

Journal Articles

Aljahdali NH, Khajanchi BK, Weston K, Deck J, Cox J, Singh R, Gilbert J, Sanad YM, Han J, Nayak R, and Foley SL. Genotypic and Phenotypic Characterization of Incompatibility Group FIB Positive *Salmonella enterica* Serovar Typhimurium Isolates from Food Animal Sources. *Genes (Basel)*. 2020 Nov 4;11(11):E1307.*

<https://www.doi.org/10.3390/genes11111307>

Bright RA, Rankin SK, Dowdy K, Blok SV, Bright SJ, Palmer LM. Finding Potential Adverse Events in the Unstructured Text of Electronic Health Care Records: Development of the Shakespeare Method. *JMIRx Med*. 2021;2(3): e27017.

<https://www.doi.org/10.2196/27017>

Casse SE, Yanong RPE, Pouder DB, Rodreguez C, Mylniczenko N, Thompson PM, Stilwell NK, Heym KJ, Harmon T, and Stacy NI. Reference Intervals for Blood Analytes of Adult Aquarium-Housed Russian Sturgeon *Acipenser guledenstaedtii*. *Journal of Aquatic Animal Health*. 2021;33(1)33-43.

<https://doi.org/10.1002/AAH.10116>.

Chiesa OA, Gonzales R, Kouneski A, Lewandowski A, Rotstein D, Myers MJ. Minimally Invasive Ultrasound-Guided Technique for Central Venous Catheterization Via the External Jugular Vein in Pigs. *American Journal of Veterinary Research*. 2021 Sep;82(9):760-769.

<https://doi.org/10.2460/ajvr.82.9.760>

Commichaux S, Javkar K, Ramachandran P, Nagarajan N, Bertrand D, Chen Y, Reed E, Gonzalez-Escalona N, Strain E, Rand H, Pop M, Ottesen A. Evaluating the Accuracy of *Listeria monocytogenes* Assemblies from Quasimetagenomic Samples Using Long and Short Reads. *BMC Genomics*. 2021 May; 22(1):389.

<https://doi.org/10.1186/s12864-021-07702-2>

Daniel D, Vasseur P, Jacobs A, Aguila MC, Ertych N, Jacobs MN. Integration of Epigenetic Mechanisms into Non-Genotoxic Carcinogenicity Hazard Assessment: Focus on DNA Methylation and Histone Modifications. *International Journal of Molecular Sciences*. 2021; 22: 10969.

<https://doi.org/10.3390/ijms222010969>

Deng K, Uhlig S, Ip HS, Lea Killian M, Goodman LB, Nemser S, Ulaszek J, Pickens S, Newkirk R, Kmet M, Frost K, Hettwer K, Colson B, Nichani K, Schlierf A, Tkachenko A, Reddy R, Reimschuessel R. Interlaboratory Comparison of SARS-CoV2 Molecular Detection Assays in Use by U.S. Veterinary Diagnostic Laboratories. *Journal of Veterinary Diagnostic Investigation*. 2021 Nov;33(6):1039-1051.

<https://doi.org/10.1177/10406387211029913>

Domesle KJ, Young SR, Ge B. Rapid Screening for *Salmonella* in Raw Pet Food by Loop-Mediated Isothermal Amplification. *Journal of Food Protection*. 2021 Mar; 84(3):399-407.

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

Epstein LR, Lee SS, Miller MF, Lombardi HA. CRISPR, Animals, and FDA Oversight: Building a Path to Success. *Proceedings of the National Academy of Sciences*. 2021;118(0) e2003831117.

<https://doi.org/10.1073/pnas.2004831117>

Fu Y, M'ikanatha NM, Whitehouse CA, Tate H, Ottesen A, Lorch JM, Blehert DS, Berlowski-Zier B, Dudley EG. Low Occurrence of Multi-Antimicrobial and Heavy Metal Resistance in *Salmonella enterica* from Wild Birds in the United States. *Environmental Microbiology*. 2021 Dec 12.

<https://doi.org/10.1111/1462-2920.15865>

Girard L, Herath K, Escobar H, Reimschuessel R, Ceric O, Jayasuriya H. Development of UHPLC/Q-TOF Analysis Method to Screen Glycerin for Direct Detection of Process Contaminants 3-Monochloropropane-1,2-diol Esters (3-MCPDEs) and Glycidyl Esters (GEs). *Molecules*. 2021 Apr 26(9):449.

