens*. 2020 Jul 2;9(7):532.

<https://doi.org/10.3390/pathogens9070532>

Kim HSL, Rodriguez RD, Morris SK, Zhao S, and Donato JJ. Identification of a novel plasmid-borne gentamicin resistance gene in non-typhoidal *Salmonella* isolated from retail turkey. *Antimicrob Agents Chemother*. 2020 Oct 20;64(11):e00867-20.

<https://doi.org/10.1128/AAC.00867-20>

Li X, Chen S, Guo X, Wu Q, Seo JE, Guo L, Manjanatha MG, Zhou T, Witt KL, Mei N. Development and application of TK6-derived cells expressing human cytochrome P450s for genotoxicity testing. *Toxicol Sci*. 2020 Jun;175(2):251-265.

<https://doi.org/10.1093/toxsci/kfaa035>

Martinez MN, Gao S. Evaluation of partial area under the curve in bioequivalence studies using destructive sampling design. *J Vet Pharmacol Ther.* 2020;00:1–16.  
<https://doi.org/10.1111/jvp.12934>

Martinez MN, Greene J, Kenna L, Kissell L, Kuhn M. The impact of infection and inflammation on drug metabolism, active transport, and systemic drug concentrations in veterinary species. *Drug Metab Dispos.* 2020 Aug 1;48(8):631-644.  
<https://doi.org/10.1124/dmd.120.090704>

Martinez MN, Jelliffe RW, Proost JH. Expert discussion of the role of rate constant versus clearance approaches to define drug pharmacokinetics: theoretical and clinical considerations. *AAPS J.* 2020 Jan 6;22:25.  
<https://doi.org/10.1208/s12248-019-0407-x>

Martinez MN, Mochel JP, Pade D. Considerations in the extrapolation of drug toxicity between humans and dogs. *Curr Opin Pharmacol.* 2020 Oct-Dec;23-24:98-105.  
<https://doi.org/10.1016/j.cotox.2020.05.005>

Martinez MN, Soback, S. An introduction to the JVPT special issue on antimicrobial drugs. *J Vet Pharmacol Ther.* 2020 Sep 30;10.1111/jvp.12908.  
<https://pubmed.ncbi.nlm.nih.gov/32997371>

McDermott PF, Davis JJ. Predicting antimicrobial susceptibility from the bacterial genome: a new paradigm for one health resistance monitoring. *J Vet Pharmacol Ther.* 2020 Oct 3.  
<https://doi.org/10.1111/jvp.12913>

Myers MJ, Howard KD, Kawalek JC. Pharmacokinetic comparison of six anthelmintics in sheep, goats, and cattle. *J Vet Pharmacol Ther.* 2020 Aug 1.  
<https://doi.org/10.1111/jvp.12897>

Myers MJ, Lewandowski AJ, Deaver CM. Non-steroidal anti-inflammatory drugs alter nuclear factor- $\kappa$ B in a class specific manner. *Treatment Dev Vet Pract.* 2020 Jul 31;1:11-18.  
<https://doi.org/10.33513/TDVP/2001-02>

Norris AL, Lee SS, Greenlees KJ, Tadesse DA, Miller MF, Lombardi HA. Template plasmid integration in germline genome-edited cattle. *Nat Biotechnol.* 2020 Feb 7;38:163-164.  
<https://doi.org/10.1038/s41587-019-0394-6>

Norris AL, Lee SS, Greenlees KJ, Tadesse DA, Miller MF, Lombardi HA. Author Correction: Template plasmid integration in germline genome-edited cattle. *Nat Biotechnol.* 2020 Mar 5;38:503.  
<https://doi.org/10.1038/s41587-020-0467-6>

Nyirabahizi E, Tyson GH, Dessai U, Zhao S, Kabera C, Crarey E, Womack N, Crews MK, Strain E, Tate H. Evaluation of *Escherichia coli* as an indicator for antimicrobial resistance in *Salmonella* recovered from the same food or animal ceca samples. *Food Control.* 2020 Sept;115:107280.  
<https://doi.org/10.1016/j.foodcont.2020.107280>

Nyirabahizi E, Tyson GH, Tate H, Kabera C, Crarey E, Ayers S, Strain E. Northeastern U.S. *Salmonella* strains from retail meat are more prevalent and more resistant to antimicrobials. *J Food Prot.* 2020 May;83(5):849-857.  
<https://doi.org/10.4315/JFP-19-549>

Nyirabahizi E, Tyson GH, Tate H, Williams MS, Saini GS, Strain E. The western United States has greater antibiotic resistance among *Salmonella* recovered from intestinal cecal samples of food animals. *J Food Prot.* 2020 Dec 15;10.4315/JFP-20-409.  
<https://doi.org/10.4315/JFP-20-409>

Ottesen A, Ramachandran P, Chen Y, Brown E, Reed E, Strain E. Quasimetagenomic source tracking of *Listeria monocytogenes* from naturally contaminated ice cream. BMC Infect Dis. 2020 Jan 29;20:83. <https://doi.org/10.1186/s12879-019-4747-z>

Pettengill JB, Tate H, Gensheimer K, Hsu CH, Ihrie J, Markon AO, McDermott PF, Zhao S, Strain E, Bazaco MC. 2020. Distribution of antimicrobial resistance genes across *Salmonella enterica* isolates from animal and nonanimal foods. J Food Prot. 2020 Feb;83(2):295-304. <https://www.doi.org/10.4315/0362-028X.JFP-19-310>

Piñeiro SA, Cerniglia CE. Antimicrobial drug residues in animal-derived foods: potential impact on the human intestinal microbiome. J Vet Pharmacol Ther. 2020 Jul 24. <https://doi.org/10.1111/jvp.12892>

Solomon SM. Genome editing in animals: why FDA regulation matters. Nat Biotechnol. 2020 Feb;38(2):142-143. <https://doi.org/10.1038/s41587-020-0413-7>

Taghvaei M, Sommers C, Ceric O, Hussain F, Yucel U, Smith JS. Solid-phase micro extraction of food irradiation marker 2-dodecylcyclobutanone (2-DCB) from chicken jerky treated with glycerol. J Food Sci. 2020 Aug;85(8):2608–2614. <https://doi.org/10.1111/1750-3841.15322>

Turnipseed SB, Jayasuriya H. Analytical methods for mixed organic chemical residues and contaminants in food. Anal Bioanal Chem. 2020;412:5969–5980. <https://doi.org/10.1007/s00216-020-02668-8>

Tyson GH, Li C, Harrison LB, Martin G, Hsu CH, Tate H, Tran T, Strain E, Zhao S. A multidrug-resistant *Salmonella infantis* clone is spreading and recombining in the United States. Microb Drug Resist. 2020 Nov 24. <https://doi.org/10.1089/mdr.2020.0389>

Tyson GH, Li C, Hsu CH, Ayers S, Borenstein S, Mukherjee S, Tran TT, McDermott PF, Zhao S. The *mcr-9* gene of *Salmonella* and *Escherichia coli* is not associated with colistin resistance in the United States. Antimicrob Agents Chemother. 2020 Jul 22;64:e00573-20. <https://doi.org/10.1128/AAC.00573-20>

Villacrés-Vallejo J, Aranda-Ventura J, Wallis A, Cagle R, Handy SM, Davis J, Reed E, Zhang S, Strain E, Pava-Ripoll M, Erickson D, Ramachandran P, Ottesen A. Using full chloroplast genomes of 'red' and 'yellow' *Bixa orellana* (achiote) for kmer based identification and phylogenetic inference. BMC Genomics. 2020 Aug 6;21:544. <https://doi.org/10.1186/s12864-020-06916-0>

Volokhov DV, Gao Y, Davidson MK, Chizhikov VE. *Acholeplasma equirhinis* sp. nov. isolated from respiratory tract of horse (*Equus caballus*) and *Mycoplasma procyoni* sp. nov. isolated from oral cavity of raccoon (*Procyon lotor*). Arch Microbiol. 2020 Mar;202:411-420. <https://doi.org/10.1007/s00203-019-01786-x>

Vudathala D, Klobut J, Cummings M, Tkachenko A, Reimschuessel R, Murphy L. Multilaboratory evaluation of a lateral flow method for Aflatoxin B1 analysis in dry dog food. J AOAC Int. 2020 Apr;103(2):480-488. <https://doi.org/10.5740/jaoacint.19-0020>

Zhao S, Li C, Hsu CH, Tyson GH, Strain E, Tate H, Tran TT, Abbott J, McDermott PF. Comparative genomic analysis of 450 strains of *Salmonella enterica* isolated from diseased animals. Genes. 2020 Sep;11(9):1025. <https://doi.org/10.3390/genes11091025>

### **Technical Reports / Methods**

Andrews WH, Wang H, Jacobson A, Ge B, Zhang G, Hammack T. Bacteriological Analytical Manual (BAM) Chapter 5: *Salmonella*. Available from: <https://www.fda.gov/food/laboratory-methods-food/bam-chapter-5-salmonella>

De Alwis HG, Duelge KJ, Nochetto C, Nishshanka U, Kijak PJ, An LC-MS/MS Method for the Determination of Antibiotic Residues in Distillers Grains, FDA Foods Program Compendium of Analytical Methods: Chemical Analytical Manual, Method # C-012.01, 2020 Sept 15. Available from: <https://www.fda.gov/media/142158/download>

Ge B. Screening of *Salmonella* in animal food by loop-mediated isothermal amplification (LAMP). 2020 Feb. BAM posting of LAMP in section C.28. Available from: <https://www.fda.gov/media/135433/download>

Ge B. Confirmation of *Salmonella* isolates by loop-mediated isothermal amplification (LAMP). 2020 Feb. BAM posting of LAMP in section E.9. Available from: <https://www.fda.gov/media/135434/download>

U.S. Food and Drug Administration. The National Antimicrobial Resistance Monitoring System: NARMS Integrated Summary, 2018. 2020 Dec 11. Laurel, MD. Available from: <https://www.fda.gov/animal-veterinary/national-antimicrobial-resistance-monitoring-system/2018-narms-update-integrated-report-summary>

### **Published Databases**

Animal and Veterinary API Endpoints and Dataset: Adverse Event Reports [Internet]. White Oak (MD): U.S. Food and Drug Administration, Center for Veterinary Medicine. 1987- [cited 2020 Dec 15]. Available from: <https://open.fda.gov/apis/animalandveterinary/event/>

Listing of Blue Bird Documents [Internet]. Rockville (MD): FDA Center for Veterinary Medicine. c2020 – [cited 2020 Dec 8]. Available from: <https://animaldrugsatfda.fda.gov/adafda/views/#/blueBirdLabels>

NARMSNow: Integrated Data [Internet]. Version 2.0. Laurel (MD): U.S. Food and Drug Administration; 2016 [updated 2020 Dec 11]. Available from: <https://www.fda.gov/animal-veterinary/national-antimicrobial-resistance-monitoring-system/narms-now-integrated-data>

Resistome Tracker [Internet]. Version 2.0. Laurel (MD): U.S. Food and Drug Administration; 2017 [updated 2020 Dec 4]. Available from: <https://www.fda.gov/animal-veterinary/national-antimicrobial-resistance-monitoring-system/global-resistome-data>