<https://doi.org/10.3390/molecules26092449>

Goyal D, Francois Watkins LK, Montgomery MP, Bodeis Jones SM, Caidi H, and Friedman CR. Antimicrobial Susceptibility Testing and Successful Treatment of Hospitalised Patients with Extensively Drug-Resistant (XDR) *Campylobacter jejuni* Infections Linked to a Pet Store Puppy Outbreak. *Journal of Global Antimicrobial Resistance*. 2021 Sep; 26:84-90.

<https://doi.org/10.1016/j.jgar.2021.04.029>

Gu G, Strawn LK, Ottesen AR, Ramachandran P, Reed EA, Zheng J, Boyer RR, Rideout SL. Correlation of *Salmonella enterica* and *Listeria monocytogenes* in Irrigation Water to Environmental Factors, Fecal Indicators, and Bacterial Communities. *Frontiers in Microbiology*. 2021 Jan; 11: 557289.

<https://doi.org/10.3389/fmicb.2020.557289>

Handy SM, Pawar RS, Ottesen AR, Ramachandran P, Sagi S, Zhang N, Hsu E, Erickson DL. HPLC-UV, Metabarcoding and Genome Skims of Botanical Dietary Supplements: A Case Study in Echinacea. *Planta Medica*. 2021 Apr; 87(4):314-324.

<https://doi.org/10.1055/a-1336-1685>

Harrill JA, Viant MR, Yauk CL, Sachana M, Gant TW, Auerbach SS, Berger RD, Bouhifd M, O'Brien J, Burgoon L, Caiment F, Carpi D, Chen T, Chorley BN, Colbourne J, Ekman DR, Faulhammer F, Gribaldo L, Hilton GM, Jones SP, Kende A, Lawson TN, Leite SB, Leonards PEG, Luijten M, Martin A, Moussa L, Rudaz S, Schmitz O, Sobanski T, Strauss V, Vaccari M, Vijay V, Weber RJM, Williams AJ, Williams A, Thomas RS, and Whelan M. Progress Towards an OECD Reporting Framework for Transcriptomics and Metabolomics in Regulatory Toxicology. *Regulatory Toxicology and Pharmacology*. 2021 Oct;125:105010.

<https://www.doi.org/10.1016/j.yrtph.2021.105020>

Harrison L, Mukherjee S, Hsu CH, Young S, Strain E, Zhang Q, Tillman GE, Morales C, Haro J, and Zhao S. Genome MLST for Source Attribution of *Campylobacter coli*. *Frontiers in Microbiology*. 2021 Jul; 12:1-10.

<https://doi.org/10.3389/fmicb.2021.703890>

Kopper JJ, Iennarella-Servantez C, Jergens AE, Sahoo DK, Guillot E, Bourgois-Moche A, Martinez MN, Allenspach K and Mochel JP (2021) Harnessing the Biology of Canine Intestinal Organoids to Heighten Understanding of Inflammatory Bowel Disease Pathogenesis and Accelerate Drug Discovery: A One Health Approach. *Frontiers in Toxicology*. 2021 Nov; 3:773953.

<https://doi.org/10.3389/ftox.2021.773953>

Li C, Tyson GH, Hsu CH, Harrison L, Strain E, Tran TT, Tillman GE, Dessai U, McDermott PF, and Zhao S. Long-read Sequencing Reveals Evolution and Acquisition of Antimicrobial Resistance and Virulence Genes in *Salmonella enterica*. *Frontiers in Microbiology*. 2021 Nov; 12: 1-14.

<https://doi.org/10.3389/fmicb.2021.777817>

Liu Z, Screven R, Yu D, Boxer L, Myers MJ, Han J, Devireddy LR. 2021. Microfluidic Separation of Canine Adipose-Derived Mesenchymal Stromal Cells. *Tissue Engineering Part-C*. 2021 Aug;27(8):445-461.

<https://doi.org/10.1089/ten.TEC.2021.0082>

Martinez MN, Mochel JP, Neuhoff S, Pade D. Comparison of Canine and Human Physiological Factors: Understanding Interspecies Differences that Impact Drug Pharmacokinetics. *The AAPS Journal*. 2021 Apr;23(3):59-75.

<https://doi.org/10.1208/S12248-021-00590-0>

Martinez MN, Soback S. An Introduction to the JVPT Special Issue on Antimicrobial Drugs. *Journal of Veterinary Pharmacology and Therapeutics*. 2021 Mar;44(2):133-136.

<https://doi.org/10.1111/jvp.12908>

Mazengia E, Meschke J, Greeson K, Zhao S, Abbott J, Eckmann K, Tate H, Huang X, and Samadpour M. Determining the DNA Fingerprinting Profiles of *Salmonella* Isolates from Raw Poultry Meats and Human Clinical Samples from the Same Geographic Area Using Pulsed-Field Gel Electrophoresis. *Journal of Food Protection*. 2021 Jul; 84(7):1265-1274.

<https://doi.org/10.4315/JFP-20-421>

McDermott PF and Davis JJ. Predicting Antimicrobial Susceptibility from the Bacterial Genome: A New Paradigm for One Health Resistance Monitoring. Invited article, *Journal of Veterinary Pharmacology and Therapeutics*. 2021 Mar;44(2):223-237.

<https://doi.org/10.1111/jvp.12913>

Miller RA, Salmon P, Sharkey M. Approaches to Developing Judicious Uses of Veterinary Antibacterial Drugs. *Journal of Veterinary Pharmacology and Therapeutics*. 2021 Mar;44(2):201-206.

<https://doi.org/10.1111/jvp.12828>

Mohan N, Luo X, Shen Y, Olson Z, Agrawal A, Endo Y, Rotstein DS, Pelosof LC, Wu WJ. A Novel Bispecific Antibody Targeting EGFR and VEGFR2 Is Effective against Triple Negative Breast Cancer via Multiple Mechanisms of Action. *Cancers (Basel)*. 2021 Mar 1;13(5):1027.

<https://www.doi.org/10.3390/cancers13051027>

Myers MJ, Howard KD, Kawalek, JC. Pharmacokinetic Comparison of Six Anthelmintics in Sheep, Goats and Cattle. *Journal of Veterinary Pharmacology and Therapeutics*. 2021 Jan; 44(1):58-67.

<https://doi.org/10.1111/jvp.12897>

Nemser S, Lindemann S, Chen Y, Lopez S, Pickens S, Ulaszek J, Kmet M, Powers C, Ensley S, Schruck D, Rumbelha W, Tkachenko A, Guag J, Ceric O, Jones J, Reimschuessel R, Reddy R. A Review of Proficiency Exercises Offered by the Veterinary Laboratory Investigation and Response Network (Vet-LIRN) and Moffett Proficiency Testing Laboratory from 2012 to 2018. *Accreditation and Quality Assurance*. 2021 June;26:143-156.

<https://doi.org/10.1007/s00769-021-01471-x>

Peloquin SK, Rotstein DS, Jones JL, Guag J, Carey L, Palmer LA, Wolf K, Burkholder W, Hodges A, Payne L, Reimschuessel R. Presumed Choline Chloride Toxicosis in Cats With Positive Ethylene Glycol Tests After Consuming a Recalled Cat Food. *Topics in Companion Animal Medicine*. 2021 Aug;44:100548.

<https://doi.org/10.1016/j.tcam.2021.100548>

Pineiro SA, Cerniglia CE. Antimicrobial Drug Residues in Animal-Derived Foods: Potential Impact on the Human Intestinal Microbiome. *Journal of Veterinary Pharmacology and Therapeutics*. 2021 Mar;44(2):215-222.

<https://doi.org/10.1111/jvp.12892>

Prescott JF, Martinez MN, Turnidge J, and Page SW. The Publication of Studies Involving the Use of Human Critically Important Antimicrobial Agents in Veterinary Species. *Journal of Veterinary Pharmacology and Therapeutics*. 2021 Nov;44(6):986-989.

<https://doi.org/10.1111/jvp.13005>

Reed E, Sanderson R, Sanderson B, Ramachandran P, Commichaux S, Brown E, Zheng J, Strain E, Ottesen A. Water Microbiota from a Commercial Alfalfa Sprout Crop over 4 Days of Growth. *Microbiology Resource Announcements*. 2021 Jan;10(2): e00906-20.

<https://doi.org/10.1128/MRA.00906-20>

Rotstein D. From Precision Medicine to Pathology of Unconventional Animal Models to Molecular Pathology to COVID-19: Award-Winning Presentations at the Virtual 2021 ACVP and ASVCP Concurrent Annual Meeting. *Veterinary Pathology*. 2021 Sep;58(5):762-763.

<https://www.doi.org/10.1177/03009858211022707>

Rotstein D, Jones JL, Buchweitz J, Refsal KR, Wilson R, Yanes EG, Heitkemper D, Edwards E, Post L, Palmer LA, Carey L, Wolf K, Burkholder W, Ceric O, Glover M, Hodges A, Kempainen RJ, Lambkin S, Lovell R, Nemser S, Wilkinson C, Reimschuessel R. Pet Food-Associated Dietary Exogenous Thyrotoxicosis: Retrospective Study (2016-2018) and Clinical Considerations. *Topics in Companion Animal Medicine*. 2021 Jun;43:100521.
<https://doi.org/10.1016/j.tcam.2021.100521>

Swain T, Deaver CM, Lewandowski A, and Myers MJ. Lipopolysaccharide (LPS) Induced Inflammatory Changes to Differentially Expressed miRNAs of the Host Inflammatory Response. *Veterinary Immunology and Immunopathology*. 2021 Jul;237:110267.
<https://doi.org/10.1016/j.vetimm.2021.110267>

Taghvaei M, Tonyali B, Sommers C, Ceric O, Linghu Z, Smith JS, Yucel U. Formation Kinetics of Radiolytic Lipid Products in Model Food-Lipid Systems with Gamma Irradiation. *Journal of the American Oil Chemists' Society*. 2021 Jul;98(7):737-746.
<https://doi.org/10.1002/aocs.12513>.

Tate H, Li C, Nyirabahizi E, Tyson GH, Zhao S, Rice-Trujillo C, Bodeis Jones S, Ayers A, M'ikanatha NM, Hanna S, Ruesch L, Cavanaugh ME, Laksanalamai P, Mingle L, Matzinger SR, and McDermott PF. A National Antimicrobial Resistance Monitoring System Survey of Antimicrobial-Resistant Foodborne Bacteria Isolated from Retail Veal in the United States. *Journal of Food Protection*. 2021 Oct;84(10):1749-1759.
<https://doi.org/10.4315/JFP-21-005>

Tkachenko A, Benson K, Mostrom M, Guag J, Reimschuessel R, and Webb B. Extensive Evaluation Via Blinded Testing of an UHPLC-MS/MS Method for Quantitation of Ten Ergot Alkaloids in Rye and Wheat Grains. *Journal of AOAC International*. 2021 Jun; 104(3):546-554.
<https://doi.org/10.1093/jaoacint/qsaa173>

Tyson GH, Ceric O, Guag J, Nemser S, Borenstein S, Slavic D, Lippert S, McDowell R, Krishnamurthy A, Korosec S, Friday C, Pople N, Saab ME, Fairbrother JH, Janelle I, McMillan D, Bommineni YR, Simon D, Mohan S, Sanchez S, Phillips A, Bartlett P, Naikare H, Watson C, Sahin O, Stinman C, Wang L, Maddox C, DeShambo V, Hendrix K, Lubelski D, Burklund A, Lubbers B, Reed D, Jenkins T, Erol E, Patel M, Locke S, Fortner J, Peak L, Balasuriya U, Mani R, Kettler N, Olsen K, Zhang S, Shen Z, Landinez MP, Thornton JK, Thachil A, Byrd M, Jacob M, Krogh D, Webb B, Schaan L, Patil A, Dasgupta S, Mann S, Goodman LB, Franklin-Guild RJ, Anderson RR, Mitchell PK, Cronk BD, Aprea M, Cui J, Jurkovic D, Prarat M, Zhang Y, Shiplett K, Campos DD, Rubio JVB, Ramachandran A, Talent S, Tewari D, Thirumalapura N, Kelly D, Barnhart D, Hall L, Rankin S, Dietrich J, Cole S, Scaria J, Antony L, Lawhon SD, Wu J, McCoy C, Dietz K, Wolking R, Alexander T, Burbick C, and Reimschuessel R. Genomics Accurately Predicts Antimicrobial Resistance in *Staphylococcus pseudintermedius* Collected as Part of Vet-LIRN Resistance Monitoring. *Veterinary Microbiology*. 2021 Mar;254:109006.
<https://doi.org/10.1016/j.vetmic.2021.109006>

Tyson GH, Li C, Harrison LB, Martin G, Hsu CH, Tate H, Tran TT, Strain E, and Zhao S. A Multidrug-Resistant *Salmonella infantis* Clone Is Spreading and Recombining in the United States. *Microbial Drug Resistance*. 2021 Jun;27(6):792-799.
<https://doi.org/10.1089/mdr.2020.0389>

Vudathala D, Cummings M, Tkachenko A, Guag J, Reimschuessel R, and Murphy L. A Lateral Flow Method for Aflatoxin B1 in Dry Dog Food: An Inter-Laboratory Trial. *Journal of AOAC International*. 2021 Jun;104(3):555-561.
<https://doi.org/10.1093/jaoacint/qsaa175>

Wallis A, Gu G, Ramachandran P, Reed E, Ottesen A, Nou X, and Cox KD. Endophytic Bacterial Communities in Apple Leaves Are Minimally Impacted by Streptomycin Use for Fire Blight Management. *Phytobiomes Journal*. 2021 Apr;5(3).

<https://doi.org/10.1094/PBIOMES-11-20-0081-R>

Wallis A, Yannuzzi IM, Choi M-W, Spafford J, Fenn M, Ramachandran P, Timme R, Pettengill JB, Cagle R, Ottesen A, and Cox KD. Investigating the Distribution of Strains of *Erwinia amylovora* and Streptomycin Resistance in Apple Orchards in New York Using Clustered Regularly Interspaced Short Palindromic Repeat Profiles: A 6-Year Follow-Up. *Plant Disease*. 2021 Nov 24.

<https://doi.org/10.1094/PDIS-12-20-2585-RE>

Williams MS, Ebel ED, and Nyirabahizi E. Comparative History of *Campylobacter* Contamination on Chicken Meat and Campylobacteriosis Cases in the United States: 1994-2018. *International Journal of Food Microbiology*. 2021 Mar;342: 109075.

<https://doi.org/10.1016/j.ijfoodmicro.2021.109075>

Yin X, M'ikanatha NM, Nyirabahizi E, McDermott PF, Tate H. Antimicrobial Resistance in Non-Typhoidal *Salmonella* from Retail Poultry Meat by Antibiotic Usage-Related Production Claims - United States, 2008-2017. *International Journal of Food Microbiology*. 2021 Mar; 342:109044.

<https://doi.org/10.1016/j.ijfoodmicro.2021.109044>

Youngbeom A, Jung JY, Kweon O, Veach BT, Khare S, Gokulan K, Pineiro SA, Cerniglia, CE. Impact of Chronic Tetracycline Exposure on Human Intestinal Microbiota in a Continuous Flow Bioreactor Model. *Antibiotics*. 2021 Jul;10(8): 886.

<https://www.doi.org/10.3390/antibiotics10080886>

Zheng J, Reed E, Ramachandran P, Ottesen A, Brown EW, and Wang Y. Taxonomic and Functional Shifts in the Sprout Spent Irrigation Water Microbiome in Response to *Salmonella* Contamination of Alfalfa Seeds. *Applied and Environmental Microbiology*. 2021 Jan;87(3): e01811-20.

<https://doi.org/10.1128/AEM.01811-20>

Book Chapters

Grim CJ and Whitehouse CA. 2021. Chapter 13: *Aeromonas* and *Plesiomonas*. In: *Foodborne Infections and Intoxications (Fifth Edition)* 2021: 237-252.

<https://doi.org/10.1016/B978-0-12-819519-2.00026-8>

Technical reports / methods

Strain E, Kabera C, McDermott PF on behalf of NARMS. NARMS Retail Meat Testing Interim Data Update: Multidrug-Resistant (MDR) *Salmonella* I 4,[5],12:i:-. May 2021.

Available at: [NARMS Interim Data Updates | FDA](https://www.fda.gov/oc/ohrt/narms-interim-data-updates).

**This publication from 2020 is included on the 2021 list because it was not available at the time that the 2020 list was created.*